









CATALOGUE

OF THE

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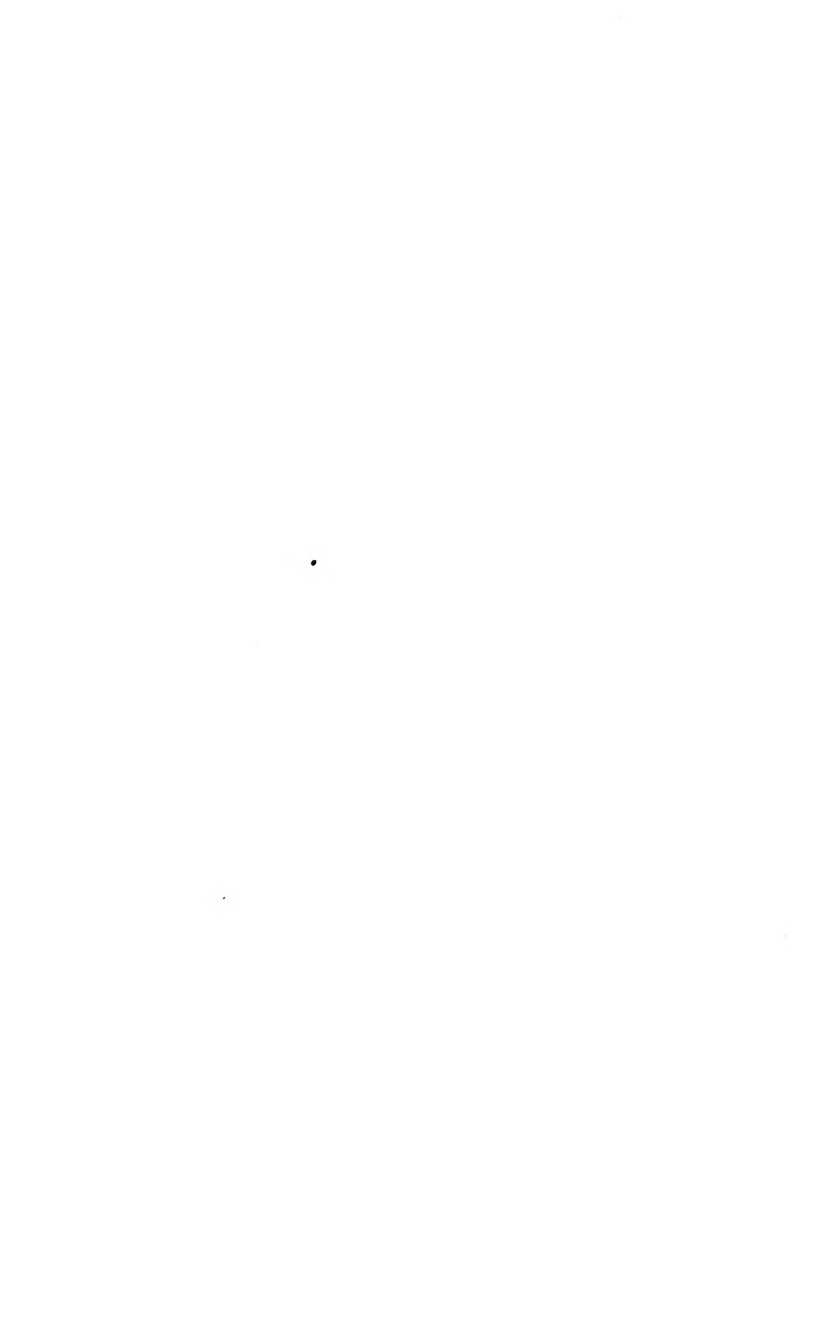
BRITISH MUSEUM.

VOLUME XVI.

LONDON:

PRINTED BY ORDER OF THE TRUSTEES.

1892.



CATALOGUE  
OF THE  
P I C A R I Æ  
IN THE  
COLLECTION  
OF THE  
BRITISH MUSEUM.

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UPUPÆ AND TROCHILI,

BY

OSBERT SALVIN.

CORACIÆ,

OF THE FAMILIES

CYPSELIDÆ, CAPRIMULGIDÆ, PODARGIDÆ, AND  
STEATORNITHIDÆ,

BY

ERNST HARTERT.

LONDON:

PRINTED BY ORDER OF THE TRUSTEES.

SOLD BY

LONGMANS & Co., 39 PATERNOSTER ROW;

B. QUARITCH, 15 PICCADILLY; DULAU & Co., 37 SOHO SQUARE;

KEGAN PAUL & Co., PATERNOSTER HOUSE, CHARING CROSS ROAD;

AND AT THE

BRITISH MUSEUM (NATURAL HISTORY), CROMWELL ROAD, S.W.

1892.

PRINTED BY TAYLOR AND FRANCIS,  
RED LION COURT, FLEET STREET.

## P R E F A C E.



THE preparation of the present volume was commenced in the year 1887, but its publication has been delayed from several causes:— The desire of profiting by the most recent attempts at classification rendered changes in the serial arrangement of the families necessary; Mr. Salvin, who at first intended to undertake the whole of the Macrochirous families, together with the Podargidæ, was prevented by other engagements from proceeding beyond the Trochilidæ, so that a substitute had to be introduced to the work; and, finally, the material to be catalogued was unusually heavy, as it not only comprises the two largest collections of Humming-Birds that have been made hitherto, viz. those of the late Mr. J. Gould and of Messrs. Godman and Salvin, but was also increased by the accessions of the last four years. Consequently the contents of this volume greatly exceed those of any of the previous ones, as will be seen from the following statement:—

	Species.	Types.	Specimens.
Upupæ . . . . .	16	4	448
Trochili . . . . .	482	161	8253
Cypselidæ . . . . .	78	20	1500
Caprimulgidæ . . . . .	86	20	1800
Podargidæ . . . . .	24	6	271
Steatornithidæ . . . . .	1	—	14
	<hr style="width: 50%; margin: 0 auto;"/>	<hr style="width: 50%; margin: 0 auto;"/>	<hr style="width: 50%; margin: 0 auto;"/>
	687	211	12,286

Of the 687 species recorded, 50 are not represented in the Museum; but besides the 211 types of species admitted as valid, the Collection contains 62 other typical specimens, the names of

which are now relegated to the synonymic lists. With regard to the types of Trochilidæ, their number cannot be given with absolute certainty, as Gould did not always pay regard to distinctive labelling or to the preservation of individual specimens which he would have wished to be regarded as the types of the species named and described by him.

The Authors beg to acknowledge with many thanks the assistance they have received, chiefly by the loan of specimens for the purposes of comparison, from the United States National Museum, the Free Public Museum of Liverpool, Graf von Berlepsch, the Hon. Walter Rothschild, Mr. J. A. Allen of the American Museum of Natural History, Professor R. Hertwig of the Munich Museum, H. Seebohm, Esq., Count T. Salvadori, Dr. Pleske, M. Jean Stolzmann, Professor Nasonoff, Dr. Büttikofer, Dr. A. B. Meyer, Professor Lampert of the Stuttgart Museum, Canon Tristram, and others.

ALBERT GÜNTHER,  
*Keeper of the Department of Zoology.*

British Museum (N.H.),  
June 12. 1892.



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1. <i>auritus</i> , <i>Gray</i> . . . . .	637	<i>d'Alb.</i> . . . . .	650
2. <i>harterti</i> , <i>Sharpe</i> . . . . .	638	10. <i>novæ-hollandiæ</i> ( <i>Lath.</i> ) . . . . .	651
3. <i>septimus</i> , <i>Tweedd.</i> . . . . .	638	11. <i>savesi</i> , <i>Layard</i> &	
4. <i>poliophus</i> , <i>Hartert</i> . . . . .	638	<i>Tristr.</i> . . . . .	652
5. <i>stellatus</i> ( <i>Gould</i> ) . . . . .	639		
6. <i>javensis</i> ( <i>Horsf.</i> ) . . . . .	640	Fam. STEATORNITHIDÆ.	
7. <i>hodgsoni</i> ( <i>Gray</i> ) . . . . .	642	1. <i>Steatornis</i> , <i>Humboldt</i> . . . . .	653
8. <i>affinis</i> , <i>Blyth</i> . . . . .	643	1. <i>caripensis</i> , <i>Humboldt</i> . . . . .	653
9. <i>moniliger</i> , <i>Blyth</i> . . . . .	644		

# CATALOGUE

OF

# BIRDS.



## Order IV. PICARIÆ.

At the time of the publication of the third volume of this work, it was intended to follow as closely as possible the systematic arrangement proposed by Garrod in the 'Proceedings' of the Zoological Society, 1874. However, owing to the subsequent researches by that and other anatomists, various modifications were proposed, and especially Mr. Sclater, in a paper "On the present State of the Systema Avium" ('Ibis,' 1880), indicated what were clearly improvements on Garrod's classification.

In that paper Garrod's "*Passeriformes*" were abandoned, and the "suborder *Passeres*," as characterized in Volume III. p. 1, is raised to an order. We not only adopt here this view, but follow Mr. Sclater further in reviving the term "*Picariæ*" for the next order, which would comprise the *Cypseli* (*Macrochires*), *Anisodactyli*, *Heterodactyli*, *Scansores*, and *Coccyges*, although we are not aware that the order with these wide limits has been or can be diagnosed.

To Mr. Seebohm, who has endeavoured to work out a complete scheme in which the various groups are circumscribed by diagnostic characters ('Classification of Birds,' 1890), we are much indebted for the assistance we obtained from his work in defining the divisions in the following scheme. The adoption of an "order of Picarians" is, at the best, a provisional measure, and if this "order" be thought to be inadmissible, then the divisions proposed by Mr. Seebohm would have to rank as separate orders, and might be arranged in a sequence more in conformity with what are, at present, considered their natural affinities.

## PICARIÆ.

- I. Three or four toes are directed forwards (*Anisodactyli* and *Pamprodactyli*).
- A. Flexor digitorum perforans split into three branches leading to the second, third, and fourth digits, but not to the first.
1. Palate desmognathous. Flexor digitorum perforans and flexor hallucis entirely separate . . . . . Suborder **UPUPÆ** (xvi. p. 3).
  2. Palate schizognathous. Suborder **TROCHILI** (xvi. p. 27).
- B. Flexor digitorum perforans split into branches, of which one leads to the first digit, one to the second, and generally one to the third and fourth.
1. Flexor digitorum perforans, and not flexor hallucis longus, leading to hallux.
    - a. Spinal feather-tract well defined on the neck, and
      - a. forked on the upper back. Suborder **CORACIÆ** (xvi. p. 434).
      - β. single between the shoulders. Suborder **HALCYONES** (xvii. p. 93).
    - b. Spinal feather-tract not defined on the neck . . . . . Suborder **BUCEROTES** (xvii. p. 347).
- II. The first and second toes are turned backwards, the two others forwards (*Heterodactyli*).
- A. Flexor digitorum perforans split into two branches leading to the two front toes. Flexor longus hallucis split into two branches leading to the two hind toes. Spinal feather-tract well defined from nape to oil-gland, and not forked. Suborder **TROGONES** (xvii. p. 429).
- III. The first and fourth toes are turned backwards, the two others forwards (*Zygodactyli*).
- A. Flexor digitorum perforans not split, leading to third digit only. Flexor longus hallucis first sending a tendon to the other plantar, then a second to the fourth digit, after which (if the hallux is present) it splits into two tendons, one leading to the hallux, the other to second digit. Amiens absent . . . . . Suborder **SCANSORES** (xviii. p. 1).
- B. Hallux always present and connected with the flexor longus hallucis, and not with the flexor digitorum perforans, which leads to the second, third, and fourth digits. Palate desmognathous. Suborder **COCCYGES** (xix. p. 209).

## Suborder UPUPÆ.

(By OSBERT SALVIN \*.)

The history, general anatomy, and classification of the Family *Upupidæ* were carefully examined by Dr. Murie in 1873 (*Ibis*, 1873, pp. 181 *et seq.*); several additional points were subsequently brought forward by Garrod ('Collected Scientific Papers'), and the relationship of the Family to its supposed allies was again discussed by Stejneger in J. S. Kingsley's 'Standard Natural History' (iv. pp. 408 *et seq.*, 1885).

The general opinion of these authors as to the systematic position of the *Upupæ* is that their nearest allies are the *Bucerotidæ*, an alliance first suggested by Gould and worked out by Blyth and others.

That the *Upupæ* find a place immediately after the *Passeres*, and are associated with the Humming-Birds, is due to the high, the very high, value placed upon the structure of the foot, which is Passerine in the arrangement of the plantar tendons.

The points of resemblance to the Hornbills are subordinated in favour of this character at the expense of the natural affinities of the group, for with the *Trochili* the *Upupæ* have little else that I know of in common.

### Key to the Families.

- |   |             |
|---|-------------|
| A. Nostrils open, round, semidorsal, without overhanging edge; tail square, shorter than the wings; plumage dull, without shining gloss. . . . .                                  | Upupidæ,    |
| B. Nostrils more or less elongated, lateral, and with an overhanging edge or well-developed operculum; tail cuncate, longer than the wings; plumage more or less glossy . . . . . | [p. 3.      |
|   | Irrisoridæ, |
|   | [p. 16.     |

## Family I. UPUPIDÆ.

This Family contains the single genus *Upupa*, comprising six more or less closely-allied species.

The peculiar habits of the Hoopoes and their structure have been very fully described by various authors, and a careful summary of the literature of this subject is contained in Dr. Murie's paper already referred to.

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\* The references to the literature of the various species of this Suborder have been collected and arranged for me by Mr. R. Bowdler Sharpe.

## 1. UPUPA.

Upupa. *Linn. Syst. Nat.* i. p. 183 ..... U. epops. Type.

*Range.* Southern Palearctic Region from the British Islands to Japan, Africa, Madagascar, Arabia, the Indian peninsula and Ceylon, the Indo-Chinese region as far south as Tonka in the Malay peninsula, Hainan, and N. Borneo.

*Key to the Species.*

- a. Primaries crossed by a white band; abdomen more or less striped.
- a'. Secondaries black, crossed with four equidistant white bands.
- a''. Transverse caudal band wide, first primary narrow, seldom reaching to the proximal end of the white transverse band of the second primary.
- a'''. Black apical spots of the longest crest-feathers edged inwardly with white ..... *epops*, p. 4.
- b'''. No white inner edging to the black apical spots of the longest crest-feathers ..... *indica*, p. 10.
- b''. Transverse white caudal band narrow, first primary large, reaching to the distal end of the white transverse band of the second primary ..... *marginata*, p. 13.
- b'. Secondaries with the basal two-thirds white, and with a subterminal white transverse band. *somalensis*, p. 13.
- b. Primaries black, without a white band; abdomen (in adult) chestnut, unbanded ..... *africana*, p. 14.

## 1. Upupa epops.

The Hoop or Hoopoe, *Albin, Nat. Hist. B.* ii. p. 39, pls. 42, 43 (1738).

The Hoopoe, *Edwards, Gleanings Nat. Hist.* iii. p. 282, pl. 345 (1764); *Yarr. Brit. B.* ii. p. 167 (1843).

La Huppe ou Puput, *Briss. Orn.* ii. p. 455, pl. xliii. fig. 1 (1760).

Upupa epops, *Linn. Syst. Nat.* i. p. 183 (1766); *Gm. S. N.* i. p. 466 (1788); *Temm. Man. d'Orn.* i. p. 415 (1815); *Naum. Vög. Deutschl.* v. p. 176, Taf. 142 (1826); *Roua. Orn. Prov.* pl. 240 (1825); *Werner, Atlas, Anisod.* pl. 5 (1827); *Ménière. Cat. rais. Cauc.* p. 45 (1832); *Gould, B. Eur.* iii. pl. 238 (1837); *Macgill. Brit. B.* iii. p. 41 (1840); *Schl. & Susem. Vög. Eur.* pt. vii. pl. xi. (1840); *Cressp. Orn. Gard.* p. 287 (1840); *Nordm. in Déniel. Voy. Russ. Merid.* iii. p. 212 (1840); *Selys-Longch. Faune Belg.* p. 107 (1842); *Schl. Rev. Crd.* p. lii (1844); *Gray, Gen. B.* i. p. 90 (1847); *Thomps. B. Irel.* i. p. 353 (1849); *Bp. Consp.* i. p. 88 (1850); *Kjærh. Danm. Fugle*, pl. 13, fig. 1 (1852); *Reichenb. Handb. Scans.* p. 318, Taf. dxv. figs. 3032-34 (1853); *Hewitt. Eggs Br. B.* i. p. 249, pl. 63, fig. 3 (1856); *Sunder. Svensk. Fugl.* pl. 19, fig. 5 (1856); *Jaub. et Barth.-Lapponm. Rich. Orn.* p. 302 (1859); *Tristr. Birs.* 1859, p. 27 (Palestine); *E. C. Taylor, t. c.* p. 49 (Egypt); *Simpson, t. c.* p. 268 (Sweden); *Salvin, t. c.* p. 304 (Ain Djendeli); *Heugl. t. c.* p. 340 (Danakil); *Tristr. t. c.* p. 435

(Sahara); *Schrenck, Reis. Amurl.* p. 270 (1860); *Swinh. Ibis*, 1860, p. 49; *Powys, t. c.* p. 236 (Ionian Islands); *Swinh. t. c.* p. 254 (Talien Bay), p. 328 (Takow); *Irby, Ibis*, 1861, p. 227 (Kumaon); *Blakist. Ibis*, 1862, p. 327 (Japan); *Jerd. B. Ind.* i. p. 390 (1862); *Gray, List Br. B.* p. 38 (1863); *Radde, Reis. Sibir., Vög.* p. 145 (1863); *Adams, Ibis*, 1864, p. 15 (Egypt); *Wright, t. c.* p. 72 (Malta); *Sperling, t. c.* p. 281; *Gigl. Ibis*, 1865, p. 52 (Pisa); *More, t. c.* p. 137; *Beavan, t. c.* p. 417 (Maunbhoom); *Bettoni, Ucc. nidif. Lomb.* tav. 27 (1865-70); *Tristr. Ibis*, 1866, p. 80; *Godm. t. c.* pp. 99, 107 (Azores); *Lilford, t. c.* p. 176 (Spain); *Blyth, t. c.* p. 222 (Umbala); *Degl. & Gerbe, Orn. Eur.* i. p. 193 (1867); *Loche, Expl. Sci. Algér., Ois.* ii. p. 96 (1867); *E. C. Taylor, Ibis*, 1867, p. 56; *Chambers, t. c.* p. 100 (Tripoli); *Scott, t. c.* p. 135 (Umbala); *Beavan, t. c.* p. 143 (Simla); *Swinh. t. c.* p. 236 (Amoy); *Drake, t. c.* p. 424 (Morocco); *Dybowski, J. f. O.* 1868, p. 336; *Gould, B. Gt. Br.* ii. pl. 12 (1868); *Pelz. Ibis*, 1868, p. 307 (Kotegurh); *Smith, t. c.* p. 448 (Portugal); *Borggr. Vög. Norddeutschl.* p. 69 (1869); *Doderl. Avif. Sicil.* p. 61 (1869); *Brooks, Ibis*, 1869, p. 48 (Almora); *Saunders, t. c.* p. 182 (S. Spain); *Heugl. Orn. N.O.-Afr.* i. p. 213 (1869); *Gray, Hand-l. B.* i. p. 103, no. 1250 (1869); *Wyatt, Ibis*, 1870, p. 12 (Sinai); *Frätsch, Vög. Eur.* tab. 13, fig. 11 (1870); *Blyth, Ibis*, 1870, p. 164; *Elwes & Buckley, t. c.* p. 189 (Bulgaria); *Beavan, t. c.* p. 310; *Collett, t. c.* p. 339 (Spitzbergen); *Blanf. Geol. & Zool. Abyss.* p. 332 (1870); *Fisch, Trans. Z. S.* vii. p. 226 (1870); *id. & Hartl. Vög. Ostaf.* p. 195 (1870); *Salvad. Faun. Ital., Ucc.* p. 46 (1871); *Swinh. P. Z. S.* 1871, p. 348; *Saunders, Ibis*, 1871, p. 67; *Gurney, t. c.* p. 75 (Algeria); *R. Gray, B. W. Scott.* p. 198 (1871); *Sharpe & Dresser, B. Eur.* v. p. 179, pl. 298 (1871); *Harting, Handh. Br. B.* p. 33 (1872); *Jerdon, Ibis*, 1872, p. 21; *Godman, t. c.* p. 169 (Canaries); *G. C. Taylor, t. c.* p. 230; *Dybowski, J. f. O.* 1872, p. 353; *Shelley, B. Egypt.* p. 165 (1872); *Brooke, Ibis*, 1873, p. 230; *Severtz. Turkest. Jevotn.* p. 68 (1873); *Hume & Henders. Lahore to Yark.* p. 182 (1873); *Hume, Nests & Eggs Ind. B.* p. 162 (1873); *id. Str. F.* i. p. 174 (1873); *Cock & Marsh. t. c.* p. 351; *Adam, t. c.* p. 375 (Sambhur); *Ball, Str. F.* ii. p. 397 (1874) (Chota Nagpur); *Swinh. Ibis*, 1874, p. 437 (Chefoo); *Dybowski, J. f. O.* 1874, p. 334; *Irby, B. Gibr.* p. 68 (1875); *Fallon, Ois. Belg.* p. 118 (1875); *Lilford, Ibis*, 1875, p. 20 (Syracuse); *Cordeauc, t. c.* p. 184 (Heligoland); *Dauf. & Harvie Brown, t. c.* p. 300; *Stoliczka, Str. F.* iii. p. 218 (1875); *Butler, t. c.* p. 462; *Scully, Str. F.* iv. p. 136 (1876); *Fairb. t. c.* p. 256; *C. B. Wharton, Ibis*, 1876, p. 19 (Corsica); *Dresser, t. c.* p. 319; *Tacz. Bull. Soc. Zool. France.* i. p. 135 (1876); *Blanf. East. Persia*, ii. p. 130 (1876); *Prjev. in Rowley's Orn. Misc.* ii. p. 164 (1877); *David & Oust. Ois. Chine*, p. 79 (1877); *Butler, Str. F.* v. p. 228 (1877); *Fairb. t. c.* p. 399; *Dauf. Ibis*, 1878, p. 7 (Asia Minor); *Blakist. & Pryer, t. c.* p. 231 (Japan); *Hume, Str. F.* vii. p. 55 (1878); *Davidson & Wenden, t. c.* p. 79; *Ball, t. c.* p. 209; *Cripps, t. c.* p. 267; *Sharpe, P. Z. S.* 1879, p. 329 (Labuan); *Hume, Str. F.* viii. p. 90 (1879); *Scully, t. c.* p. 263; *Wardl.-Ramsay, Ibis*, 1879, p. 446, 1880, p. 52 (Afghanistan); *Seeb. t. c.* p. 180 (Krasnoyarsk); *Vidal, Str. F.* ix. p. 57 (1880); *Barnes, t. c.* p. 216 (Chaman); *Milne-Edwards, C. R.* xci. p. 1036 (1880); *Newt. ed. Farr. Br. B.* ii. p. 419 (1881); *Butler, Str. F.* ix. p. 391 (1881); *Barnes, t. c.* p. 454; *Reid, t. c.* p. 30; *Bidd. Ibis*, 1881, p. 50 (Gilgit); *Scully, t. c.* p. 432; *Blak. & Pryer, B. Japan*, p. 133

(1882); *Davidson, Str. F.* x. p. 300 (1882); *C. Swinh. Ibis*, 1882, p. 102 (Afghanistan); *Seeb. t. c.* p. 210 (Astrachan); *Dixon, t. c.* p. 560 (Algeria); *Marsh. & Pelz. Orn. Vindob.* p. 37 (1882); *B. O. U. List Br. B.* p. 82 (1883); *Hömeier & Tancré, MT. orn. Ver. Wien*, p. 90 (1883); *Seeb. Ibis*, 1883, p. 21 (Caucasus); *Servetz. t. c.* p. 71 (Pamir); *Serby, t. c.* p. 179 (Santander); *Hartl. Abhandl. nat. Ver. Bremen*, viii. p. 206 (1883); *Seeb. Hist. Brit. B.* ii. p. 335 (1884); *Blak. Amended List B. Japan*, p. 47 (1884); *Tristr. Faun. & Flor. Palest.* p. 89 (1884); *Seeb. Ibis*, 1884, p. 36 (Yezo); *Eagle Clarke, t. c.* p. 144 (Hungary); *Seeb. t. c.* p. 261 (Central China); *Saunders, t. c.* p. 380 (Pyrenees); *C. H. T. Marshall, t. c.* p. 412 (Chamba); *Radde, Orn. Cauc.* p. 298 (1884); *Murray, Verlebr. Faun. Sind.* p. 120 (1884); *Whitehead, Ibis*, 1885, p. 28 (Corsica); *Swinh. & Barnes, t. c.* p. 64 (Mhow); *Menzb. t. c.* p. 357 (Upper Tarim); *Stejn. Orn. Expl. Kamtsch.* p. 354 (1885); *Sharpe, Ibis*, 1886, p. 16 (Aden), p. 166 (Muscat), p. 498 (Bashire); *Davidson, Str. F.* x. p. 364 (1887); *Salvad. Elench. Ucc. Ital.* p. 77 (1887); *Scully, J. A. S. Beng.* xlv. p. 80 (1887); *Lorenz, Beitr. Orn. Faun. Cauc.* p. 43 (1887); *Styan, Ibis*, 1887, p. 229 (Foochow); *Tait, t. c.* p. 306 (Portugal); *Savile Reid, Ibis*, 1887, p. 74 (Teneriffe); *Hume, Str. F.* xi. p. 88, 1888 (Manipur); *Meade-Waldo, Ibis*, 1889, p. 11 (Canaries); *St. John, t. c.* p. 159 (Kelat); *Lilford, t. c.* p. 331 (Cyprus); *Eagle Clarke, t. c.* p. 548 (Pyrenees); *Gigl. Avif. Ital.* p. 357 (1889); *Everett, Journ. Straits Br. R. Asiat. Soc.* 1889, p. 165; *Sharpe, Journ. Linn. Soc. (2) Zool.* vol. v. p. 84 (1889); *Gigl. Avif. Locali*, p. 327 (1890).

*La Huppe, Daubent. Pl. Enl.* vi. pl. 52; *Montb. Hist. Nat. Ois.* vi. p. 439 (1779).

Common Hoopoe, *Lath. Gen. Syn.* i. pt. 2, p. 687 (1782).

Promerops marcheurl d'Europe, *Levaill. Hist. Nat. Promérops et Guépérs*, vii. p. 53, pl. 22 (1807).

*Upupa vulgaris*, *Pall. Zoogr. Rosso-Asiat.* i. p. 433 (1811).

*Upupa africana* (nec *Bechst.*), *Less. Traité d'Orn.* p. 323 (1831).

*Upupa bifasciata*, *Brehm, Vög. Deutschl.* p. 215, Taf. 15. fig. 2 (1831).

*Upupa senegalensis*, *Swains. B. W. Afr.* ii. p. 114 (1837); *Hartl. Orn. W.-Afr.* p. 42 (1856); *id. J. f. O.* 1861, pp. 107, 108; *Gray, Hand-l. B.* i. p. 103, no. 1251 (1869); *Antin. & Salvad. Viagg. Bogos*, p. 58 (1873); *Salvad. Ann. Mus. Civ. Genov. (2) i.* p. 105 (1884); *id. op. cit.* vi. p. 220 (1888).

*Upupa indica*, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pls. 26, 27. fig. 1 (no. 132); *id. in Gray's Zool. Misc.* p. 82 (1844).

*Upupa maculigera*, *Reichenb. Handb. Scansores*, p. 319 (1853).

*Upupa brachyrhynchos*, *U. macrorhynchos*, *U. exilis*, *U. africana*, *U. major*, *Brehm, Vogelf.* p. 77 (1855).

*Upupa major*, *Gray, Hand-l. B.* i. p. 103, no. 1254 (1869).

*Adult male.* Upper surface light brown; a transverse band of buff widely edged with black crosses the back and scapulars, the latter being also tipped with buffy white; rump white, longest upper tail-coverts black towards the tip, and sometimes with a narrow white edge; primaries black, crossed by a wide white band; on the first primary this band is usually represented on the inner web by a white spot, but is sometimes absent, on the second to seventh quills it crosses the feather, but on the eighth to tenth it becomes a sub-terminal elongated transverse spot; secondaries black, with white



bases, all but the innermost two crossed by four equidistant white transverse bands, which on the outermost two are confined to the inner webs, the innermost two have a buff edge to the outer web and a buff line on the inner web close to the shaft; primary-coverts black, crossed with two bands, the outer buff, the inner white; median coverts black, with buff tips; lesser coverts and the edge of the shoulder light brown, like the back; head, neck, and breast vinous-rufous, darker on the long occipital crest-feathers, the ends of which are black, preceded by a white transverse space, the proximal edge of which blends with the rufous of the rest of the feather; abdomen very pale buff; a longitudinal dark stripe on the inner web of the flank-feathers next the shaft; under tail-coverts white; tail black, crossed by a white bar, which is central on the middle feathers, and approaches the tip towards the outermost pair, being widest on the outer web of those feathers; bill blackish, base of both maxilla and mandible flesh-colour; feet black. Total length about 12 inches, wing 5.7, tail 4, bill 2.2, tarsus 0.8.

*Adult female.* Similar to the male.

*Young.* Similar to the adult.

*Hab.* Southern Palæartic region from Southern Scandinavia and the British Islands to Japan (accidental in Spitsbergen), migrating in winter to N.E. Senegambia and N.E. Africa; Arabia, Plains of India from the N.W. Provinces to Assam, extending also into Central India, where it appears to blend with *U. indica*.

<i>a.</i> Pull. sk.	Europe.	Gould Coll.
<i>b.</i> Pull. st.	Europe.	Purchased.
<i>c.</i> Ad. st.	Portslade, Sussex, Aug. 30.	Herbert Langton, Esq. [P.].
<i>d.</i> Ad. st.	Bigbury, Devonshire.	Montagu Coll.
<i>e.</i> Ad.; <i>f.</i> Juv. sk.	Valkenswaard, Holland ( <i>J. Baker</i> ).	Salvin-Godman Coll.
<i>g, h.</i> ♂ ♀ ad. sk.	Silesia.	Gould Coll.
<i>i.</i> Ad. sk.	Near Vienna ( <i>Dr. Steindachner</i> ).	Sharpe Coll.
<i>j, k.</i> Ad. et imm. sk.	Southern Spain.	Lord Lilford [P.].
<i>l.</i> ♂ ad. sk.	Seville, April 18 ( <i>H. Saunders</i> ).	Sharpe Coll.
<i>m.</i> Ad. sk.	Morocco ( <i>Olcese</i> ).	Tweeddale Coll.
<i>n, o.</i> Ad. et juv. sk.	Tunis.	L. Fraser [C.].
<i>p.</i> Ad. sk.	Madeira, Sept. ( <i>E. V. Harcourt</i> ).	Gould Coll.
<i>q.</i> Ak. sk.	River Gambia.	Sharpe Coll.
<i>r.</i> Ad. sk.	River Gambia.	Shelley Coll.
<i>s.</i> ♂ ad. sk.	Koomayli, Abyssinia, Feb. 2.	W. T. Blanford, Esq. [C.].
<i>t.</i> ♀ ad. sk.	Senafé, March 12.	W. T. Blanford, Esq. [C.].
<i>u, v.</i> ♂ ♀ ad. sk.	Rairo, Bogos-Land, Aug. ( <i>W. Jesse</i> ).	Tweeddale & Sharpe Colls.
<i>w.</i> ♀ ad. sk.	Below Shendy ( <i>J. Muiré</i> ).	Consul Petherick [C.].
<i>x, y, z.</i> ♂ ad. sk.	Egypt, Feb. to April ( <i>G. E. S.</i> ).	Shelley Coll.

<i>a</i> '.	♂ ad. sk.	Safed, Palestine.	Canon Tristram [C.].
<i>b</i> '.	♂ ad. sk.	Damascus, June 9 ( <i>H. B. Tristram</i> ).	Seebohm Coll.
<i>c</i> '.	Ad. st.	Athens.	Consul Merlin [C.].
<i>d</i> '.	♀ ad. sk.	Belgrade, April 5 ( <i>T. Robson</i> ).	Sharpe Coll.
<i>e</i> '.	♀ ad. sk.	Ak Maidan, Turkey, April 11 ( <i>T. Pearce</i> ).	Sharpe Coll.
<i>f</i> ', <i>g</i> '.	♂ ♀ ad. sk.	Sweet Waters, Turkey, Sept. 8 ( <i>T. Pearce</i> ).	Seebohm Coll.
<i>h</i> '.	♂ ad. sk.	Petnahor, Turkey, Aug. 6 ( <i>T. Pearce</i> ).	Seebohm Coll.
<i>i</i> '.	Ad. sk.	Asia Minor, Aug. 28 ( <i>T. Robson</i> ).	Sharpe Coll.
<i>j</i> '.	♀ ad. sk.	Smyrna, Sept. 14 ( <i>Dr. Krüper</i> ).	Seebohm Coll.
<i>k</i> '.	♀ ad. sk.	Anascha, Taurus, March 30 ( <i>C. G. Danford</i> ).	Seebohm Coll.
<i>l</i> '.	Ad. sk.	Erzeroum ( <i>Dickson &amp; Ross</i> ).	Gould Coll.
<i>m</i> ', <i>n</i> '.	Ad. sk.	Mesopotamia ( <i>Commander Jones</i> ).	India Museum.
<i>o</i> ', <i>p</i> '.	Ad. sk.	Bagdad.	Sir K. Loftus [P.].
<i>q</i> ', <i>r</i> '.	Ad. sk.	Bushire, Persian Gulf, Feb. & March.	A. J. V. Palmer, Esq. [P.].
<i>s</i> '.	Ad. sk.	Fao.	W. D. Cumming, Esq. [P.].
<i>t</i> '.	Ad. sk.	Muscat.	Colonel Miles [P.].
<i>u</i> '.	Ad. sk.	Samarkand, Aug. 11 ( <i>Russow</i> ).	Seebohm Coll.
<i>v</i> '	♂ ad. sk.	Barna-ul, June 24 ( <i>Dr. O. Finsch</i> ).	Geogr. Soc. Bremen.
<i>w</i> ', <i>x</i> '.	Ad. sk.	Yarkand ( <i>Col. Chapman</i> ).	Sharpe Coll.
<i>y</i> '.	Ad. sk.	Yarkand, Aug. 24 ( <i>Dr. G. Henderson</i> ).	Hume Coll.
<i>z</i> '.	♂ ad. sk.	Gulran, N. Afghanistan, March 7.	Dr. Aitchison [C.].
<i>a</i> '.	Ad. sk.	Cabul ( <i>Dr. Griffith</i> ).	India Museum.
<i>b</i> '', <i>c</i> '.	♂ ad. sk.	Candahar, April-Dec.	Col. Swinhoe [P.].
<i>d</i> '', <i>e</i> '.	♂ ad. sk.	Candahar, Feb. ( <i>Sir O. St. John</i> ).	Hume Coll.
<i>f</i> '', <i>i</i> '.	Ad. sk.	Nal, Kelat, May, July, Aug. ( <i>O. T. Duke</i> ).	Hume Coll.
<i>j</i> '.	♂ ad. sk.	Jalk, Baluchistan, March 17.	W. T. Blanford, Esq. [C.].
<i>k</i> '', <i>n</i> '.	♂ ♀ ad. sk.	Sukhur, Sind, Dec. ( <i>A. O. H.</i> ).	Hume Coll.
<i>m</i> '.	♂ ad. sk.	Sehwan, April 1 ( <i>A. O. H.</i> ).	Hume Coll.
<i>n</i> '.	♀ ad. sk.	Kutch, Jan. ( <i>Dr. Stoliczka</i> ).	Hume Coll.
<i>o</i> '.	♀ ad. sk.	Deesa, Feb. 15 ( <i>E. A. Butler</i> ).	Hume Coll.
<i>p</i> '.	♂ ad. sk.	Ramoo, Kashmir, May 16 ( <i>W. E. Brooks</i> ).	Hume Coll.
<i>q</i> '.	♂ ad. sk.	Dhurmsala, May ( <i>W. E. Brooks</i> ).	Hume Coll.
<i>r</i> '.	Ad. sk.	Gilgit, March 9.	Col. Biddulph [C.].
<i>s</i> '.	Ad. sk.	Simla, June ( <i>R. C. Beavan</i> ).	Tweeddale Coll.
<i>t</i> '.	♂ ad. sk.	Kotegurh, Nov. 10 ( <i>A. O. H.</i> ).	Hume Coll.
<i>u</i> '.	Ad. sk.	Punjab.	General Hearsey [P.].
<i>v</i> '.	Ad. sk.	Mooltan ( <i>Capt. Tweedie</i> ).	Gould Coll.
<i>w</i> '.	Ad. sk.	Sirsa, Feb. 3.	Hume Coll.
<i>x</i> '', <i>z</i> '.	♂ ad.; a <sup>3</sup> .	Sambhur, Jan., June, Aug. ( <i>R. M. Adam</i> ).	Hume Coll.
	♀ ad. sk.		

$b^3$ , ♀ ad. sk.	Mount Abu, Sept. 29.	Hume Coll.
$c^3$ , $d^1$ , ♂ ad.; $e^1$ .	Ajmir, Nov. 24 ( <i>A. O. II.</i> ).	Hume Coll.
♀ ad. sk.		
$f^3$ , ♀ ad. sk.	Umbala, Nov. ( <i>R. C. Bevan</i> ).	Tweeddale Coll.
$g^3$ , Ad. sk.	Kumaun ( <i>Strachey</i> ).	India Museum.
$h^3$ , Ad. sk.	Naini Tal, Sept. 13.	Hume Coll.
$i^3$ - $l^3$ , ♂; $m^1$ - $o^3$ .	Etawah, Oct., Nov.	Hume Coll.
♀ ad. sk.		
$p^1$ , Ad. sk.	Bihar.	Hodgson Coll.
$q^3$ - $s^3$ , Ad. sk.	Nepal.	Hodgson Coll.
$t^3$ - $v^3$ , Ad. sk.	Nepal ( <i>B. H. Hodyson</i> ).	India Museum.
$w^3$ - $b^4$ , Ad. sk.	Sikhim, March, Sept. to Nov.	Hume Coll.
$c^4$ - $e^4$ , Ad. sk.	Sikhim.	Seebohm Coll.
$f^4$ , $g^4$ , Ad. sk.	Darjiling.	Hume Coll.
$h^4$ , Ad. sk.	Darjiling, Oct. 19.	Tweeddale Coll.
$i^4$ , Ad. sk.	Bhutan ( <i>Pemberton</i> ).	India Museum.
$j^4$ , $k^4$ , ♀ ad. sk.	Tippook, Assam, March ( <i>J. Cockburn</i> ).	Hume Coll.
$l^4$ , ♂ ad. sk.	Shillong, Sept. 27 ( <i>J. Cockburn</i> ).	Hume Coll.
$m^4$ , ♂ ad. sk.	Dibrughur ( <i>F. Day</i> ).	Tweeddale Coll.
$n^4$ , ♂; $o^4$ , $p^4$ , ♀ ad. sk.	Dibrughur, March, April ( <i>J. R. Cripps</i> ).	Hume Coll.
$q^4$ - $s^4$ , Ad. sk.	N. Khasia Hills, Dec., Jan. ( <i>A. W. Chennell</i> ).	Tweeddale Coll.
$t^4$ , ♀ ad. sk.	Lakkipur, Cachar, Jan. 30 ( <i>A. O. II.</i> ).	Hume Coll.
$u^4$ , $v^4$ , ♂ ad.; $w^4$ , ♀ ad. sk.	Manipur, Feb., April ( <i>A. O. II.</i> ).	Hume Coll.
$x^4$ , ♂ ad. sk.	Sylhet, Jan. 22 ( <i>A. O. II.</i> ).	Hume Coll.
$y^4$ - $a^5$ , Ad. sk.	Dacca.	Hume Coll.
$b^5$ , ♀ ad. sk.	Lohardagga, Dec. 15 ( <i>V. Ball</i> ).	Hume Coll.
$c^5$ , Ad. sk.	Maunbhoom, March ( <i>R. C. Bevan</i> ).	Tweeddale Coll.
$d^5$ , Ad. sk.	Saugor ( <i>Hooper</i> ).	India Museum.
$e^5$ , ♂; $f^5$ , $g^5$ , $h^5$ , ♀ ad. sk.	Seoni.	Hume Coll.
$i^5$ , $j^5$ , Ad. sk.	Kamptee.	Dr. R. B. Hinde [P.].
$k^5$ , Ad. sk.	Mhow.	Colonel Swinhoe [P.].
$l^5$ , Ad. sk.	Khandeish.	Tweeddale Coll.
$m^5$ , $n^5$ , ♀ ad. sk.	Dhulia, Khandeish ( <i>J. Davidson</i> ).	Hume Coll.
$o^5$ , Ad. sk.	Khandeish.	India Museum.
$p^5$ , Ad. sk.	Deccan ( <i>Burgess</i> ).	Gould Coll.
$q^5$ , ♀ ad. sk.	N.E. of Ahmednuggur, Dec. 2 ( <i>S. B. Fairbank</i> ).	Tweeddale Coll.
$r^5$ , ♂ ad. sk.	Belgaum, Oct. 28 ( <i>E. A. Butler</i> ).	Hume Coll.
$s^5$ , Ad. sk.	Bangalore, July 6 ( <i>R. G. Wardlaw Ramsay</i> ).	Tweeddale Coll.
$t^5$ , Ad. sk.	India.	Gould Coll.
$u^5$ , ♂ juv. sk.	Manchuria, June 26.	H. E. M. James, Esq. [P.].
$v^5$ - $x^5$ , Juv. sk.	Peking, April to July ( <i>R. Swinhoe</i> ).	Seebohm Coll.
$y^5$ , $z^5$ , Ad. sk.	Chefoo, May, Sept. 29 ( <i>R. S.</i> ).	Seebohm Coll.

<i>a</i> <sup>♂</sup> . ♀ ad. sk.	Amoy, Feb. 18 ( <i>Capt. Conrad</i> ).	Sharpe Coll.
<i>b</i> <sup>♂</sup> . Ad. sk.	Amoy, May ( <i>R. Swinhoe</i> ).	Tweeddale Coll.
<i>c</i> <sup>♂-♀</sup> . Ad. sk.	Amoy, Nov. to May ( <i>R. S.</i> ).	Seebohm Coll.
<i>k</i> <sup>♂</sup> . Juv.; <i>l</i> <sup>♂</sup> . Ad. sk.	Amoy, Nov. 28 ( <i>R. S.</i> ).	Salvin-Godman Coll.
<i>m</i> <sup>♂</sup> . Ad. sk.	Shanghai ( <i>J. R. Reeres</i> ).	Gould Coll.
<i>n</i> <sup>♂</sup> . Ad. sk.	Hoopih, April 5 ( <i>R. S.</i> ).	Seebohm Coll.
<i>o</i> <sup>♂</sup> . Skeleton.		Purchased.
<i>p</i> <sup>♂</sup> . Skull.		Yarrell Coll.
<i>q</i> <sup>♂</sup> , <i>r</i> <sup>♂</sup> . Sterna.	Nepal.	Hodgson Coll.

## 2. *Upupa indica*.

- Upupa minor* (*nce Shaw*), *Sykes, P. Z. S.* 1832, p. 97.
- Upupa epops vel indicus*, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pls. 26, 27, fig. 1 (no. 238); *id. in Gray's Zool. Misc.* p. 82 (1841).
- Upupa senegalensis* (*nce Sw.*), *Blyth, J. A. S. Beng.* xiv. p. 189 (1845); *id. Cat. B. Mus. As. Soc.* p. 46 (1849); *Kelwart, Prodr.* p. 119 (1852); *Lagard, Ann. & Mag. Nat. Hist.* xii. p. 174 (1853).
- Upupa indica*, *Reichenb. Handb. Scansores*, p. 320, Taf. dxcvi. fig. 4037 (1853); *Bp. Consp. Volucr. Anisod.* p. 12 (1854); *Finsch & Hartl. Vög. Ostaf.* p. 198 (1870); *Sharpe & Dresser, B. Eur.* v. p. 183 (1871); *David & Oust. Ois. Chin.*, p. 79 (1877); *Hume, Str. F.* viii. p. 90 (1878); *Reid, Str. F.* x. p. 33 (1881); *Davidson, Str. F.* x. p. 301 (1882); *Davison, Str. F.* x. p. 364 (1887); *McGregor, t. c.* p. 458; *Terry, t. c.* p. 472.
- Upupa ceylonensis*, *Reichenb. Handb. Scans.* p. 320, Taf. dxcvi. fig. 4036 (1853); *Blyth, Ibis*, 1866, p. 366; *Swinh. Ibis*, 1870, p. 91; *id. P. Z. S.* 1871, p. 343; *Holdsw. P. Z. S.* 1872, p. 435; *Jerd. Ibis*, 1872, p. 22; *Oates, ed. Hume's Nests & Eggs Ind. B.* ii. p. 334 (1890).
- Upupa nigripennis*, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 725 (1854, *ex Gould MSS., sed descr. nulla*); *Jerd. B. Ind.* i. p. 392 (1862, *descr. princeps*); *Schomb. Ibis*, 1864, p. 248 (Siam); *Gray, Hand-l. B.* i. p. 103, no. 1253 (1869); *Jerd. Ibis*, 1872, p. 22; *Hume, Nests & Eggs Ind. B.* p. 163 (1873); *Hayes Lloyd, Ibis*, 1873, p. 408; *Adam, Str. F.* i. p. 375 (1873); *Butler, Str. F.* iii. p. 462 (1875); *Morgan, Ibis*, 1875, p. 316; *Fairb. Str. F.* iv. p. 256 (1876); *Hume, t. c.* p. 458; *Fairb. Str. F.* v. p. 399 (1887); *Anders. Zool. Exped. Yunnan*, p. 578 (1875); *Davidson & Wenden, Str. F.* vii. p. 79 (1878); *Hume, t. c.* p. 517 (1878); *Legge, B. Ceylon*, p. 279 (1879); *Gould, B. Asia*, i. pl. 66 (1880).
- Upupa epops* (*nce L.*), *Burgess, P. Z. S.* 1855, p. 27.
- Upupa longirostris*, *Jerd. B. Ind.* i. p. 393 (1862); *Blanf. Ibis*, 1870, p. 466; *Sharpe & Dresser, B. Eur.* v. p. 183 (1871); *Hume, Str. F.* ii. p. 473 (1874), iii. p. 190 (1875); *Blyth & Wald. B. Burm.* p. 69 (1875); *Armstr. Str. F.* iv. p. 315 (1876); *Hume, Str. F.* v. p. 28 (1877); *Oates, t. c.* p. 149; *Hume & Davison, Str. F.* vi. p. 202 (1878); *Oates, Str. F.* vii. p. 41 (1878); *Hume, Str. F.* viii. pp. 90, 155 (1879); *Bingh. Str. F.* ix. p. 171 (1880); *Oates, Str. F.* x. p. 199 (1882); *Oates, Handb. B. Br. Burm.* ii. p. 62 (1883); *Hume, Str. F.* xi. p. 88 (1885); *Salvad. Ann. Mus. Civ. Genov.* (2) iv. p. 588 (1887); *Oates, ed. Hume's Nests & Eggs Ind. B.* ii. p. 338 (1890).

*Adult male.* Very similar to that of *U. epops*, but the long

occipital feathers are without any white or whitish edging to the terminal black spots; the general colour of the back, neck, lesser wing-coverts, and breast darker rufous, this colour extending further over the upper abdomen.

*Female* and *young* similar to the adult.

This bird is not quite definitely distinct from *U. epops* in many districts where the ranges of the two overlap, and in such places intermediate individuals occur in some numbers. These transitional forms spread over Central India, and thence southwards to Ceylon, the typical bird occurring in the districts bordered by the western shores of the Bay of Bengal.

In Burma and Tenasserim this Hoopoe occurs in its most marked form, and, moreover, the bill is in many instances longer than in birds from Continental India. This long-billed bird was separated by Jerdon as *U. longirostris*, but the character is not sufficiently stable to be used to define the Burmese bird with certainty, and this seems to be the opinion of most recent writers on the subject.

Of the two names given by Reichenbach to the Indian Hoopoes, *U. indica* is undoubtedly referable to the bird without any white edging to the terminal spots of the long crest-feathers, and, being the oldest (1853), must be used. *U. ceylonensis* applies to the intermediate form which occurs in Ceylon and many parts of Central India. Gould's title *U. nigripennis*, first defined in 1862 by Jerdon in his 'Birds of India,' may therefore be dropped out of use.

*Hab.* Peninsular India and Ceylon, and the Indo-Burmese region, thence eastwards to Hainan.

<i>a, b, c.</i> Ad. sk.	India.	Gould Coll.
		(Types of <i>U. nigripennis</i> , Gould.)
<i>d.</i> Ad. sk.	Rameswaram Island, March 17	Hume Coll.
	( <i>A. O. H.</i> ).	
<i>e, f, g.</i> ♂ ad.; <i>h,</i>	Ootacamund, Nilghiris, Jan. to	Hume Coll.
<i>i, j.</i> ♀ ad. sk.	April ( <i>W. Davison</i> ).	
<i>k, l.</i> ♂ ad.; <i>m.</i>	Mysore, December.	W. Davison, Esq.
♀ ad. sk.		[P.]
<i>n.</i> Ad. sk.	Mysore ( <i>F. Day</i> ).	India Museum.
<i>o.</i> Ad. sk.	Madras.	Gould Coll.
<i>p.</i> ♂ ad. sk.	N.E. of Ahmednuggur, Sept. 27	Tweeddale Coll.
	( <i>S. B. Fairbank</i> ).	
<i>q, r.</i> Ad. sk.	Deccan ( <i>Sykes</i> ).	India Museum.
<i>s.</i> ♂ ad. sk.	Sambhur, Aug. 14 ( <i>R. M. Adam</i> ).	Hume Coll.
<i>t.</i> ♂ ad. sk.	Etawah, Oct.	Hume Coll.
<i>u.</i> Ad. sk.	Dehra Doon.	Tweeddale Coll.
<i>v.</i> ♀ ad. sk.	N. Khasia Hills, Jan. ( <i>A. W.</i>	Tweeddale Coll.
	<i>Chennell</i> ).	
<i>w.</i> Ad. sk.	Cachar.	Hume Coll.
<i>x, y.</i> ♂ ♀ ad. sk.	Elephant Point, Dec. 6 ( <i>J.</i>	Hume Coll.
	<i>Armstrong</i> ).	
<i>z.</i> ♂ ad. sk.	Yaytho, British Burmah, June	Tweeddale Coll.
	10 ( <i>R. G. Wardlaw Ramsay</i> ).	

<i>a'</i> . Ad. sk.	Tonghoo,	Tweeddale Coll.
<i>b'</i> . Ad. sk.	Tonghoo Hills, Nov. ( <i>R. G. W. R.</i> ).	Tweeddale Coll.
<i>c'</i> . ♂ ad. sk.	Rangoon, Nov. 27 ( <i>R. G. W. R.</i> ).	Tweeddale Coll.
<i>d'</i> , <i>e'</i> . ♂ ad.; <i>f'</i> . ♀ ad. sk.	Rangoon, Oct., Nov. ( <i>J. Armstrong &amp; W. D.</i> ).	Hume Coll. Hume Coll.
<i>g'</i> . Ad. sk.	Pegu, Feb.	Oates Coll.
<i>h'</i> . Ad. sk.	Thayemyo.	Hume Coll.
<i>i'</i> , <i>j'</i> . ♀ ad. sk.	Lower Pegu, Dec. 6.	Oates Coll.
<i>k'</i> . Ad. sk.	Upper Burmah, Sept. 20.	Dr. J. Anderson [C.].
<i>l'</i> . ♀ ad. sk.	Kollidoo, Tenasserim, Feb. 4 ( <i>W. Davison</i> ).	Hume Coll.
<i>m'</i> . ♂ ad.; <i>n'</i> - <i>p'</i> . ♀ ad. sk.	Pahpoon, Dec., Jan. ( <i>W. D.</i> ).	Hume Coll.
<i>q'</i> - <i>t'</i> . ♂ ad.; <i>u'</i> . ♀ ad. sk.	Kaukaryit, May, Oct., Nov. ( <i>J. Darling</i> ).	Hume Coll.
<i>v'</i> . ♂ ad. sk.	Assoon, Feb. 1 ( <i>W. Linborg</i> ).	Tweeddale Coll.
<i>w'</i> , <i>x'</i> . ♂ ad.; <i>y'</i> , <i>z'</i> . ♀ ad. sk.	Thatone, Nov., Dec. ( <i>W. D.</i> ).	Hume Coll.
<i>a''</i> . ♀ ad. sk.	Theinzeik, Dec. ( <i>W. D.</i> ).	Hume Coll.
<i>b''</i> . ♂ ad. sk.	Wimpong, Dec. ( <i>W. D.</i> ).	Hume Coll.
<i>c''</i> . ♂ ad.; <i>d''</i> , <i>e''</i> . ♀ ad. sk.	Moulmein, Nov., Dec. ( <i>W. D.</i> ).	Hume Coll.
<i>f''</i> . ♂ ad. sk.	Thoungyeen Valley, Oct. 8 ( <i>C. T. Bingham</i> ).	Hume Coll.
<i>g''</i> , <i>h''</i> . ♂ ad.; <i>i''</i> - <i>j''</i> . ♀ ad. sk.	Amherst, March ( <i>J. Armstrong</i> ).	Hume Coll.
<i>m''</i> - <i>q''</i> . ♂ ad. sk.	Pakchan, Jan. ( <i>W. D.</i> ).	Hume Coll.
<i>r''</i> . ♂ ad. sk.	Tonka, Jan. ( <i>J. Darling</i> ).	Hume Coll.
<i>s''</i> , <i>t''</i> . ♂ ad.; <i>u''</i> . ♀ ad. sk.	Salang, Feb., March ( <i>J. D.</i> ).	Hume Coll.
<i>v''</i> , <i>w''</i> . Ad. sk.	Siam ( <i>Schomburgk</i> ).	Gould Coll.
<i>x''</i> . Juv. sk.	Cambodia, Sept.	M. E. Pierre [P.].
<i>y''</i> , <i>z''</i> . Ad. sk.	Hainan, Feb. ( <i>R. Swinhoe</i> ).	Seeböhm Coll.

Specimens intermediate between *U. indica* and *U. epops*.

<i>a</i> . Ad. sk.	India.	Gould Coll.
<i>b-e</i> . Ad. sk.	Ceylon, Nov., Dec. ( <i>S. Chapman and H. Nevill</i> ).	Tweeddale Coll.
<i>f, g</i> . ♂ ♀ ad. sk.	Coonor, Jan., Feb. ( <i>F. Day</i> ).	Hume Coll.
<i>h</i> . ♀ ad. sk.	Coonor Ghaut, April ( <i>R. G. Wardlaw Ramsay</i> ).	Tweeddale Coll.
<i>i</i> . ♂ ad. sk.	Nedivuttum.	Hume Coll.
<i>j</i> . ♀ ad. sk.	Seegore, Feb. 17 ( <i>W. Davison</i> ).	Hume Coll.
<i>k</i> . Ad. sk.	Bangalore, April ( <i>R. G. W. R.</i> ).	Tweeddale Coll.
<i>l</i> . Ad. sk.	Madras.	Gould Coll.
<i>m, n</i> . ♂ ad.; <i>o</i> . ♀ ad. sk.	Belgaum, Jan., March, June ( <i>E. L. Ratler</i> ).	Hume Coll.
<i>p</i> . Ad. sk.	Deccan ( <i>S. B. Fairbank</i> ).	Tweeddale Coll.
<i>q</i> . ♂ ad. sk.	Khandeish, Feb. 3 ( <i>J. Davison</i> ).	Hume Coll.
<i>r-y</i> . Ad. sk.	Etawah, Sept. to February.	Hume Coll.
<i>z</i> . ♂ ad. sk.	Umbala, Oct. ( <i>R. C. Beavan</i> ).	Tweeddale Coll.
<i>a', b'</i> . Ad. sk.	Naini Tal.	Hume Coll.

<i>e', d'.</i> ♂ ad. ; <i>e', f'.</i> ♀ ad. sk.	Futtehgurh district, Jan., Feb.	Hume Coll.
<i>g'-i'.</i> ♂ ad. sk.	Futtehgurh, Aug., Sept.	(A. Hume Coll. Anderson).
<i>j'-l'.</i> Ad. sk.	Oudh Terai.	Pinwill Coll.
<i>m'.</i> Ad. sk.	Nepal.	Hodgson Coll.
<i>n'.</i> Ad. sk.	Darjiling.	(Type of <i>U. indica</i> , Hodgs.) A. Bygrave Wharton, Esq. [P.]

### 3. *Upupa marginata*.

*Upupa marginata*, *Bp. Consp. Vol. Anis.* p. 12 (1854, *ex Peters' MSS. in Mus. Berol. ut descr. nullá!*); *Cab. & Hein. Mus. Hein.* Th. ii. p. 127 (1860); *Hartl. Faun. Madag.* p. 32 (1861); *Schl. P. Z. S.* 1866, p. 421; *Grandid. Rev. et Mag. de Zool.* 1857, p. 355; *Gray, Hand-l. B. i.* p. 103, no. 1256 (1869); *Finsch & Hartl. Vög. Ostafri.* p. 199, note (1870); *Hartl. Vög. Madag.* p. 84 (1877); *Bartl. P. Z. S.* 1879, p. 771; *Milne-Edw. & Grand. Hist. Nat. Madag., Ois.* p. 270, pls. 93-95 (1879).

*Adult.* Similar to that of *U. epops* and with the primaries and secondaries similarly banded, but the transverse band of the tail is narrower and crosses the central feathers a little nearer the base; the first primary is wide and long and reaches to the distal edge of the white band of the second primary, instead of being narrow and short as in *U. epops*, and seldom reaching to the proximal edge of the band of the second primary. Total length about 12 inches, wing 5·8 tail 4·4, bill 2·6, tarsus 0·9.

*Hab.* Madagasear.

*a, b.* Ad. sk. Betsileo. Rev. J. Shaw [C.].

### 4. *Upupa somalensis*. (Plate I.)

*Upupa epops senegalensis* (*nec Sw.*), *Shelley, Ibis*, 1885, p. 397.

*Adult male.* Similar to that of *U. epops*, and with the primaries and tail similarly banded with white; the upper back, neck, head, and under surface are deeper rufous almost as in *U. africana*, and the secondaries are marked as in that species, the basal two-thirds being white and the apical third black crossed by a white transverse band. Total length about 10·5 inches, wing 5·4, tail 3·7, bill 2·2, tarsus 0·8.

There can be little doubt that the bird here described belongs to a species distinct from *U. epops* and *U. africana*, having the primaries banded as in the former bird and the secondaries like those of the latter as well as its rich colour.

*Hab.* Somali-Land.

*a.* Ad. sk. Somali (*E. Lort-Phillips*). Shelley Coll.  
(Type of the species.)

5. *Upupa africana*.

- Upupa africana*, *Bechst. Kurze Uebers.* iv. p. 172 (1811); *Temm. Man. d'Orn.* i. p. 416 (1820); *Licht. Verz. Doubl.* p. 16 (1823); *Finsch & Hartl. Jög. Ostaf.* p. 200 (1870); *Sharpe in Dresser's B. Eur.* v. p. 182 (1871); *id. ed. Layard's B. S. Afr.* pp. 134, 808 (1875-84); *Barratt, Ibis*, 1876, p. 198; *Bocage, Orn. Angola*, p. 124 (1877-81); *Ayres, Ibis*, 1879, p. 294; *Sharpe in Outes Matabele-Land, App.* p. 304 (1881); *Shelley, P. Z. S.* 1881, p. 570; *id. Ibis*, 1882, p. 245; *Butler, Feilden, & Reid, Zool.* 1882, p. 207; *Schalow, J. f. O.* 1886, p. 426; *Symonds, Ibis*, 1887, p. 328; *Büttik. Notes Leyd. Mus.* p. 195 (1889); *Souza, Jorn. Lisb.* (2) i. p. 114 (1889).
- Upupa minor*, *Shaw, Gen. Zool.* viii. p. 139 (1812); *Wagler, Syst. Av.*, *Upupa*, sp. 2 (1827); *Less. Traité*, p. 323 (1831); *Jerd. & Selby, Ill. Orn.* text to pl. 142 (1839); *Gray, Gen. B.* i. p. 90 (1847); *Bp. Consp.* i. p. 88 (1850); *Grill, Zool. Anteckn.* pp. 11, 40 (1858); *Cub. & Heine, Mus. Hein.* Th. ii. p. 128 (1860); *Kirk, Ibis*, 1864, p. 324 (Zambesi); *Gurney, Ibis*, 1865, p. 265 (Natal); *Layard, Ibis*, 1868, p. 243 (Swellendam); *Gray, Hand-l. B.* i. p. 103, no. 1252 (1869); *Buckley, Ibis*, 1874, p. 365 (Bamangwato); *Shelley, Ibis*, 1875, p. 69 (Durban); *Sharpe & Bouvier, Bull. Soc. Zool. France.* i. p. 41 (1876, Landana); *Cub. J. f. O.* 1878, p. 234 (Teita).
- ♂ Le Promerops Marcheur Largup. mâle. *Levaill. Hist. Nat. Promérops etc.*, iii. p. 56, pl. 23 (1807)
- La Huppe d'Afrique. *Viell. N. Dict. d'Hist. Nat.* xv. p. 4 (1817); *id. & Audeb. Ois. Dor.* pl. ii. *Promerops*, p. 11 (1802).
- Upupa cristatella*, *Viell. Gal. Ois.* i. p. 306, pl. 184 (1825).
- Upupa capensis*, *Swaïns. B. W. Afr.* ii. p. 115 (1837); *Jard. & Selby, Ill. Orn.* pl. 142 (1839); *Reichenb. Handb. Scensores*, p. 319, pl. dxcv. fig. 4035 (1853).
- Upupa decorata*, *Hartl. P. Z. S.* 1865, p. 86; *Gray, Hand-l. B.* i. p. 103, no. 1255 (1869); *Fischer, J. f. O.* 1885, p. 127 (Nguruman, &c.); *Schalow, J. f. O.* 1887, p. 236 (Mpara); *Reichen. J. f. O.* 1889, p. 276 (Usegua).

*Adult male.* Similar to that of *U. epops*, but the rufous colour much darker, the apical black spots of the crest-feathers without any trace of white margin, no longitudinal dark streaks on the abdomen, the primaries wholly black, the basal two-thirds of the secondaries white, the terminal third black with a white transverse band; the white transverse band of the tail is much nearer the base than in *U. epops*.

*Adult female.* Similar to the male, but with the abdomen streaked as in *U. epops*, and with a black transverse band across the middle of the white basal two-thirds of the secondaries.

*Hab.* Southern Africa as far north as the Congo District on the west, and the Zanzibar District on the east.

a. Ad. sk.	Cape Colony.	F. Campbell, Esq. [P.].
b. Ad. sk.	Cape Colony.	Earl of Derby [P.].
c. Juv. sk.	South Africa.	Shelley Coll.



<i>d, e.</i> Ad. sk ;	S.E. Africa.	J. Rocke, Esq. [P.].
<i>f-h.</i> ♂ ad. ;	Eland's Post, May ( <i>T. C.</i>	Sharpe & Shelley
<i>i.</i> ♀ ad. sk.	<i>Atmore</i> ).	Colls.
<i>j.</i> Ad. sk.	Kroonstad, Orange Free State,	Gurney Coll.
	June ( <i>E. Symonds</i> ).	
<i>k.</i> ♀ ad. sk.	Pinetown, Natal, Feb. ( <i>T. L.</i>	Shelley Coll.
	<i>Ayres</i> ).	
<i>l.</i> ♂ ad. sk.	Swazi-land, July 8 ( <i>T. E.</i>	Shelley Coll.
	<i>Buckley</i> ).	
<i>m.</i> ♀ ad. sk.	Between Pretoria and	W. E. & C. G. Oates,
	Bamangwato ( <i>F. Oates</i> ).	Esqrs. [P.].
<i>n.</i> Ad. sk.	Transvaal ( <i>T. Ayres</i> ).	Gurney Coll.
<i>o, p.</i> ♂ ad. ; <i>q.</i>	Transvaal, July, Nov. ( <i>T. E.</i>	Shelley Coll.
♀ ad. sk.	<i>Buckley</i> ).	
<i>r, s.</i> ♂ ♀ ad.	Lydenburg, Transvaal, June	Shelley Coll.
sk.	( <i>Gordge</i> ).	
<i>t.</i> ♂ ad. sk.	Elephant Vley, Oct. ( <i>C. J.</i>	Tweeddale Coll.
	<i>Andersson</i> ).	
<i>u.</i> ♂ ad. ; <i>v, w.</i>	Otjimbingue, March, June	Sharpe Coll.
♀ ad. sk.	( <i>C. J. A.</i> ).	
<i>x.</i> ♀ ad. sk.	Benguela.	Monteiro Coll. (Type
		of <i>U. decorata</i> .)
<i>y.</i> ♀ ad. sk.	Zambesi.	Sir J. Kirk [P.].
<i>z.</i> Ad. sk.	Zambesi ( <i>Chapman</i> ).	Sharpe Coll.
<i>a'.</i> Imm. sk.	Mamboio, E. Africa ( <i>Sir J.</i>	Shelley Coll.
	<i>Kirk</i> ).	
<i>b'.</i> Ad. sk.	Pangani ( <i>Sir J. Kirk</i> ).	Shelley Coll.
<i>c'.</i> ♀ ad. sk.	Ndi in Teita, Feb. ( <i>Dr.</i>	Shelley Coll.
	<i>Hildebrandt</i> ).	

## Family II. IRRISORIDÆ.

The relationship subsisting between the *Upupidæ* and *Irrisoridæ*, so strongly urged by Strickland, is now generally admitted, the many similar points of their structure being corroborative of this alliance. The points of difference, too, are manifest, but all of them of less apparent importance and serving only to separate the two families the one from the other.

The male in *Irrisor* has a much longer, more curved, and slender bill than the female.

Several fictitious species of Levaillant's have usually been placed in the *Irrisoridæ*. They are as follows:—

- Irrisor sibilator* (V.).  
 „ *caudacutus* (V.).  
 „ *lamprotophus* (Wagl.).  
 „ *cæruleus* (V.).  
 „ *cyaneus* (V.).

The synonymy of these spurious species is fully given by Drs. Finsch and Hartlaub in their 'Vögel Ost-Afrika's' (pp. 210, 211).

Another species, *Irrisor theophilei* of Prevost, has also probably no real existence (*cf.* Heugl. Orn. N.O.-Afr. i. p. 220).

### Key to the Genera.

- a. Nostrils elongated and open, slightly over-  
 hung by a strong thickened eave-like  
 edge. Bill moderately arched . . . . . 1. IRRISOR, p. 16.  
 b. Nostrils elongated and completely over-  
 hung by a corneous membrane or oper-  
 culum. Bill moderately arched or much  
 curved.  
 a'. Bill moderately arched . . . . . 2. SCOPTELUS, p. 21.  
 b'. Bill much curved . . . . . 3. RHINOPOMASTUS, p. 23.

### 1. IRRISOR.

*Irrisor*, Less. *Traité d'Orn.* p. 239 (1831) . . . . . Type. I. *viridis*.

*Range.* Confined to Africa.

### Key to the Species.

- a. Head and throat metallic green or purple,  
 wings and tail with white spots.  
 a'. Tail more or less purple . . . . . *viridis*, p. 17.  
 b'. Tail more or less greenish blue . . . . . *erythrorhynchus*, p. 19.

- b. Head and throat buff or white, wings and tail spotless.
- c'. Head and throat buff; middle and lesser wing-coverts bronzy purple . . . . . *bollii*, p. 20.
- d'. Head and throat white; middle and lesser wing-coverts steel-blue . . . . . *jacksoni*, p. 21.

1. *Irrisor viridis*.

- Upupa viridis, *A. A. H. Licht. Cat. rer. Nat. Hamb.* p. 22 (1793).
- Promérops moqueur, *Levaill. Hist. Nat. Promérops etc.* p. 8, pls. 1, 2, 3 (1807).
- Falcinellus erythrorhynchus (*nec Lath.*), *Vieill. N. Dict. d'Hist. Nat.* xxviii. p. 163 (1819).
- Nectarinia erythrorhynchus (*nec Lath.*), *Licht. Verz. Doubl.* p. 15 (1823).
- Epimachus erythrorhynchus (*nec Lath.*), *Wagler, Syst. Av. Epimachus*, sp. 4 (1827).
- Irrisor capensis*, *Less. Traité d'Orn.* p. 239 (1831); *Cab. & Heine, Mus. Hein.* Th. ii. p. 139 (1860).
- Promerops erythrorhynchus (*nec Lath.*), *Hartl. Verz. Brem. Samml.* p. 16 (1844); *Bianc. Spec. Zool. Mosamb.* fasc. xviii. p. 320 (1867).
- Irrisor erythrorhynchus* (*nec Lath.*), *Gray, Gen. B.* i. p. 90 (1847, pt.); *Bp. Consp.* i. p. 410 (1850, pt.); *Strickl. & Sel. Contr. Orn.* 1852, p. 154 (Damara); *Grill, Zool. Anteck.* pp. 11, 40 (1858); *Gurney, Ibis*, 1862, p. 27 (Natal); *Mont. t. c.* p. 334 (Angola); *Kirk, Ibis*, 1864, p. 325 (Zambesi); *Layard, B. S. Afr.* p. 72 (1867); *Hartl. P. Z. S.* 1867, p. 824 (Zanzibar); *Gray, Hand-l. B.* i. p. 104, no. 1259 (1869); *Layard, Ibis*, 1869, p. 364; *Sharpe, P. Z. S.* 1870, p. 149 (Rio Dande); *Finsch & Hartl. Vog. Ostafri.* p. 205 (1870); *Gurney in Anderss. B. Dam.-Ld.* p. 65 (1872); *Sharpe, P. Z. S.* 1873, p. 712 (Mombasa); *Shelley, Ibis*, 1865, p. 69 (Durban); *Sharpe, ed. Layard's B. S. Afr.* pp. 137, 808 (1875-84); *Buckley, Ibis*, 1876, p. 133 (Bamangwato); *Barratt, t. c.* p. 199 (Lydenburg); *Bocage, Orn. Angola*, p. 126 (1877-81); *Nichols. P. Z. S.* 1878, p. 355 (Dar-es-Salaam); *Fisch. & Reichen. J. f. O.* 1878, p. 256 (Wanika), 1880, p. 141 (Nguru Mts.); *Ayres, Ibis*, 1879, p. 294 (Transvaal); *Sharpe, in Oates' Matabele-Ld.* App. p. 304 (1881); *Gurney, Ibis*, 1881, p. 125 (Mombasa); *Shelley, Ibis*, 1881, p. 570; *Holub & Pelz. Orn. Südafri.* p. 71 (1882); *Shelley, Ibis*, 1882, p. 245 (Umvuli River); *id. P. Z. S.* 1882, p. 302; *Böhm, J. f. O.* 1883, p. 190; *Schalow, t. c.* p. 351 (Mpapwa; Kakoma); *Fisch. Zeitsch. ges. Orn. i.* p. 360 (1884, Pangani); *Böhm, J. f. O.* 1885, p. 46; *Fischer, t. c.* p. 127; *Ayres, Ibis*, 1885, p. 51 (Umzeila's country); *Shelley, Ibis*, 1885, p. 395 (Somali); *Souza, Journ. Lisb.* 1886, no. 43, p. 152; *Schalow, J. f. O.* 1886, p. 426; *Reichen. J. f. O.* 1887, p. 61 (Usandawi); *Schalow, J. f. O.* 1887, p. 236; *Büttik. Notes Leyden Mus.* x. p. 222 (1888, Kasinga River), xi. p. 68 (1889, Humpata); *Tristr. Ibis*, 1889, p. 225 (Kikombo); *Souza, Journ. Lisb.* no. 48, p. 221 (1888); *Reichen. J. f. O.* 1889, p. 276.
- Irrisor senegalensis* (*nec V.*), *Gurney, P. Z. S.* 1864, p. 2 (Damara); *Cab. in Von der Decken's Reis.* iii. p. 34 (1869); *id. J. f. O.* 1878, p. 234; *Holub & Pelz. Beitr. Orn. Südafri.* p. 71 (1882).

*Adult male.* Upper surface glossy metallic green, with a shade of bronze on the back; posterior portion of the crown and nape shaded with steel-blue; lower back and upper tail-coverts purple or blue-black, edged with dark copper; wings steel-blue, the primaries and primary-coverts greener, the latter tipped with white; lesser coverts darker blue and broadly edged with coppery; a band of white crosses the primaries beyond the middle, consisting of a large spot on the inner web and a small one on the outer (the latter absent in the three or four outer quills): the shafts blackish; tail purplish, with violet reflections above, greener beneath, the middle pair of rectrices unspotted, the rest with a transverse slightly oblique subterminal white bar more or less divided by the dark shaft; under surface glossy metallic green on the breast and anterior portion of the abdomen; throat and chin glossy steel-blue; lower abdomen and under tail-coverts black, with a tinge of purple; under wing-coverts steel-blue. Total length about 14.5 inches, wing 5.4, bill from gape 2.45, tail 7 to 9, tarsus 0.9.

*Adult female.* Similar to the male in colour, but with a shorter, straighter bill, the primary wing-coverts more widely tipped with white: "bill and feet scarlet; iris dark hazel" (*T. E. Buckley*). Total length about 13.5 inches, wing 5.2, bill from gape 1.75, tail 7.8, tarsus 0.9.

*Young.* Differs from the adult in having a black bill, the upper surface dusky black with a purplish or bronzy gloss, especially on the head, and sometimes with rusty-brown feathers on the crown and throat; under surface dingy black, with hardly any gloss, this colour appearing first on the throat; distal half of the primary-coverts white, the alar speculum being thus larger than that of the adult female, and much larger than that of the male.

*Hab.* Africa, from Angola and Mombasa southwards.

<i>a, b.</i> Ad. sk.	Mombasa ( <i>Rev. J. Wakefield</i> ).	Sharpe Coll.
<i>c, d.</i> Ad. sk.	Mombasa ( <i>Handford</i> ).	Rev. A. F. Buxton [P.]
<i>e.</i> ♀ ad. sk.	Mainland opposite Mombasa, Aug.	Dr. J. Hildebrandt [C.]
<i>f.</i> Ad. sk.	Dar-es-Salaam.	Messrs. Moir [P.]
<i>g.</i> Ad. sk.	Dar-es-Salaam ( <i>E. C. Buxton</i> ).	Shelley Coll.
<i>h.</i> Ad. sk.	Mamboio ( <i>Sir J. Kirk</i> ).	Shelley Coll.
<i>i, j.</i> Ad. et juv. sk.	Ugogo ( <i>Sir J. Kirk</i> ).	Shelley Coll.
<i>k, l.</i> Ad. et juv. sk.	Usambara Mountains ( <i>Sir J. Kirk</i> ).	Shelley Coll.
<i>m, n.</i> Ad. et juv. sk.	Makalaka Country ( <i>Dr. Bradshaw</i> ).	Shelley Coll.
<i>o.</i> ♀ ad. sk.	1st Makalaka Kraal, Zam- besi Road, March 30 ( <i>F. Oates</i> ).	W. E. & C. G. Oates, Esqrs. [P.]
<i>p.</i> ♀ ad. sk.	Tati, Matabele-Land, June 26 ( <i>F. Oates</i> ).	W. E. & C. G. Oates, Esqrs. [P.]
<i>q.</i> Juv. sk.	Rustenburg.	F. A. Barratt, Esq. [P.]

r. ♂ juv. sk.	Rustenburg, June 7 ( <i>T. Ayres</i> ).	Gurney Coll.
s. ♀ ad. sk.	Limpopo River, Aug. 13 ( <i>T. Ayres</i> ).	Gurney Coll.
t. Ad. sk.	Potchefstroom ( <i>T. Ayres</i> ).	Shelley Coll.
u. ♀ ad. sk.	Swaziland, June 27 ( <i>T. E. Buckley</i> ).	Shelley Coll.
v. Ad. sk.	Natal ( <i>T. Ayres</i> ).	Sharpe Coll.
w, x. Ad. sk.	Upper Umhlaas River ( <i>Gordge</i> ).	Shelley Coll.
y. Ad. sk.	Newcastle ( <i>Capt. Savile Reid</i> ).	Shelley Coll.
z, a'. ♂ ad. sk.	Eland's Post, S.E. Africa ( <i>T. C. Atmore</i> ).	Sharpe Coll.
b'. ♂ ad. sk.	Eland's Post, June ( <i>T. C. A.</i> ).	Shelley Coll.
c'. ♀ ad. sk.	Knysna, Jan. 16 ( <i>C. J. Andersson</i> ).	Sharpe Coll.
d'-f'. Ad. sk.	Damara-Land ( <i>C. J. Andersson</i> ).	Sharpe Coll.
g'. Ad. st.	Damara-Land.	C. J. Andersson [C.].
h', i'. ♂ juv. ; j', k'. ♀ ad. et juv. sk.	Otjimbingue, Sept. ( <i>C. J. A.</i> ).	Sharpe Coll.
l. ♂ ad. sk.	Elephant Vley, Aug. 5 ( <i>C. J. A.</i> ).	Gurney Coll.
m'. ♀ ad. sk.	Ovaquenyama, June 4 ( <i>C. J. A.</i> ).	Sharpe Coll.
n'. ♂ juv. sk.	River Okavango, May ( <i>C. J. A.</i> ).	Sharpe Coll.
o'. ♂ ad. sk.	Rio Dande, Angola, April ( <i>Sala</i> ).	Sharpe Coll.

## 2. *Irrisor erythrorhynchus*.

- Red-billed Promerops, *Lath. Gen. Syn. Suppl.* p. 124, pl. 110 (1787).  
*Upupa erythrorhynchus*, *Lath. Ind. Orn.* i. p. 280 (1790).  
 ? *Upupa erythrorhynchus*, *Shaw & Miller, Cmel. Phys.* p. 96 (1796);  
*Shaw & Nodd. Nat. Misc.* xiii. pl. 533 (*ex Miller*).  
*Promerops purpureus*, *Shaw & Miller, Cmel. Phys.* pl. 52 (1796).  
 ? *Promerops erythrorhynchus*, *Shaw, Gen. Zool.* viii. pt. 1, p. 150,  
 pl. 18 (1812).  
*Promerops erythrorhynchus*, *Rüpp. Syst. Uebers.* p. 28 (1845);  
*Heugl. Syst. Uebers.* p. 21 (1856).  
 ? *Le Promerops à bec rouge*, *Audeb. et Vieill. Hist. Nat. Promerops*  
*etc.* p. 20, pl. vi. (1802).  
*Le Promerops Sénégalais*, *Vieill. N. Dict. d'Hist. Nat.* xxviii.  
 p. 168 (1819).  
*Neectarinia melanorhynchus*, *Licht. Verz. Doubl.* p. 15 (1823).  
*Falcinellus senegalensis*, *Vieill. Enc. Méth.* ii. p. 580 (1823).  
*Epimachus senegalensis*, *Wagler, Syst. Av.* *Epimachus*, sp. 3 (1827).  
*Epimachus erythrorhynchus*, *Rüpp. Neue Wirb.* p. 73 (1835-40).  
*Promerops senegalensis*, *Suains. B. W. Afr.* ii. p. 117 (1837).  
*Irrisor melanorhynchus*, *Gray, Gen. B.* i. p. 90 (1847); *Bp. Consp.*  
 i. p. 410 (1850); *Reichenb. Handb. Scans.* pp. 322, 323, Taf. dxcvii.  
 figs. 4041, 4042 (1853).  
*Irrisor senegalensis*, *Strickl. P. Z. S.* 1850, p. 216; *Hartl. Orn. West-*  
*Afr.* p. 42 (1857); *Cab. & Heine, Mus. Hein.* Th. ii. p. 130 (1860);  
*Speke, Ibis*, 1860, p. 244; *Hartl. J. f. O.* 1861, p. 108; *Gray,*  
*Hand-l. B.* ii. p. 104, no. 1260 (1869); *Forbes, Ibis*, 1883, p. 526;  
*Hartert, J. f. O.* 1886, p. 592.

- Irrisor erythrorhynchus*, *Jard. Contr. Orn.* 1852, p. 57 (Abomey); *Scl. t. c.* p. 124 (Danakil); *Brehm, Reis. Habesch*, pp. 211, 279 (1863); *Antin. Cat. descr. Ucc.* p. 32 (1864); *Heugl. Orn. N.O.-Afr.* i. p. 214 (1869); *Blanf. Geol. & Zool. Abyss.* p. 332 (1870); *Finsch, Trans. Z. S.* vii. p. 226 (1870); *Antin. & Salvad. Viagg. Bogos*, p. 60 (1873); *Hartl. Abhandl. nat. Ver. Bremen*, vii. p. 107 (1881); *Pelz. Verh. z.-b. Ges. Wien*, xxxi. p. 608 (1881); *Sharpe, Journ. Linn. Soc., Zool.* xvii. p. 427 (1884); *Salvad. Ann. Mus. Civic. Genov.* (2) i. p. 106 (1884), vi. p. 220 (1888).
- Rhinopomastes cyanomelas* (*nec Vieill.!*), *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 727 (1856-58); *Heugl. J. f. O.* 1867, p. 201 (*ex Würt. MSS.!*).
- Irrisor blythii*, *Heugl. J. f. O.* 1867, p. 202.

Similar to *I. viridis*, but differing in its steel-green tail, which shows scarcely any violet or purple reflections.

There can be no doubt, I think, that Latham's title applies to the northern form of this *Irrisor*, of which *I. senegalensis*, Sw., is a synonym. Of the latter, I have examined the type kindly lent me by the authorities of the Cambridge University Museum.

*Hub.* West Africa, from the Gambia to the Niger. N.E. Africa, from Boges-Land to Shoa, extending into the Niam-Niam country.

- |                      |  |                         |
|----------------------|--|-------------------------|
| a. Ad. et juv. sk.   | Bathurst, River Gambia ( <i>Quin</i> ).              | Sharpe Coll.            |
| b. Ad. sk.           | Bathurst, River Gambia.                              | Shelley Coll.           |
| c. Ad. sk.           | Bissao.  | Sharpe Coll.            |
| d, e. Juv. sk.       | River Gambia ( <i>Sir A. Moloney</i> ).              | Shelley Coll.           |
| f. Ad. sk.           | Abomey.  | L. Fraser [C.].         |
| g. Ad. sk.           | Om-Bâdr, Darfur.                                     | B. Solyinos, Esq. [P.]. |
| h, i. Ad. et juv.    | Maragaz, Bogos-Land, July 29<br>( <i>W. Jesse</i> ). | Tweeddale Coll.         |
| j. ♂ juv. sk.        | Kokai, July 12 ( <i>W. Jesse</i> ).                  | Tweeddale Coll.         |
| k, l. ♂ ad. et juv.; | Anseba Valley, July 30.                              | W. T. Blanford, Esq.    |
| m. ♀ ad. sk.         |  | [C.].                   |
| n. ♀ ad. sk.         | Ailat, Bogos.  | W. T. Blanford, Esq.    |
|                      |  | [C.].                   |
| o. Juv. sk.          | Ailat, Bogos ( <i>Esler</i> ).                       | Sharpe Coll.            |
| p. Imm. sk.          | Senafé, Tigré, Feb. 24.                              | W. T. Blanford, Esq.    |
|                      |  | [C.].                   |
| q, r. Ad.; s, t,     | Shoa ( <i>Sir W. C. Harris</i> ).                    | India Museum.           |
| u. Imm. sk.          |  |                         |
| v. Ad. sk.           | N.E. Africa ( <i>Mus. Vindob.</i> ).                 | Sharpe Coll.            |
| w. ♀ ad. sk.         | Kutschugali, Niam-Niam,<br>Sept.                     | F. Bohndorff [C.].      |

### 3. *Irrisor bollii*. (Plate II.)

- Irrisor bollei*, *Hartl. J. f. O.* 1858, p. 445; *id. J. f. O.* 1861, p. 108; *Sharpe, Ibis*, 1871, p. 414; *id. Cat. Afr. B.* p. 10 (1871); *id. Ibis*, 1872, p. 67; *Reichen. J. f. O.* 1875, p. 20.

*Adult male.* Upper surface from the nape to the middle of the back glossy green; lower back, upper tail-coverts, and basal two-thirds of the central rectrices and the rest of the tail on the outer webs towards the base dark reddish purple; terminal third of the central

rectrices and the rest of the tail, together with the wings, steel-blue; middle and lesser wing-coverts reddish-copper; head and throat buff; breast and anterior portion of the abdomen glossy green like the back, lower abdomen and under tail-coverts black faintly tinged with bronze; bill red; feet yellowish hazel. Total length about 14.5 inches, wing 5.1, tail 8.2, bill 2, tarsus 0.9.

*Adult female.* Similar to the male, but with a shorter, stouter, straighter bill.

*Young.* Bill black, the head and throat covered with dusky-black feathers, which are gradually replaced by the buff feathers of the adult.

*Hab.* Forest-districts of the Gold Coast.

a. Ad. sk.	Fantee.	Purchased. (Type of the species.)
b. Ad. sk.	Fantee ( <i>H. T. Ussher</i> ).	Sharpe Coll.
c. Imm. sk.	Fantee.	A. Swanzy, Esq. [P.].
d, e. Ad. sk.	Fantee ( <i>H. T. Ussher</i> ).	Shelley Coll.
f. Imm. sk.	Wasa Province, July ( <i>H. F. Blissett</i> ).	Sharpe Coll.
g. Ad. sk.	Mampon, Aug. ( <i>H. F. B.</i> ).	Shelley Coll.

#### 4. *Irrisor jacksoni*. (Plate III. fig. 1.)

*Irrisor jacksoni*, *Sharpe, Ann. & Mag. Nat. Hist.* 1890, vi. p. 503.

*Adult male.* Similar to that of *I. bollei*, but with the glossy-green of the back rather brighter, that of the breast rather more bronzy; head and throat nearly white; middle and lesser wing-coverts steel-blue untinged with bronzy-purple; central rectrices bluer, less purple; bill, lores, and circumocular region coral-red; feet yellowish red; iris orange. Total length about 14 inches, wing 5.4, tail 8.5, bill 1.75, tarsus 0.75.

*Adult female.* Similar to the male, but with a shorter, rather straighter bill. The glossy green of the sides of the neck extends to the posterior margin of the orbit.

*Hab.* Central East Africa, forests of Mount Elgon.

## 2. SCOPTELUS.

*Scoptelus*, *Cab. & Heine, Mus. Hein.* ii. p. 129 (1860) . . . Type. S. notatus.

*Range.* Western and North-eastern Africa.

### *Key to the Species.*

- a. Head and neck steel-blue; wings with a white median band.
- a'. Tail spotless . . . . . *aterrimus*, p. 22.
- b'. Outermost rectrix on either side with a sub-terminal white band, sometimes divided into two spots . . . . . *notatus*, p. 22.
- b. Head and neck chestnut, wings unbanded . . . . *castaneiceps*, p. 23.

1. *Scoptelus aterrimus*.

Lesser Black Promerops, *Lath. Gen. Hist.* iv. p. 111 (1822).

Promerops aterrimus, *Steph. in Shaw's Gen. Zool.* xiv. pt. 1, p. 257 (1826); *Hartl. Verz. Brm. Samml.* p. 16 (1844).

Promerops pusillus, *Savains, B. W. Afr.* ii. p. 120 (1837).

Irrisor aterrimus, *Gray, Gen. B.* i. p. 90 (1847); *id. Hand-l. B.* i. p. 104, no. 1267 (1869).

Rhinopomastes pusillus, *Bp. Consp.* i. p. 411 (1850); *Reichenb. Handb. Scausores*, p. 326 (1853).

Irrisor pusillus, *Hartl. Orn. W.-Afr.* p. 43 (1837); *id. J. f O.* 1861, p. 108.

*Adult (female?)*. Glossy purple, more steel-blue on the anterior portion of the crown, wings, and tail; under surface from the throat to the vent blacker; wing with a central white band, the outer webs of the first, second, and third quills black; tips of all the quills grey with a darker edge; outermost primary-coverts steel-blue, the next six white; bill dark horn-colour, feet black. Total length about 8·8 inches, wing 3·9, tail 4·7, bill 1·2, tarsus 0·7.

*Young*. Similar to the adult, but browner on the sides of the head and on the whole of the under surface.

I have not seen an authentic adult male specimen of this species. It probably has the primaries nearly wholly steel-blue towards the tips, with hardly any trace of grey colour characteristic of the females in the allied forms.

Drs. Finsch and Hartlaub have recorded this species from Damara-Land from an examination of young specimens, and have been followed by Gurney. These specimens, when re-examined, will most probably be found to belong to *Rhinopomastus cyanomelas*, as urged by Mr. Sharpe.

*Hab.* Senegambia.

a. Ad. sk.	Senegambia.	Shelley Coll.
b, c. Ad. et juv. sk.	S. Louis, Senegal ( <i>L. Laglaize</i> ).	Tweeddale Coll.
d. Imm. sk.	Senegambia.	

2. *Scoptelus notatus*.

Epimachus cyanomelas (*nec V.*), *Rüpp. Neue Wirb.* p. 79 (1835-40).

Promerops cyanomelas (*nec V.*), *Rüpp. Syst. Uebers.* p. 28 (1845); *Heugl. Syst. Uebers.* p. 20 (1856).

Rhinopomastes cyanomelas (*nec V.*), *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 727 (1854, spec. A).

Scoptelus aterrimus (*nec Steph.*), *Cab. & Heinc. Mus. Hein.* Th. ii. p. 129 (1860); *Antin. & Salvad. Viagg. Bogos*, p. 61 (1873); *Sharpe in Layard's B. S. Afr.* p. 140 (1875).

Irrisor cyanomelas (*nec V.*), *Heugl. J. f O.* 1864, p. 263.

Rhinopomastes pusillus (*nec Sw.*), *Antin. Cat. deser. Ucc.* p. 32 (1854); *Salvad. Atti R. Accad. Torin.* v. p. 729 (1870).

Irrisor aterrimus (*nec Steph.*), *Cab. in Von der Decken's Reis.* iii. p. 34 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 219 (1869); *Blanf.*



*Geol. & Zool. Abyss.* p. 334 (1870); *Finsch, Trans. Z. S.* vii. p. 227 (1870); *Hartl. Abhandl. nat. Ver. Bremen*, viii. p. 205 (1888).  
 ? *Irisor pusillus* (*nec Sw.*), *Reichen. J.f.O.* 1887, p. 305 (Leopoldville).

*Adult.* Similar to that of *S. aterrimus*, but the upper surface bluer where *S. aterrimus* is purple and greener where that bird is steel-blue; the outermost rectrix on either side always has a subterminal white band, which varies somewhat in width and is sometimes divided into two spots by the dark shaft.

*Young.* Differs from the young of *S. pusillus* in the same way as the adults from one another.

The adult males of this species have a dark greyish subterminal patch on the inner webs of the primaries. In the females this is much larger, paler, and more distinct.

This bird of N.E. Africa has usually been united with the West-African *S. pusillus*, but from the specimens before me I have no difficulty in distinguishing the two birds.

*Hab.* North-east Africa, perhaps extending into the Congo region.

a. Imm. sk.	Ailat, Bogos ( <i>Ester</i> ).	Sharpe Coll.
b. Ad. sk.	Senafé, Abyssinia, May 13 ( <i>W. Jesse</i> ).	Tweeddale Coll.
c. ♂ ad. sk.	Rairo, Bogos, Aug. ( <i>W. Jesse</i> ).	Tweeddale Coll.
d. ♂ ad. sk.	Mohaber, July 9 ( <i>W. Jesse</i> ).	Sharpe Coll.
e. ♀ juv. sk.	Anseba Valley, Aug. 7.	W. T. Blanford, Esq. [C.]
f. [♀] ad. st.	Abyssinia ( <i>Sir W. C. Harris</i> ).	India Museum.

### 3. *Scotelus castaneiceps*. (Plate III. fig. 2.)

*Irisor bollei*, juv., *Hartl. J.f. Orn.* 1858, p. 445.

*Irisor castaneiceps*, *Sharpe, Ibis*, 1871, p. 414, 1872, p. 67; *Ussher, Ibis*, 1874, p. 51.

*Adult.* Upper surface glossy steel-blue, brighter and greener on the back, scapulars, and wing-coverts; lower back and upper tail-coverts darker and duller; tail rich purple; whole head and neck chestnut; abdomen greenish black; under tail-coverts more purple; bill horn-colour, the tomsia whitish; feet black. Total length about 12 inches, wing 4.2, tail 6.6, bill 1.3, tarsus 0.7.

Specimen *a* is in rather fresher plumage than the type and the tail is richer purple.

*Hab.* Forests of the Gold Coast.

a. Ad. sk.	Fantee.	Purchased.
b. Ad. sk.	Fantee ( <i>H. T. Ussher</i> ).	Sharpe Coll. (Type of the species.)

### 3. RHINOPOMASTUS.

*Rhinopomastus*, *Smith, Zool. Journ.* iv. p. 2 (1828) . . Type. R. cyanomelas.

*Range.* Southern Africa as far as Angola and the Congo region on the west; and throughout Eastern and North-eastern Africa.

## Key to the Species.

- a. Wings with a median white bar; tail with sub-terminal white spots more or less distinct.  
 a'. Larger; bill black . . . . . *cyanomelas*, p. 24.  
 b'. Smaller; bill yellow . . . . . *minor*, p. 26.  
 b. Wings and tail spotless, bill yellow . . . . . *cabanisi*, p. 26.

1. *Rhinopomastus cyanomelas*.

- Le Promérops namaquois*, *Temm. Cat. Syst. du Cabinet d'Orn.* pp. 74, 217 (1807); *Levaill. Hist. Nat. Prom.* pl. 5 (ad.), pl. 6 (juv.) (1807).  
*Falcinellus cyanomelas*, *Viell. N. Dict. d'Hist. Nat.* xxviii. p. 165 (1819).  
*Upupa purpurea*, *Burch. Trav. S. Afr.* i. pp. 326, 464 (1822).  
*Epimachus cyanomelas*, *Wagler, Syst. Ar.*, *Promerops*, sp. 5 (1827).  
*Epimachus unicolor*, *Wagler, Isis*, 1829, p. 656.  
*Rhinopomastus smithii*, *Jard. Zool. Journ.* iv. p. 1, pl. i. (1828).  
*Rhinopomastes cyanomelas*, *Less. Traité d'Orn.* p. 239 (1831); *Bp. Consp.* i. p. 411 (1850); *Reichenb. Handb. Scansores*, p. 325, Taf. dc. figs. 4048-49 (1853); *Cab. & Heine, Mus. Hein.* Th. ii. p. 129 (1860); *Hartl. Ibis*, 1862, p. 145; *Barratt, Ibis*, 1876, p. 199; *Sharpe, ed. Layard's B. S. Afr.* pp. 138, 809 (1876-84); *Cab. J. f. O.* 1878, p. 234; *Sharpe, in Oates' Matabel-Land*, App. p. 304 (1881); *Shelley, P. Z. S.* 1881, p. 570, 1882, p. 302; *Butler, Feilden, & Reid, Zool.* 1882, p. 207; *Schalow, J. f. O.* 1883, p. 351; *Fischer, J. f. O.* 1885, p. 127; *Ayres, Ibis*, 1887, p. 52; *Symonds, t. c.* p. 328.  
*Promerops purpuratus*, *Swaens. B. W. Afr.* ii. p. 121 (1837).  
*Rhinopomastes levaillanti*, *Less. (ubi ?), teste G. R. Gray.*  
*Epimachus unicolor*, *Licht. Verz. Vög. Kaffernl.* p. 17 (1842).  
*Irisor cyanomelas*, *Gray, Gen. B.* i. p. 90 (1847); *Scl. P. Z. S.* 1864, p. 110; *Mont. P. Z. S.* 1865, p. 94; *Layard, B. S. Afr.* p. 73; *Gurney, Ibis*, 1868, p. 44; *Heugl. Orn. N.O.-Afr.* i. p. 217 (1869); *Gray, Hand-l. B.* i. p. 104, no. 1268 (1869); *Sharpe, P. Z. S.* 1869, p. 567; *Finsch & Hartl. Vög. Ostaf.* p. 207 (1870); *Gurney in Anderss. B. Dam.-Ld.* p. 67 (1872); *Kirk, Ibis*, 1872, p. 325; *Buckley, Ibis*, 1874, p. 366; *Fischer & Reichen. J. f. O.* 1878, p. 256, 1879, p. 344 (Malindi); *Bocage, Orn. Angola*, p. 127 (1881); *Bohm, J. f. O.* 1883, p. 190; *Fischer, Zeitschr. ges. Orn.* i. p. 360 (1884); *id. J. f. O.* 1885, p. 127; *Büttik. Notes Leyden Mus.* x. p. 222 (1888), xi. p. 68 (1889); *Souza, Journ. Lib.* no. 45 (1887); *Shelley, Ibis*, 1888, p. 297; *id. P. Z. S.* 1889, p. 358; *Reichen. J. f. O.* 1889, p. 276 (Quilimane).  
*Irisor unicolor*, *Gray, Gen. B.* i. p. 90 (1847); *Bp. Consp.* i. p. 411 (1850).  
*Rhinopomastes unicolor*, *Licht. Nomencl.* p. 66 (1854).  
*Irisor aterrimus*, *Finsch & Hartl. Vög. Ostaf.* p. 209 (1870); *Gurney in Anderss. B. Dam.-Ld.* p. 68 (1872).

*Adult male.* Glossy steel-blue, more purple on the back, scapulars, and hind neck, duller on the chin and throat, blacker on the abdomen and under wing-coverts; a white band crosses the middle of the primaries, the outer web of the first three quills being wholly dark, a small spot of white appearing on the outer web of the fourth quill.

the spot on the inner web of the first quill is sometimes wanting; the outermost four primary-coverts steel-blue, the fifth to the eighth white; a subterminal white band on the outermost two rectrices white, divided into two spots by the dark shaft: bill and feet black, iris hazel (*F. Oates*). Total length about 11 inches, wing 4·3, tail 5, bill 1·65, tarsus 1·8.

*Adult female.* Similar to the male, but with the tips of the primaries grey, and the chin and throat browner.

*Young.* Similar to the female, but the head and under surface generally browner.

*Hab.* Southern Africa, ranging to Benguela on the west and the Zambesi on the east, and thence northwards to Mombasa.

a-c. Ad. sk.	South Africa.	Sir A. Smith [C.].
d. Juv. sk.	South Africa ( <i>E. L. Layard</i> ).	Sharpe Coll.
e. Ad. sk.	Cape Colony ( <i>Butler</i> ).	Shelley Coll.
f. ♀ imm. sk.	Griqualand, April ( <i>T. C. Atmore</i> ).	Shelley Coll.
g, h. ♀ ad. et imm. sk.	Natal ( <i>T. Ayres</i> ).	Sharpe Coll.
i. Ad. sk.	Natal ( <i>F. Oates</i> ).	W. E. & C. G. Oates, Esqrs. [P.].
j. Ad. sk.	Kroonstaad, Orange Free State, May ( <i>Symonds</i> ).	Gurney Coll.
k. Ad. sk.	Marico.	F. A. Barratt, Esq. [C.].
l. ♀ imm. sk.	Kanye, Matabele-Land ( <i>Dr. H. Eyton</i> ).	Sharpe Coll.
m. ♀ ad. sk.	Matabele-Land, Sept. 22 ( <i>T. E. Buckley</i> ).	Shelley Coll.
n. ♂ ad. sk.	Bamangwato, Aug. 5 ( <i>T. E. Buckley</i> ).	Shelley Coll.
o. ♂ ad. sk.	Metli River, near Shoshong, Aug. 10 ( <i>F. Oates</i> ).	W. E. & C. G. Oates, Esqrs. [P.].
p. ♂ ad. sk.	Serule, Oct. 18 ( <i>F. Oates</i> ).	W. E. & C. G. Oates, Esqrs. [P.].
q. ♂ ad. sk.	Palatswie River, Oct. 20 ( <i>F. Oates</i> ).	W. E. & C. G. Oates, Esqrs. [P.].
r. Ad. ; s, t, u. Imm. sk.	Makalaka Country ( <i>Dr. Brad- shaw</i> ).	Shelley Coll.
v, w, x. Ad. sk.	Zambesi.	Sir J. Kirk [P.].
y. Ad. st.	Zambesi.	Sir J. Kirk [P.].
z. Ad. sk.	Zambesi ( <i>Dr. Meller</i> ).	Tweeddale Coll.
a', b'. ♂ ad. et ♀ imm. sk.	Otjimbingue, Damara-Land, May, June ( <i>C. J. Andersson</i> ).	Tweeddale Coll.
c', d'. ♂ ♀ imm. sk.	Otjimbingue, April, June ( <i>C. J. A.</i> ).	Sharpe Coll.
e'. Ad. sk.	Benguela ( <i>J. J. M.</i> ).	Monteiro Coll.
f'. Ad. sk.	River Quanza, Nov. 15 ( <i>J. J. M.</i> ).	Sharpe Coll.
g'. Ad. sk.	Lamu ( <i>Sir J. Kirk</i> ).	Shelley Coll.
h', i'. Ad. et juv. sk.	Doruma, Aug.	H. C. V. Hunter, Esq. [P.].
j', k'. ♂ ad. et imm. sk.	Manda Island, Nov.	F. J. Jackson, Esq. [P.].

2. *Rhinopomastus minor*.

*Promerops minor*, *Rüpp. Syst. Uebers.* p. 28 (1845).

*Epimachus minor*, *Rüpp. t. c.* pl. 8 (1845).

*Irrisor minor*, *Gray, Gen. B. i.* p. 90 (1847); *Speke, Ibis*, 1860, p. 224; *Gray, Hand-l. B. i.* p. 104, no. 1269 (1869); *Heugl. Orn. N.O.-Afr. i.* p. 218 (1869); *Finsch & Hartl. Vög. Ostaf. p.* 206 (1870); *Shelley, Ibis*, 1885, p. 397.

*Rhinopomastes minor*, *Bp. Consp. i.* p. 114 (1850); *Reichenb. Handb. Scansores*, p. 326, Taf. dc. fig. 4050 (1853); *Cab. & Heine, Mus. Hein. Th. ii.* p. 129, note (1860); *Salvad. Ann. Mus. Civic. Genov.* (2) vi. p. 220 (1888).

Similar to *R. cyanomelas*, but smaller, the bill yellow and the primary-coverts wholly steel-blue. Total length about 9 inches, wing 3·7, tail 3·7, bill 1·35, tarsus 0·7.

*Hab.* N.E. Africa, from Shoa to Somali-land.

a. Ad. sk. Shoa. Dr. Rüppell [C.].

3. *Rhinopomastus cabanisi*.

*Irrisor cabanisi*, *De Filippi, Rev. et Mag. de Zool.* 1853, p. 289 (Upper White Nile); *Hartl. Orn. W.-Afr.* p. 270 (1857); *Gray, Hand-l. B. i.* p. 104, no. 1270 (1869); *Heugl. Orn. N.O.-Afr. i.* p. 219 (1869, Upper White Nile); *Finsch & Hartl. Vög. Ostaf. p.* 207, note (1870); *Hartl. Abhandl. nat. Ver. Bremen*, vii. p. 107 (1882, Lado); *Fischer, Zeitschr. ges. Orn.* p. 360 (1884, Mossiro); *Reichen. J. f. O.* 1887, p. 61 (Salanda).

*Promerops icterorhynchus*, *Heugl. Syst. Uebers.* p. 20 (1856).

*Rhinopomastes cabanisi*, *Reichenb. Handb. Scansores*, p. 326 (1853); *Cab. & Heine, Mus. Hein. Th. ii.* p. 129, note (1860); *Shelley, P. Z. S.* 1882, p. 306 (Mamboio); *Fischer, J. f. O.* 1885, p. 127 (Mossiro).

*Irrisor cyanomelas* (*nec V.*), *Hartl. P. Z. S.* 1863, p. 105 (Kazeh).

*Irrisor minor* (*nec Rüpp.*), *Shelley, P. Z. S.* 1889, p. 358.

*Adult male.* Glossy steel-blue, more purple on the back, scapulars, head, and hind neck, blacker on the breast and abdomen; wings and tail spotless; bill yellow; tarsi and toes black. Total length about 9 inches, wing 3·8, tail 4·4, bill 1·5, tarsus 0·8.

*Young.* Duller than the adult, the under surface browner: "bill yellowish horn-colour; feet black; iris dusky brown" (*Emin Pasha*).

*Hab.* From the Upper White Nile region to the Zanzibar district of Eastern Africa.

a. Ad. sk. Taveta, E. Africa. H. C. V. Hunter, Esq.  
[P.].  
b. Ad. sk. Mamboio (*Sir J. Kirk*). Shelley Coll.  
c. ♀ juv. sk. Lado, Jan. 29 (*Emin Pasha*). Shelley Coll.

## Suborder TROCHILI.

(By OSBERT SALVIN.)

*Skeleton*\*.—Maxilla and mandible long and slender; anteorbital very large and blended with the lachrymal, which probably forms but a small portion of it †; interorbital septum and anterior wall of the brain-case slightly ossified; dentary process of premaxilla and the maxilla form a free rod beneath the lateral margin of the premaxilla on either side, secured only at its extremities. Maxillo-palatines a flat horizontal lamina widely separated in the median line. Vomer deeply cleft behind, with a somewhat rounded anterior margin, from the middle of which a long, straight, slender spine proceeds. Palatines widely separated in the middle line, diverging posteriorly; outer margins nearly straight, long, and slender anteriorly, and, after coalescing with the maxilla, pass into a pointed free end. Rostrum of basisphenoid very broad; no pterygoid processes. Pterygoids straight subcylindrical rods. Quadrate nearly horizontal; mastoidal and mandibular ends each with two transverse facets; a "peg"-like process receives the hollowed end of the pterygoid; the orbital process much reduced; angle of the mandible truncated; ends of the hyoidean apparatus embrace the back of the skull and, meeting on the top, extend forward side by side along the middle line, grooves in the cranium receiving them when they lie in contact with it. *Spinal column* with 32 vertebræ and a pygostyle, the last two dorsals anchylosed to the pelvic sacrum. Sternum long, gradually widening towards the xiphoidal end, which has an entire rounded border; manubrium absent; carina very deep. Coracoid with a tendinal canal closed with bone, and a large perforation in the shaft below it; sternal extremity not dilated. Hypocleidium of the very broad U-shaped furculum rudimentary; blade of scapula bent at an obtuse angle outwards in the same plane as that of its chief surface. Humerus short and broad, of peculiar shape, shorter than the ulna; radius much arched; metacarpus considerably longer than the ulna; phalanges of the manus very long and peculiarly shaped; four sesamoids—two in the carpus and two in the elbow. Large free patella; pro- and ectoepineurial processes of the tibio-tarsus rudimentary; hypotarsus of metatarsus both pierced and grooved for tendons. Hallux incumbent. Phalanges of pes normal (2-3-4-5).

The *tongue* ‡ of the *Trochili* is very long, and can be thrust out far beyond the end of the long bill. The anterior portion moves in a sheath, and presents the appearance of two cylinders united, with a deep groove above and another beneath, for part of their length,

\* Shufeldt, P. Z. S. 1885, p. 912.

† Shufeldt, Journ. Linn. Soc., Zool. xx. p. 385.

‡ W. Macgillivray in Aud. B. Am. iv. p. 197.

beyond which they become flattened, concave above, thin-edged and lacerated externally, thick-edged internally, and though lying parallel to one another and in contact can be separated.

The *trachea* bifurcates very high up, there being a small globular swelling at the fork \*. There are no sterno-trachiales muscles.

The *heart* is very large, and the left carotid artery runs in a direct course.

The *intestinal canal* is entirely covered by the liver. There are no *cæca*.

*Pterylography* †.—A median naked space of a spindle-shaped outline on the crown, running longitudinally between the eyes and the base of the maxilla; median naked space of the neck continued nearly to the base of the mandible; a large naked nape-space; the humeral tract passes over the head of the humerus, and the femoral tract is apparently absent; the spinal tract is very broad and lozenge-shaped, spreading over nearly the whole of the dorsal region; a short longitudinal naked strip occupies the middle of this tract.

The number of rectrices is 10, of primaries 10, secondaries 6.

The wings generally are very uniform in structure, but in some species the outer primary is filiform towards the tip, and in others narrow for the whole of its length.

The tail is very diverse in form, and in some cases, as in *Loddigesia*, profoundly modified.

The plumage generally, especially on the upper surface, has shining quasi-metallic tints, and special effects are produced, chiefly on the crown and throat, by glittering squamose feathers.

The female builds a cup-shaped nest, of varied material, such as moss, &c., the exterior of which is frequently covered with spiders' web and ornamented with small bits of lichen. These are stuck on to the outside. The eggs are always two in number, rather elongate in form, and rounded nearly alike at each end; their colour is always white.

The *Trochili* may be divided into three sections, as follows :—

SECTION A.—Sheath of the maxilla serrate towards the anterior portion of the tomia; the sheath of the mandible sometimes similarly serrate . . . . .	} <b>Trochili serrirostres,</b> p. 29.
SECTION B.—Sheath of the maxilla indistinctly and feebly serrate towards the end of the tomia . . . . .	
SECTION C.—Sheath of both maxilla and mandible with a smooth tomia to the end . . . . .	} <b>Trochili intermedii,</b> p. 114. <b>Trochili lævirostres,</b> p. 256.

\* Shufeldt, Journ. Linn. Soc., Zool. xx. p. 380, pl. 23.

† *Id. ibid.* p. 366.

SECTION A. TROCHILI SERRIROSTRES.

Sheath of the maxilla serrate towards the anterior portion of the tomia; the sheath of the mandible sometimes similarly serrate. (For Sec. B, see p. 114; Sec. C, see p. 256.)

*Key to the Genera.*

- a. Bill cuneate, wide at the base, and gradually compressed towards the tip.
  - a'. Tail cuneate; nasal covers completely hidden . . . . . 1. HELIOTHRIX, p. 30.
  - b'. Tail rounded; nasal covers partly exposed. . . . . 2. SCHISTES, p. 33.
  - c'. Tail square; nasal covers fully exposed. . . . . 3. AUGASTES, p. 35.
- b. Bill with the sides subparallel, drawn together rather abruptly towards the tip.
  - d'. Tomia of both maxilla and mandible more or less distinctly serrate; under surface always plain, without glittering hues.
    - a''. Bill long and nearly straight.
      - a'''. Tail long and rounded; bill slightly depressed, strongly hooked and deeply serrate; sexes similar . . . . . [p. 36.
      - b'''. Tail short and rounded; bill slightly upturned, strongly hooked and deeply serrate; sexes similar . . . . . 4. RHAMPHODON,
      - c'''. Tail very short and rounded; bill slender and slightly upturned; no terminal hook; serration feeble; forehead of male glittering . . . . . 5. ANDRODON, p. 37.
      - d'''. Tail long and arched; tail rounded; sexes similar. . . . . [p. 38.
    - b''. Bill long and arched; tail rounded; sexes similar. . . . . 6. HEMISTEPHANIA,
    - e'. Tomia of mandible only distinctly serrate towards the distal end; under surface usually glittering.
      - c''. Interramal space nude; culmen bare to the base; nasal covers fully exposed.
        - d'''. Tail normal, rounded or forked.
          - a<sup>4</sup>. Bill nearly straight, short. . . . . [p. 44.
          - a<sup>5</sup>. Smaller; rectrices narrower . . . . . 8. CHLOROSTILBON,
          - b<sup>5</sup>. Larger; rectrices wider . . . . . 9. SPORADINUS, p. 57.
          - b<sup>4</sup>. Bill longer, slightly decurved.
            - c<sup>5</sup>. Sexes dissimilar. . . . . 10. IACHE, p. 59.
            - d<sup>5</sup>. Sexes similar; male with female plumage . . . . . 11. PHÆOPTILA, p. 63.
        - e'''. Tail abnormal; the subexternal pair of rectrices very long . . . . . 12. AITHURUS, p. 64.
    - d''. Interramal space feathered.
      - f'''. Bill slender; tomia of maxilla rolled inwards near the tip; sexes dissimilar.
        - e<sup>4</sup>. Tail more or less rounded.
          - e<sup>5</sup>. Bill nearly straight; lateral rectrices white at the base.
            - a<sup>6</sup>. Crown pure white; feathers full, extending over the nasal covers . . . . . [p. 66.
            - b<sup>6</sup>. Crown black; nasal covers partially exposed . . . . . 13. MICROCHERA,
          - e<sup>6</sup>. . . . . [p. 67.

- f*<sup>5</sup>. Bill nearly straight, stouter; tail glittering green . . . . . [p. 68.  
15. PANYCHLORA,
- g*<sup>5</sup>. Bill decurved; lateral rectrices white at the base.  
*e*<sup>6</sup>. Bill comparatively long and less curved . . . . . 16. EUPHERUSA, p. 72.  
*d*<sup>6</sup>. Bill shorter and more curved. 17. ELVIRA, p. 74.
- d*<sup>4</sup>. Tail forked (crown glittering blue, or green or greenish black; no white at the base of the lateral rectrices) . . . . . 18. THALURANIA, p. 76.
- g*<sup>'''</sup>. Bill stouter; tomia of mandible not rolled inwards towards the tip.  
*e*<sup>4</sup>. Culmen feathered at the base; nasal covers partially exposed; sexes dissimilar.  
*h*<sup>5</sup>. Under tail-coverts large and full; tail bronze or greenish bronze. . . . . [p. 87.  
19. HYPUROPTILA,
- i*<sup>5</sup>. Under tail-coverts normal; lateral rectrices purple or reddish purple.  
*e*<sup>6</sup>. Bill moderately decurved. . . . . 20. LAMPORNIS, p. 91.  
*f*<sup>6</sup>. Bill upturned towards the base 22. AVOCETULA, p. 101.
- f*<sup>4</sup>. Culmen feathered at the base; nasal covers also feathered, except along their lower edges; sexes alike.  
*j*<sup>5</sup>. Wings glittering metallic green; no auricular glittering tufts . . . . . 23. EULAMPIS, p. 102.  
*k*<sup>5</sup>. Wings normal, no glittering blue auricular tufts . . . . . 21. PINAROLEMA, p. 101.  
*l*<sup>5</sup>. Wings normal, purplish black; glittering blue auricular tufts. . . . . [p. 105.  
24. PETASOPHORA,
- g*<sup>4</sup>. Culmen feathered a long way from the base; nasal covers completely hidden; sexes dissimilar . . . . . [p. 113.  
25. CHRYSOLAMPIS,

## 1. HELIOTHRIX.

Heliothrix, *Boie, Isis*, 1831, p. 547 . . . . . H. auritus. Type.

*Range*. Tropical America, from British Honduras and Guatemala to Southern Brazil.

*Key to the Species.*

- a*. Crown glittering green.  
*a'*. Throat white . . . . . *auritus*, p. 30.  
*b'*. Throat glittering green. . . . . *auriculatus*, p. 32.  
*b*. Crown glittering blue. . . . . *barroti*, p. 32.

1. *Heliothrix auritus*.

*Trochilus auritus*, *Gm. Syst. Nat.* i. p. 493; *Lath. Ind. Orn.* i. p. 311; *Vieill. N. Dict. d'Hist. N.* vii. p. 368; *id. Enc. M eth.* p. 567; *Less. Ind. G n. Troch.* p. xx; *Cab. in Schomb. Guiana*, iii. p. 707.

L'Oiseau-Mouche   oreilles, *Aud. Ois. Dor.* i. p. 67, pls. 25, 26.

*Ornismya aurita*, *Less. Hist. Nat. Ois.-Mouches*, pp. xix, 63, pls. 10, 11.

*Heliothrix auritus*, *Boie, Isis*, 1831, p. 547; *Gray, Gen. B.* i. p. 115;



*Bp. Consp. Av.* i. p. 69; *id. Rev. Zool.* 1854, p. 251; *Gould, Mon. Troch.* iv. pl. 213 (Oct. 1853); *id. Intr. Troch.* p. 121; *id. P. Z. S.* 1870, p. 803; *Reich. Aufz. d. Col.* p. 13; *Des Murs in Cast. Voy.* i. p. 38; *Cab. & Heine, Mus. Hein.* iii. p. 28; *Sci. Cat. Am. B.* p. 305; *Muls. & Verr. Class. Troch.* p. 58; *Gray, Hand-l. B. i.* p. 103; *Sci. & Salv. P. Z. S.* 1867, pp. 584, 979, 1868, p. 169, 1873, p. 288; *Pelz. Orn. Bras.* p. 34; *Whitely, P. Z. S.* 1873, p. 189; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 237, iv. p. 207; *id. Ann. Soc. Linn. Lyon*, xxii. p. 214; *Elliot, Syn. Troch.* p. 174; *Salv. Cat. Strickl. Coll.* p. 366; *id. Ibis*, 1885, p. 434; *Berl. J. f. Orn.* 1887, p. 319.

*Ornismya nigrotis*, *Less. Suppl. Ois.-Mouches*, p. 97.

*Trochilus nigrotis*, *Less. Ind. Gén. Troch.* p. xx.

*Heliothrix nigrotis*, *Gray, Gen. B. i.* p. 115; *Bp. Consp. Av.* i. p. 69; *Pelz. Orn. Bras.* p. 34.

*Heliothrix longirostris*, *Gould, P. Z. S.* 1862, p. 124; *Gray, Hand-l. B. i.* p. 153.

*Adult male.* Upper surface shining golden green, glittering on the crown and on the sides of the throat from the base of the mandible; lores and ear-coverts jet-black, a post-auricular patch glittering blue; entire under surface and the two lateral rectrices on either side pure white; four median rectrices black; bill black. Total length about 4.5 inches, wing 2.4, central rectrices 1.9, lateral 1.25, bill 0.95.

*Adult female.* Like the male, but the crown shining green like the back; no glittering green on the sides of the throat nor glittering blue post-auricular patch; throat and chest spotted with dusky; tail long (central rectrices 2.9, lateral 1.55); lateral rectrices with a transverse black bar near the base.

Young males resemble the female, but have no dusky spots on the throat and no black transverse bar at the base of the lateral rectrices; the feathers of the crown are generally edged with rufous.

*Hab.* South America, from the eastern side of the Andes to the mouth of the Amazon; Guiana and Venezuela.

a. ♂; b. ♀ ad. sk.	Quito, Ecuador.	Gould Coll.
c, d. ♂ ad. sk.	Rotuno, Ecuador ( <i>Buckley</i> ).	Gould Coll.
e. ♂; f. ♀ ad. sk.	Canelos, Ecuador ( <i>Buckley</i> ).	Gould Coll.
g. ♂; h-j. ♀ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman & Gould Colls.
k, l. ♂; m, n. ♀ ad. sk.	Ecuador.	Gould Coll. (Types of <i>H. longirostris</i> , Gould.)
o-g. ♂; r, s. ♀ ad. sk.	Pebas, Amazons, Mar. & April ( <i>Hauvwell</i> ).	Salvin-Godman & Gould Colls.
t. ♂ juv. sk.	Guia, Upper R. Negro, Nov. ( <i>Wallace</i> ).	Salvin-Godman Coll.
u. ♂ juv. sk.	Para.	Gould Coll.
v. ♂ ad. sk.	Cayenne.	Gould Coll.
w. ♂; x. ♀ ad. sk.	Bartica Grove, Brit. Guiana, Aug. ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
y, z, a'. ♂; b'. ♀ ad. sk.	Merumé Mts., B. Guiana, June and July ( <i>H. W.</i> ).	Salvin-Godman Coll.
c'. ♀ ad. sk.	R. Atapurow, B. Guiana, Jan. ( <i>H. W.</i> ).	Salvin-Godman Coll.
d'. ♂ ad. sk.	Venezuela?	Salvin-Godman Coll.
e'. ♀ ad. st.		Purchased.

2. *Heliothrix auriculatus*.

*Trochilus auriculatus*, *Nordm. in Erman's Reise*, p. 5, pl. 2. figs. 1, 2.  
*Trochilus auritus*, *Wied, Beitr.* iv. p. 104 (*nec Gm.*).

*Heliothrix poucheti*, *Bp. Consp. Av.* i. p. 69; *Muls. & Verr. Class. Troch.* p. 58.

*Heliothrix auriculatus*, *Gould, Mon. Troch.* iv. pl. 214 (Oct. 1853); *id. Intr. Troch.* p. 121; *Reich. Aufz. d. Col.* p. 13; *Bp. Rev. Zool.* 1854, p. 251; *Cab. & Heine, Mus. Hein.* iii. p. 28; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 108; *Gray, Hand-l. B.* i. p. 153; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 240, iv. p. 208; *id. Ann. Soc. Linn. Lyon*, xxii. p. 214; *Elliot, Ibis*, 1876, p. 396; *id. Syn. Troch.* p. 175.

*Heliothrix phainolæma*, *Gould, P. Z. S.* 1855, p. 87; *id. Mon. Troch.* iv. pl. 215 (Aug. 1859); *id. Intr. Troch.* p. 121; *Cab. & Heine, Mus. Hein.* iii. p. 28.

*Heliothrix auritus*, *Burm. Syst. Ueb.* ii. p. 336.

*Heliothrix phainolenca*, *Hartl. in Wieg. Arch. f. Naturg.* xxii. (2) p. 23; *Muls. & Verr. Class. Troch.* p. 58; *Gray, Hand-l. B.* i. p. 153.

*Adult male*. Like that of *H. auritus*, but with the chin and upper portion of the throat glittering green like the head.

*H. phainolæma*, *Gould*, has the throat covered with green rather lower down towards the chest than usual in typical *H. auriculatus*. The character is a variable one, some specimens having a narrow white space extending nearly to the chin.

*Hab.* South-eastern Brazil.

a. ♂ ad. sk.	Brazil (Rio make).	Gould Coll.
b-g. ♂; h, i. ♀	S.E. Brazil.	Salvin-Godman & Gould Colls.
ad. sk.		
j. ♂ ad. sk.	"Napo."	Gould Coll. (Type of <i>H. phainolæma</i> , <i>Gould.</i> )
k. ♂ juv. sk.	[Brazil.]	Gould Coll.

3. *Heliothrix barroti*.

*Trochilus barroti*, *Bourc. Ann. Soc. d'Agr. Lyon*, vi. p. 48; *id. Rev. Zool.* 1843, p. 72.

*Heliothrix barroti*, *Gray, Gen. B.* i. p. 115; *id. Hand-l. B.* i. p. 153; *Bp. Consp. Av.* i. p. 69; *id. Rev. Zool.* 1854, p. 251; *Gould, Mon. Troch.* iv. pl. 217 (Oct. 1853); *id. Intr. Troch.* p. 121; *id. P. Z. S.* 1870, p. 803; *Reich. Aufz. d. Col.* p. 13; *Cab. & Heine, Mus. Hein.* iii. p. 28; *Salv. Ibis*, 1800, pp. 272, 400, 1872, p. 320; *id. P. Z. S.* 1867, p. 155, 1870, p. 209; *Scl. Cat. Am. B.* p. 305; *Lawr. Ann. Lyc. N. Y.* vii. p. 291, ix. p. 125; *Heine, J. f. Orn.* 1863, p. 182; *Scl. & Salv. P. Z. S.* 1864, p. 365, 1879, p. 529; *Muls. & Verr. Class. Troch.* p. 58; *Elliot, Ibis*, 1876, p. 397; *id. Syn. Troch.* p. 175; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 242, pl. 52, iv. p. 209; *id. Ann. Soc. Linn. Lyon*, xxii. p. 214; *Berl. & Tacz. P. Z. S.* 1883, p. 567.

*Heliothrix purpureiceps*, *Gould, P. Z. S.* 1855, p. 87; *id. Mon. Troch.* iv. pl. 216 (Aug. 1859); *Scl. P. Z. S.* 1860, p. 296; *Cab. & Heine, Mus. Hein.* iii. p. 28.

*Heliothrix violifrons*, *Gould, Intr. Troch.* p. 122.

Similar to *H. auritus*, but with the crown glittering blue, like the post-auricular patches, instead of glittering green.

*Hab.* Central America, from British Honduras and Eastern Guatemala to Panama; Northern Colombia, and Western Ecuador.

a, b. ♀ ad. sk.	Belize, Brit. Honduras ( <i>F. Blancaneaux</i> ).	Salvin-Godman Coll.
c-g. ♂ ad. sk.	San Felipe, W. District, Brit. Honduras, Mar. ( <i>F. B.</i> )	Salvin-Godman Coll.
h. ♂ ad. sk.	Cayo, W. District, Brit. Honduras, Feb. ( <i>F. B.</i> ).	Salvin-Godman Coll.
i. ♂ ad. sk.	Las Salinas, Vera Paz, Guatemala ( <i>O. Salvin</i> ).	Slater Coll.
j. ♂; k, l. ♀ ad. sk.	Choctum, Guatemala, Feb. 1861 ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
m. ♂; n. ♀ ad. sk.	Chontales, Nicaragua ( <i>T. Belt</i> ).	Salvin-Godman Coll.
o. ♂; p. ♀ ad. sk.	Tucuriqui, Costa Rica ( <i>Arcé</i> ).	Salvin-Godman Coll.
q. ♀ ad. sk.	Costa Rica ( <i>Carmirol</i> ).	Gould Coll.
r-t. ♂ ad. sk.	Chiriqui ( <i>Arcé</i> ).	Salvin-Godman Coll.
u. ♂ ad. sk.	Bugaba, Chiriqui ( <i>Arcé</i> ).	Salvin-Godman Coll.
v. ♂ ad. sk.	Boquete de Chitra, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
w. ♂ ad. sk.	Calovevora, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
x. ♀ ad. sk.	Santa Fé, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
y, z, a'. ♂ ad. sk.	Veragua.	Gould Coll.
b'. ♂ ad. sk.	Veragua? ( <i>Warszewicz</i> ).	Gould Coll. (Type of <i>H. violifrons</i> .)
c'. ♀ ad. sk.	Colombia?	Gould Coll.
d'. ♂ ad.; e', f'. ♂ juv.; g'. ♀ ad. sk.	Lion Hill, Panama ( <i>McLeanan</i> ).	Salvin-Godman Coll.
h'. ♂ juv. sk.	Esmeraldas, Ecuador ( <i>Fraser</i> ).	Gould Coll.
i', j'. ♂ ad. sk.	Western Ecuador.	Salvin-Godman Coll.
k'-m'. ♂ ad.; n'. ♂ juv.; o'. ♀ ad. sk.	Citado, Ecuador ( <i>Buckley</i> ).	Gould Coll.
p'. ♀ ad. sk.	W. side of Pichincha, Ecuador, 6000 ft. ( <i>Jameson</i> ).	Gould Coll.

## 2. SCHISTES.

*Schistes*, Gould, *Contr. Orn.* 1851, p. 140 ..... Type. *S. albugularis*.

Mr. Elliot gives *S. geoffroyi* as the type of this genus, but the name was first used by Gould, in 1851, when describing *S. albugularis*.

*Range.* Andes, from Colombia to Bolivia.

### *Key to the Species.*

- a. Whole crown dark grass-green like the neck; lower back bronze; pectoral band divided in the middle ..... *geoffroyi*, p. 34.
- b. Anterior part of the crown glittering green like the throat; back grass-green; pectoral band white, entire ..... *albugularis*, p. 34.

1. *Schistes geoffroyi*.

*Trochilus geoffroyi*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, vi. p. 37, pl. 3 (1843); *id. Rev. Zool.* 1843, p. 101.

*Polytmus geoffroyi*, *Gray, Gen. B.* i. p. 108; *id. Hand-l. B.* i. p. 127.

*Petasophora*? *geoffroyi*, *Gould, P. Z. S.* 1847, p. 9.

*Colibri geoffroyi*, *Bp. Consp. Av.* i. p. 69.

*Schistes geoffroyi*, *Gould, Mon. Troch.* iv. pl. 218 (Oct. 1853); *id. Intr. Troch.* p. 122; *Bp. Rev. Zool.* 1854, p. 251; *Scl. P. Z. S.* 1860, p. 70; *id. Cat. Am. B.* p. 305; *Cab. & Heine, Mus. Hein.* iii. p. 27; *Tacz. P. Z. S.* 1874, p. 541; *id. Orn. Pér.* i. p. 365; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 155; *id. Ann. Soc. Linn. Lyon*, xxii. p. 221; *Elliot, Syn. Troch.* p. 173; *Berl. & Tacz. P. Z. S.* 1884, p. 305, 1885, p. 104; *Berl. J. f. Orn.* 1887, p. 318.

*Petasophora a. Schistes geoffroyi*, *Reich. Aufz. d. Col.* p. 13.

*Petasophorus geoffroyi*, *Muls. & Verr. Class. Troch.* p. 48.

*Adult male*. Upper surface dark grass-green, the lower back and rump bronzy, a long postocular white stripe, under it a black patch, followed by a patch of dark violet-blue glittering feathers; throat dull glittering green, becoming duller on the breast, on either side of which is a white patch; rest of the under surface dull grass-green; tail dark green, tipped narrowly with white, and the lateral rectrices crossed by a wide subterminal steel-blue band. Total length about 3.5 inches, wing 2.05, tail 1.3, bill 0.7.

*Female*? Like the male, and also with glittering violet-blue feathers on the sides of the neck; but the chin and throat, together with the middle of the breast and abdomen, dull green.

Buckley's Bolivian skins seem certainly referable to this species.

*Hab.* Colombia, Bolivia.

<i>a, b.</i> ♂ ad. ; <i>c.</i> ♂ juv. ; <i>d-f.</i> ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>g.</i> ♀ ad. sk.	Colombia.	Slater Coll.
<i>h.</i> ♂ ad. ; <i>i.</i> ♂ juv. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.
<i>j.</i> ♂ ad. st.		Purchased.

2. *Schistes albogularis*.

*Schistes albogularis*, *Gould, Contr. Orn.* 1851, p. 140; *id. Mon. Troch.* iv. pl. 220 (Oct. 1853); *id. Intr. Troch.* p. 123; *Scl. P. Z. S.* 1860, p. 70; *Cab. & Heine, Mus. Hein.* iii. p. 27.

*Petasophora a. Schistes albogularis*, *Reich. Aufz. d. Col.* p. 13.

*Schistes albogularis*, *Bp. Rev. Zool.* 1854, p. 251.

*Schistes personatus*, *Gould, P. Z. S.* 1860, p. 311; *id. Mon. Troch.* iv. pl. 219; *id. Intr. Troch.* p. 122; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 153; *id. Ann. Soc. Linn. Lyon*, xxii. p. 221; *Elliot, Syn. Troch.* p. 173.

*Petasophorus personatus et albogularis*, *Muls. & Verr. Class. Troch.* i. p. 49.

*Polytmus personatus et albogularis*, *Gray, Hand-l. B.* i. p. 127.

*Adult male*. Very similar to that of *S. geoffroyi*, but with the anterior part of the crown, from a line drawn between the eyes to the base

of the bill, glittering green like the middle of the throat; the lateral cervical patches deeper violet-blue; the white pectoral band extends across the chest; the lower back and central rectrices are dark grass-green, with only a slight bronzy tint.

*Female?* Whole crown dark grass-green like the back; middle of the throat white, joining the white pectoral band; violet lateral cervical patches like the male.

Specimens before me show a transition between white-throated individuals (*S. albogularis*, Gould) and those with glittering green throats (*S. personatus*, Gould), the former being the young males or the females of the latter. The name *S. albogularis* has several years' priority over *S. personatus*.

*Hab.* Ecuador.

a. ♀ ad. sk.	West side of Pichincha, alt. 6000 ft., Ecuador ( <i>Jameson</i> ).	Gould Coll. (Type of <i>S. albogularis</i> , Gould.)
b. ♂ ad.; c. ♀ ad. sk.	Pallatanga, Ecuador ( <i>Fraser</i> ).	Gould Coll.
d. ♂ juv. sk.	Quito, Ecuador.	Gould Coll.
e. ♂ ad.; f. ♂ juv. sk.	Baisa, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
g, h. ♂ ad. sk.	Ecuador.	Gould Coll. (Types of <i>S. personatus</i> , Gould.)
i, j. ♂ ad.; k. ♂ juv. sk.	Ecuador.	Salvin-Godman & Gould Colls.
l. ♂ ad. sk.	Ecuador ( <i>Buckley</i> ).	Gould Coll.

### 3. AUGASTES.

Augastes, *Gould, Mon. Troch.* iv. sub pl. 221 (June 1849); *id. Intr. Troch.* p. 123 ..... Type. A. superbus.  
 Rhamphomicon ♂. Lamprurus, *Reich. Aufz. d. Col.* p. 12 (March 1854).

*Range.* South-eastern Brazil.

#### *Key to the Species.*

- a. Tail glittering green; abdomen and lateral cervical patches dark blue ..... *superbus*, p. 35.  
 b. Tail glittering golden bronze; abdomen golden green; no lateral cervical patches ..... *lumachellus*, p. 36.

### 1. Augastes superbus.

*Trochilus superbus*, *Vieill. Enc. Méth.* p. 561; *Less. Suppl. Ois.-Mouches*, p. 97; *id. Ind. Gén. Troch.* p. xlii.

*Trochilus scutatus*, *Natt. in Temm. Pl. Col.* 299. f. 3.

*Ornismya nattereri*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxxvii, 75, pl. 16.

*Hylocharis superba*, *Gray, Gen. B.* i. p. 114; *id. Hand-l. B.* i. p. 151.

*Augastes scutatus*, *Gould, Mon. Troch.* iv. pl. 221 (June 1849); *id. Intr. Troch.* p. 123; *Muls. & Verr. Class. Troch.* p. 70.

*Augastes superbus*, *Bp. Consp. Av.* i. p. 84; *id. Rev. Zool.* 1854, p. 253; *Reich. Aufz. d. Col.* p. 13; *Cab. & Heine, Mus. Hein.* iii. p. 45;

*Scl. Cat. Am. B.* p. 305; *Heine, J. f. Orn.* 1863, p. 196; *Reinh.*

*Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 111; *Pelz. Orn. Bras.* p. 33; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 149; *id. Ann. Soc. Linn. Lyon*, xxii. p. 221; *Elliot, Syn. Troch.* p. 171.

*Adult male.* Upper surface shining grass-green; forehead and throat glittering green edged with black; lateral cervical patches and abdomen rich dark blue; pectoral band creamy white, partly divided by the pointed green throat; under tail-coverts whitish with greenish discs; tail glittering green. Total length about 3.7 inches, wing 2.1, tail 1.3.

*Female.* Like the male, but with the forehead shining green like the back, and with the lateral rectrices tipped with white.

*Young bird.* Beneath fuscous, the white pectoral band showing first, then the glittering feathers of the under surface, and, lastly, in the male the glittering forehead.

*Hab.* South-eastern Brazil.

<i>a-f.</i> ♂ ad.; <i>g, h.</i> ♂	Brazil.	Salvin-Godman, Gould, & Sclater Colls.
juv.; <i>i.</i> ♀ ad. sk.		
<i>j.</i> ♂ ad. sk.	S. America.	Purchased.

## 2. *Augastes lumachellus.*

*Ornismya lumachellus*, *Less. Rev. Zool.* 1838, p. 315.

*Hylocharis lumachellus*, *Gray, Gen. B.* i. p. 114; *id. Hand-l. B.* i. p. 151.

*Trochilus lumachellus*, *Bourc. Rev. Zool.* 1846, p. 313.

*Augastes lumachellus*, *Gould, Mon. Troch.* iv. pl. 222 (June 1849); *id. Intr. Troch.* p. 123; *Bp. Consp. Av.* i. p. 84; *id. Rev. Zool.* 1854, p. 253; *Cab. & Heine, Mus. Hein.* iii. p. 46; *Scl. Cat. Am. B.* p. 305; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 147, pl. 83; *id. Ann. Soc. Linn. Lyon*, xxii. p. 221; *Elliot, Syn. Troch.* p. 170.

*Rhamphomicron* ♂. *Lamprurus lumachellus*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 823, ff. 4829-31.

*Heliotrypha lumachella*, *Muls. & Ferr. Class. Troch.* p. 69.

*Adult male.* Shining grass-green; crown and sides of the throat black; forehead and throat glittering golden green, the lower edge shaded with blue, followed by a central point of glittering fiery red; pectoral band white; abdomen shining, and under tail-coverts golden green; tail rich golden bronze. Total length about 4.3 inches, wing 2.4, tail 1.4, bill 0.85.

*Female.* Like the male on the under surface, but the bright colours duller; the forehead and crown grass-green like the back.

*Hab.* South-eastern Brazil.

<i>a-g.</i> ♂ ad.; <i>h.</i> ♀	Brazil.	Salvin-Godman, Gould, & Sclater Colls.
ad. sk.		
<i>i-k.</i> ♂ ad.; <i>l.</i> ♂ juv.;	[Brazil.]	Gould Coll.
<i>m.</i> ♀ ad. sk.		
<i>n.</i> ♂ ad.; <i>o.</i> ♂ juv. st.		Purchased.

## 4. RHAMPHODON.

<i>Rhamphodon</i> , <i>Less. Hist. Nat. Col.</i> p. 18 (1831) . . . . .	Type.
<i>Grypus, Spix, Av. Bras.</i> i. p. 24 ( <i>nee Germ.</i> ) . . . . .	<i>R. naevius.</i>
	<i>R. naevius.</i>

*Range.* South-eastern Brazil.

1. *Rhamphodon nævius*.

*Trochilus nævius*, *Dumont, Dict. Sc. Nat.* xxvii. p. 432; *Temm. Pl. Col.* 120. f. 3.

*Grypus ruficollis*, *Spir, Av. Bras.* i. p. 79, pl. 80. f. 3.

*Rhamphodon maculatum*, *Less. Hist. Nat. Col.* p. 18, pl. 1.

*Grypus nævius*, *Gould, Mon. Troch.* i. pl. 1 (May 1852); *id. Intr. Troch.* p. 35; *Burm. Syst. Ueb.* ii. p. 320; *Pelz. Orn. Bras.* p. 27; *Muls. & Ferr. Class. Troch.* p. 13; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 33; *id. Ann. Soc. Linn. Lyon*, xxii. p. 199; *Gray, Hand-l. B.* i. p. 123; *Eudes-Desl. Ann. Mus. Caen*, i. p. 75.

*Rhamphodon nævius*, *Reich. Aufz. d. Col.* p. 15; *Cab. & Heine, Mus. Hein.* iii. p. 3; *Berl. J. f. Orn.* 1873, p. 273; *Elliot, Syn. Troch.* p. 4.

*Adult male.* Upper surface dark golden green, each feather fringed with fulvous and with a subapical band of dark brown, which becomes wider on the crown, rendering it much darker than the back; eyebrow and a patch on either side of the throat fulvous, a postocular spot purple-black; middle of the throat black, each feather with a buff margin; chest and abdomen black, each feather with a whitish lateral margin, becoming broader and more buff on the belly; under tail-coverts buff, with a black discal patch; tail greenish purple-brown, the three lateral feathers on either side with a broad graduated fulvous end, on the outermost rectrix occupying the distal half; maxilla blackish, basal two-thirds of the mandible yellow. Total length 6 inches, wing 2.9, tail 2.15, bill 1.6.

*Female.* Similar to the male, the maxilla less hooked at the tip and with the serrations not so distinct, the dark patch on the throat less defined.

The dark patch on the throat varies in different individuals, in some becoming obsolete towards the chest.

*Hab.* South-eastern Brazil.

a-c. ♂ ad.; d-h. ♀ ad. sk.	Brazil (Rio make).	Salvin-Godman & Gould Colls.
i. ♀ ad. sk.	Registro do Sai, Brazil ( <i>Natterer</i> ).	Salvin-Godman Coll.
j. ♀ ad. sk.	Rio Claro, Brazil ( <i>Joyner</i> ).	Salvin-Godman Coll.
k. ♀ ad. sk.	Santa Fé, Minas Geraes ( <i>Rogers</i> ).	Salvin-Godman Coll.
l. ♀ ad. st.		Purchased.

## 5. ANDRODON.

Type.

*Androdon*, *Gould, Ann. & Mag. N. H.* 1863, xii.

p. 247..... *A. æquatorialis*.

*Range.* Colombia and Ecuador.

1. *Androdon æquatorialis*.

*Androdon æquatorialis*, *Gould, Ann. & Mag. N. H.* 1863, xii. p. 247 :  
*id. Mon. Troch. Suppl.* pl. i. (Jan. 1881); *Elliot, Syn. Troch.* p. 4 :  
*Scl. & Salv. P. Z. S.* 1879, p. 528 : *Eudes-Dest. Ann. Mus. Caen.* i.  
 p. 79.

*Polytmus æquatorialis*, *Gray, Hand-l. B.* i. p. 124.

*Grypus æquatorialis*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 32, pl. 1 :  
*id. Ann. Soc. Linn. Lyon*, xxii. p. 199.

*Adult male*. Upper surface shining bronzy green; nape dark blue, crown dark greenish bronze; a white band across the rump, above and below which are some dark blue feathers; wings purple-black, the inner secondaries grey; under surface and sides of the neck dull greyish white, each feather with a dark lateral margin; central rectrices greenish grey tipped with dark green, remainder grey, with a broad subapical band of dark green, the tips white. Total length about 5·3 inches, wing 2·6, tail 1·6, bill 1·7.

*Female*. Like the male, but without the blue nuchal patch; the maxilla is less hooked, and both maxilla and mandible less strongly serrated.

*Hab.* Colombia and Ecuador.

a. ♂ ad. ; b. ♀ ad. sk.	Ecuador.	Gould Coll. (Types of the species.)
c. ♀ ad. sk.	Ecuador.	Gould Coll.
d. ♀ ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
e. ♀ ad. sk.	Remedios, Colombia ( <i>Salmon</i> ).	Salvin-Godman Coll.

6. *HEMISTEPHANIA*.

<i>Doryfera</i> , <i>Gould, P. Z. S.</i> 1847, p. 95 ( <i>nec Illiger</i> ) . . . . .	Type. H. ludovicie.
<i>Dorifera</i> , <i>Bp. Consp. Av.</i> i. p. 68.	
<i>Doryphora</i> , <i>Cub. &amp; Heine, Mus. Hein.</i> iii. p. 77.	
<i>Helianthea a. Hemistephania</i> , <i>Reich. Aufz. d. Col.</i> p. 9. . . . .	H. ludovicie.
<i>Hemistephania</i> , <i>Elliot, Syn. Troch.</i> p. 81.	

*Range*. Tropical America, from Costa Rica to Bolivia, Venezuela, Guiana, and the Valley of the Upper Amazons.

*Key to the Species.*

- a. Forehead glittering bluish green or olive-green.  
 a'. Forehead glittering olive-green; under surface greyish green.  
   a". Smaller . . . . . *ludovicie*, p. 39.  
   b". Larger . . . . . *rectirostris*, p. 39.  
 b. Forehead glittering bluish green; under surface blackish green . . . . . *veraguensis*, p. 40.  
 b. Forehead glittering violet-blue . . . . . *johannæ*, p. 40.



1. *Hemistephania ludovicicæ*.

- Trochilus ludovicicæ*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, x. p. 136 (1847); *Gray, Hand-l. B. i.* p. 140.  
*Dorifera ludovicicæ*, *Bp. Consp. i.* p. 68; *id. Rev. Zool.* 1854, p. 251; *Gould, Mon. Troch. ii.* pl. 88 (Oct. 1853); *id. Intr. Troch.* p. 71; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 200, iii. p. 17; *id. Ann. Soc. Linn. Lyon*, xxii. p. 217.  
*Helianthea a. Hemistephania ludovicicæ*, *Reich. Aufz. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 731. ff. 4673-74.  
*Doryphora ludovicicæ*, *Cab. & Heine, Mus. Hein.* iii. p. 77; *Scl. & Salv. P. Z. S.* 1875, p. 235.  
*Doryphora ludovicicæ*, *Scl. Cat. Am. B.* p. 292; *Muls. & Ferr. Class. Troch.* p. 27.  
*Hemistephania ludovicicæ*, *Elliot, Syn. Troch.* p. 81; *Scl. & Salv. P. Z. S.* 1879, pp. 528, 627; *Berl. J. f. Orn.* 1884, p. 310, 1887, p. 322.

*Adult male.* Upper surface shining green; nape and hind neck rich bronze; upper tail-coverts tinged with greyish blue; forehead, as far as a line between the eyes, glittering olive-green; under surface dusky grey tinged with bronze-green; tail purple-black, lateral rectrices broadly tipped with dusky; bill black. Total length about 4.8 inches. wing 2.4, tail 1.4, bill 1.5.

*Female.* Similar to the male, but perhaps without a glittering forehead.

*Young birds* are without the glittering forehead.

Bolivian and Venezuelan specimens agree with Colombian in dimensions, and are therefore placed under this species.

*Hab.* Venezuela, Colombia, Bolivia.

- |                            |   |                              |
|----------------------------|---|------------------------------|
| a. ♂ ad. sk.               | Sierra Nevada Merida, Venezuela ( <i>Goering</i> ). | Salvin-Godman Coll.          |
| b. ♂ ad. sk.               | Santa Elena, Colombia ( <i>Salmon</i> ).            | Salvin-Godman Coll.          |
| c-h. ♂ ad.; i-l. ♀ ad. sk. | Colomba (Bogota make).                              | Salvin-Godman & Gould Colls. |
| m. ♂ ad. sk.               | Tiltilo, Bolivia ( <i>Buckley</i> ).                | Salvin-Godman Coll.          |
| n-q. ♂ ad. sk.             | Bolivia ( <i>Buckley</i> ).                         | Gould Coll.                  |

2. *Hemistephania rectirostris*.

- Doryfera rectirostris*, *Gould, Intr. Troch.* p. 71; *id. Mon. Troch. Suppl.* (Jan. 1853); *Muls. Hist. Nat. Ois.-Mouches*, i. p. 202, iii. p. 17; *id. Ann. Soc. Linn. Lyon*, xxii. p. 217; *Tacz. Orn. Pér.* i. p. 284.  
*Dorifera ludovicicæ*, *Scl. P. Z. S.* 1860, p. 95.  
*Trochilus rectirostris*, *Gray, Hand-l. B. i.* p. 140.  
*Hemistephania rectirostris*, *Elliot, Syn. Troch.* p. 81; *Tacz. & Berl. P. Z. S.* 1885, p. 102.  
*Doryphora rectirostris*, *Tacz. P. Z. S.* 1882, p. 55.

Precisely like *H. ludovicicæ* so far as the colour of the plumage is concerned, but with a bill of considerably larger dimensions (length 1.8 inches).

*Hab.* Ecuador.

<i>a.</i> ♂ ad. sk.	Baiza, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>b, c.</i> ♂ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>d.</i> ♂ ad. ; <i>e.</i> ♂ ad. sk.	Ecuador ( <i>Buckley</i> ).	Salvin-Godman & Gould Colls.
<i>f-k.</i> ♂ ad. : <i>l.</i> ♀ ad. sk.	Ecuador.	Gould Coll. (Types of the species.)

### 3. *Hemistephania veraguensis*.

- Dorifera veraguensis*, *Salv. P. Z. S.* 1867, p. 154.  
*Doryfera ludovicicæ*?, *Lavr. Ann. Lyc. N. Y.* ix. p. 121.  
*Doryfera veraguensis*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 199, iii. p. 17; *id. Ann. Soc. Linn. Lyon*, xxii. p. 217; *Gould, Mon. Troch. Suppl.* pl. 22 (Jan. 1883).  
*Hemistephania veraguensis*, *Elliot, Syn. Troch.* p. 82.

Similar to *H. ludovicicæ*, but the plumage generally considerably darker, the throat being nearly black. The forehead, too, is of a slightly bluer shade; the wings shorter (2.3 inches).

*Hab.* Costa Rica and State of Panama.

<i>a.</i> ♂ ad. ; <i>b.</i> ♀ ad. sk.	Irazu, Costa Rica ( <i>Rogers</i> ).	Salvin-Godman Coll.
<i>c.</i> ♂ ad. sk.	Costa Rica ( <i>Endres</i> ).	Gould Coll.
<i>d, e.</i> ♀ ad. sk.	Chiriqui, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>f.</i> ♂ ad. sk.	Cordillera de Tolé, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll. (Type of the species.)
<i>g.</i> ♂ ad. sk.	State of Panama ( <i>Arcé</i> ).	Gould Coll.

### 4. *Hemistephania johannæ*.

- Trochilus johannæ*, *Bourc. P. Z. S.* 1847, p. 45; *id. Rev. Zool.* 1847, p. 257; *Gray, Hand-l. B.* i. p. 140.  
*Trochilus* (*Doryfera*) *violifrons*, *Gould, P. Z. S.* 1847, p. 95.  
*Dorifera johannæ*, *Bp. Consp.* i. p. 68; *id. Rev. Zool.* 1854, p. 251.  
*Doryfera johannæ*, *Gould, Mon. Troch.* ii. pl. 87 (Oct. 1853); *id. Intr. Troch.* p. 71; *Muls. & Ferr. Class. Troch.* p. 27; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 196, iii. p. 17, iv. p. 215; *id. Ann. Soc. Linn. Lyon*, xxii. p. 217; *Tacz. Orn. Pér.* i. p. 285.  
*Helianthea a. Hemistephania johannæ*, *Reich. Aufz. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 731. fl. 4675-76.  
*Doryphora johannæ*, *Cab. & Heine, Mus. Hein.* iii. p. 78; *Scl. Cat. Am. B.* p. 292; *Scl. & Salv. P. Z. S.* 1867, p. 753, 1873, p. 287; *Tacz. P. Z. S.* 1882, p. 34.  
*Dorifera euphrosinæ*, *Muls. & Ferr. Ann. Soc. Linn. Lyon*, xviii. p. 319; *Gould, Mon. Troch. Suppl.* (Jan. 1883).  
*Doryfera euphrosinæ*, *Muls. & Ferr. Class. Troch.* p. 27; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 198, pl. 17, iii. p. 17; *id. Ann. Soc. Linn. Lyon*, xxii. p. 217.  
*Trochilus euphrosine*, *Gray, Hand-l. B.* i. p. 140.  
*Hemistephania johannæ*, *Elliot, Syn. Troch.* p. 80; *Salv. & Godm. Ibis*, 1882, p. 80; *Salv. Ibis*, 1885, p. 433; *Berl. J. f. Orn.* 1887, p. 322.  
*Hemistephania euphrosinæ*, *Elliot, Syn. Troch.* p. 81.  
*Doryphora euphrosinæ*, *Tacz. P. Z. S.* 1882, p. 35.

*Adult male.* Upper surface shining bronze-green, darker on the back of the neck and upper back, and almost black on the nape and posterior part of the crown; upper tail-coverts greyish blue; forehead, as far as a line between the eyes, glittering dark violet-blue; under surface black; flanks tinged with green; under tail-coverts dark steel-blue; tail dark steel-blue; lateral rectrices tipped with bronze; bill black. Total length about 4 inches, wing 2.2, tail 1.2, bill 1.3.

*Female.* Paler and greener on the upper surface: the forehead glittering bluish green; under surface grey; abdomen and flanks washed with green; lateral rectrices more broadly tipped with bronze.

*Young* birds of both sexes are destitute of the glittering forehead. In other respects they resemble the female.

*H. euphrosina* has frequently been considered a distinct species, but I have no doubt that it was based upon the adult female of *H. johannæ*.

*Hab.* Colombia, Ecuador, Upper Amazons Valley, and British Guiana.

<i>a-e.</i> ♂ ad.; <i>f-j.</i> ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>k-m.</i> ♂ ad.; <i>n.</i> ♀ ad. sk.	Rotuno, Ecuador ( <i>Buckley</i> ).	Gould Coll.
<i>o.</i> ♂ ad.; <i>p.</i> ♀ ad. sk.	Upper Amazons ( <i>E. Bartlett</i> ).	Gould Coll.
<i>q-t.</i> ♂ ad.; <i>u-w.</i> ♀ ad. sk.	Merumé Mts., Brit. Guiana, July & Sept. ( <i>H. Whitely</i> ).	Salvin-Godman & Selater Colls.

## 7. GLAUCIS.

Glaucis, *Boie, Isis*, 1831, p. 545 ..... Type. *G. hirsuta*.

*Range.* Tropical America, from Costa Rica to Ecuador, the Amazons Valley, and South-eastern Brazil, Venezuela, Guiana, Trinidad, Tobago, and Grenada.

*Key to the Species.*

- a.* Tail chestnut, with a subterminal black bar and white tip ..... *hirsutus*, p. 41.  
*b.* Tail reddish bronze tipped with white ..... *dohrni*, p. 43.

1. *Glaucis hirsuta*.

*Polytmus brasiliensis*, *Briss. Orn.* ii. p. 670.

*Trochilus hirsutus*, *Gm. Syst. Nat.* i. p. 490; *Vieill. N. Dict. d'Hist. N.* vii. p. 352; *Temm. Pl. Col.* 120. f. 2.

*Trochilus brasiliensis*, *Lath. Ind. Orn.* p. 308; *Wied, Beitr.* iv. p. 111; *Cab. in Schomb. Guiana*, iii. p. 708.

- Le Brin blanc femelle, *Aud. & Vieill. Ois. Dor.* i. p. 40, pl. 20.  
 Le Colibri à pieds vetus, *Aud. & Vieill. Ois. Dor.* i. pls. 22, 23.  
*Trochilus ferrugineus*, *Wied. Beitr.* iv. p. 120.  
*Trochilus dominicus*, *Licht. Verz. Doubl.* p. 10 (*nee Linn.*); *Cab. in Schomb. Guiana*, iii. p. 708.  
*Trochilus superciliosus*, *Less. Hist. Nat. Col.* p. 38, pl. 7 (♀) (*nee Linn.*).  
*Trochilus mазeppa*, *Lcsc. Hist. Nat. Troch.* p. 18, pl. 3; *Jard. Ann. & Mag. N. H.* xx. p. 372.  
*Glaucis hirsuta*, *Boie, Isis*, 1831, p. 545; *Burm. Syst. Ueb.* ii. p. 321; *Gould, Mon. Troch.* i. pl. 5 (May 1858); *id. Intr. Troch.* p. 38; *Cab. & Heine, Mus. Hein.* iii. p. 4; *Laur. Ann. Lye. N. Y.* vii. p. 319; *id. Pr. U. S. Nat. Mus.* i. p. 271; *Pelz. Orn. Bras.* p. 27; *Salv. & Elliot, Ibis*, 1873, p. 276; *Scl. & Salv. P. Z. S.* 1879, p. 538; *Elliot, Syn. Troch.* p. 6; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 39; *id. Ann. Soc. Linn. Lyon*, xxii. p. 199; *Eudes-Desl. Ann. Mus. Caen*, i. p. 79; *Tacz. Orn. Pér.* i. p. 261; *Salv. Ibis*, 1885, p. 431; *Bert. J. f. Orn.* 1887, p. 314; *Cory, B. West Ind.* p. 142; *Allen, Bull. Am. Mus. N. H.* ii. p. 257.  
*Phaethornis hirsutus*, *Jard. & Selb. Ill. Orn.* iii. pl. 143.  
*Glaucis affinis*, *Laur. Ann. Lye. N. Y.* vi. p. 261; *Gould, Mon. Troch.* i. pl. 7 (Sept. 1861); *id. Intr. Troch.* p. 34; *Scl. & Salv. P. Z. S.* 1864, p. 363; *Eudes-Desl. Ann. Mus. Caen*, i. p. 84.  
*Glaucis melanura*, *Gould, P. Z. S.* 1860, p. 364; *id. Mon. Troch.* i. pl. 9 (July 1861); *id. Intr. Troch.* p. 39; *Eudes-Desl. Ann. Mus. Caen*, i. p. 86.  
*Glaucis lanceolata*, *Gould, Mon. Troch.* i. pl. 8 (Sept. 1861); *id. Intr. Troch.* p. 39; *Eudes-Desl. Ann. Mus. Caen*, i. p. 85.  
*Glaucis mазeppa*, *Gould, Mon. Troch.* i. pl. 6 (Sept. 1861); *id. Intr. Troch.* p. 38; *Eudes-Desl. Ann. Mus. Caen*, i. p. 83.  
*Polytmus hirsutus*, *Lécl. Ois. Trin.* p. 139 (1866).  
*Glaucis aeneus*, *Laur. Proc. Ac. Phil.* 1867, p. 232; *id. Ann. Lye. N. Y.* ix. p. 121; *Eudes-Desl. Ann. Mus. Caen*, i. p. 85.  
*Polytmus hirsutus, mазeppa, affinis, lanceolatus, melanura, aeneus*, *Gray, Hand-l. B.* i. p. 126.

*Adult male.* Upper surface shining green, considerably darker on the crown; upper tail-coverts edged with dirty white; under surface rufous-brown, darker on the throat, sides of the neck, and flanks; central rectrices shining green, remainder chestnut, tipped with white and with a wide subterminal black band; the edge of the outer web of the outermost rectrix also black; maxilla black; mandible flesh-colour, the tip black. Total length about 5 inches, wing 2.5, tail 1.5, bill 1.35.

*Female.* Like the male, rather smaller: the bill slightly more curved; the under surface paler, more rufous, and with a maxillary stripe of pale rufous.

Great variation exists in the colour of the plumage of this species, chiefly affecting the width of the subterminal black band of the lateral rectrices, this band being very wide in young birds, nearly evanescent in old ones; moreover, the tips of the rectrices are much more pointed in young than in old birds.

*Hab.* Costa Rica and Panama, southwards to South-eastern Brazil, Grenada, Trinidad, and Guiana.

a. Ad. sk.	Costa Rica ( <i>Endres</i> ).	Salvin-Godman Coll.
b. ♂ ad. sk.	Lion Hill, Panama Railway ( <i>O. Salvin</i> ).	(Compared with type of <i>G. æneus</i> , Lawr.) Salvin-Godman Coll.
c. ♂; d. ♀; e, f. Juv. sk.	Lion Hill, Panama Railway ( <i>M. Leannan</i> ).	Salvin-Godman Coll.
g. Juv. sk.	Panama.	Gould Coll.
h. ♀ ad. sk.	Panama Railway ( <i>Arcé</i> ).	Gould Coll.
i. ♂ ad. sk.	Santa Elena, Colombia ( <i>T. K.</i> <i>Salmon</i> ).	Salvin-Godman Coll.
j-m. ♂ ad. sk.	Colombia (Bogota make).	Gould Coll.
n. Juv. sk.	Medina, Colombia.	Gould Coll.
o. ♂ (?) ad. sk.	Caracas, Venezuela ( <i>A. Goer-</i> <i>ing</i> ).	Salvin-Godman Coll.
p. ♂ ad.; q. ♀ ad. sk.	Roraima, Guiana ( <i>II. Whitely</i> ).	Salvin-Godman Coll.
r. ♂ ad.; s. Juv. sk.	Cayenne make.	Gould Coll.
t-r. ♂ ad.; w, x. ♀ ad.; y. Juv. sk.	Trinidad.	Gould Coll.
z. Juv. sk.	Trinidad ( <i>Col. J. Taylor</i> ).	Gould Coll.
a'. ♀ ad. sk.	Tobago I.	Gould Coll.
b', c'. ♀ ad. sk.	Grenada I., March ( <i>F. A.</i> <i>Ober</i> ).	Salvin-Godman & Sclater Colls.
d', e', f'. ♀ ad. sk.	Para.	Gould Coll.
g'. Ad. sk.	Para, Sept. ( <i>E. L. Layard</i> ).	(Types of <i>G. lanceolata</i> , Gould.) Tweeddale Coll.
h'. ♂ juv. sk.	Barra do Rio Negro ( <i>Nat-</i> <i>terer</i> ).	Salvin-Godman Coll.
i'. Juv. sk.	Rio Javari, Amazons ( <i>Bates</i> ).	Gould Coll.
j'. ♂ ad. sk.	Iquitos, Amazons ( <i>II.</i> <i>Whitely</i> ).	Gould Coll.
k'-m'. ♂ ad.; n'- p'. ♀ ad. sk.	Pebas, Amazons ( <i>J. Hau-</i> <i>well</i> ).	Gould & Salvin- Godman Colls.
q', r'. ♂ ad.; s', t'. ♀ ad. sk.	Peruvian Amazons ( <i>Bartlett</i> ).	Gould Coll.
u'. Juv. sk.	• Upper Ucayali, Peruvian Amazons ( <i>Bartlett</i> ).	Gould Coll.
v'. ♀ ad. sk.	Santa Cruz, Peru, May 21, 1868.	E. Bartlett [C.].
w'. Juv. sk.	R. Napo, Ecuador.	Gould Coll.
x', y'. Ad. sk.	Bahia ( <i>Wucherer</i> ).	(Type of <i>G. melanura</i> , Gould.) Salvin-Godman Coll.
z', a. ♀ ad. sk.	Bahia.	Gould Coll.
β. ♂ ad. sk.	Rio, Brazil.	Gould Coll.
γ. ♂ ad.; δ, ε. ♀ ad. sk.	Rio, Brazil ( <i>Youds</i> ).	Salvin-Godman Coll.
ζ. ♂ ad. sk.	Eng. do Gama, Brazil, Sept. 23, 1826 ( <i>Natterer</i> ).	Salvin-Godman Coll.

2. *Glaucis dohrni*.

*Trochilus dohrni*, *Bourc. Ann. Sc. Phys. et Nat. Lyon*, (2) vi. p. 139 (1852).

*Rhamphodon chrysurus*, *Reich. Aufz. d. Col.* p. 15 (*apud Mulsant*).  
*Glaucis dohrni*, *Gould, Mon. Troch.* i. pl. 10 (May 1855); *id. Intr.*

- Troch.* p. 39; *Salv. & Elliot, Ibis*, 1873, p. 276; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 44; *id. Ann. Soc. Linn. Lyon*, xxii. p. 200; *Elliot, Syn. Troch.* p. 7; *Eudes-Desl. Ann. Mus. Caen*, i. p. 88.
- Grypus spixi*, *Gould, P. Z. S.* 1860, p. 304; *id. Mon. Troch.* i. pl. 2 (July 1861); *id. Intr. Troch.* p. 35; *Muls. & Ferr. Class. Troch.* p. 13; *Gray, Hand-l. B. i.* p. 123; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 36; *id. Ann. Soc. Linn. Lyon*, xxii. p. 199.
- Polytmus dohrni*, *Gray, Hand-l. B. i.* p. 126.

*Adult male.* Upper surface shining bronze-green, darker and more blue on the head; upper tail-coverts edged with fulvous; wings purple-black, the outer web of the outermost feather edged with dirty white; eyebrow white; under surface cinnamon, darker on the throat; the under tail-coverts with darker centres; tail bronze-green, each feather tipped with white; bill black, more than the proximal half of the mandible whitish; feet yellow; claws brown. Total length about 4.5 inches, wing 2.7, tail 1.7, bill 1.35.

*Female.* Similar to the male, but the under surface nearly uniform cinnamon; bill slightly more curved and the serrations obsolete.

Bourcier's name was based upon a female example said to have come from Ecuador; but it is now practically certain that the species inhabits a limited district in Brazil. Gould's title, *Grypus spixi*, was given to a male. According to Mulsant, Reichenbach's name, *Rhamphodon chrysurus*, also belongs here, but the statement of the Mexican origin of the specimen is doubtless wrong.

*Hab.* Brazil.

a. ♀ ad. sk.	"Ecuador," ex Bourcier.	Gould Coll. (Type of the species.)
b. ♂ ad. sk.	[Brazil.]	Gould Coll. (Type of <i>G. spixi</i> , Gould.)
c. ♂ ad. sk.	Brazil (Rio make).	Salvin-Godman Coll.
d. ♀ ad. sk.	Espirito Santo, Brazil ( <i>de Gaud.</i> )	Gould Coll.

## 8. CHLOROSTILBON.

	Type.
Chlorostilbon, <i>Gould, Mon. Troch.</i> v. sub pl. 355 (May 1853) .....	<i>C. pucherani</i> .
Chlorestes, <i>Reich. Aufz. d. Col.</i> p. 10 (1854).	
Chlorolampis, <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 47 (1860) .....	<i>C. angustipennis</i> .
Prasitis, <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 49 .....	<i>C. prasinus</i> .
Chloauges, <i>Heine, J. f. Orn.</i> 1863, p. 200 .....	<i>C. auriceps</i> .
Chlorostilbon (Merion), <i>Muls. Hist. Nat. Ois.-Mouches</i> , ii. p. 92 (1875) .....	<i>C. haerberlini</i> .
Chrysomirus, <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 2 (1875) .....	<i>C. angustipennis</i> .

*Range.* Tropical America generally from Mexico to the Argentine Republic.

*Key to the Species.*

- a. Bill black at the tip, both maxilla and mandible flesh-colour at the base.
- a'. Central rectrices steel-blue, more or less tipped with grey.
- a''. Tail very deeply forked.
- a'''. Lateral rectrices narrow ..... *auriceps*, p. 45.
- b'''. Lateral rectrices wider ..... *forficatus*, p. 46.
- b''. Tail less deeply forked ..... *cuniverti*, p. 46.
- b'. Central rectrices uniform steel-blue.
- c''. Larger; abdomen usually more golden. *splendidus*, p. 49.
- d''. Smaller; abdomen usually greener .. *pucherani*, p. 50.
- b. Bill black, basal half of the mandible flesh-colour.
- c'. Under surface glittering golden green, not tinged with blue; crown moderately bright; tail moderately forked. . *angustipennis*, p. 52.
- d'. Under surface glittering green, tinged with blue in certain lights; tail more deeply forked ..... *haebertini*, p. 53.
- e. Bill wholly or nearly black.
- e'. Tail forked, lateral rectrices rather narrow.
- e''. Crown moderately bright ..... *melanorhynchus*, p. 53.
- f'. Crown very bright ..... *pumilus*, p. 54.
- g''. Crown dull like the back ..... *assimilis*, p. 54.
- f'. Tail shorter, less forked; lateral rectrices wider ..... *atala*, p. 55.
- g'. Tail rounded or very slightly forked.
- h''. Tail very slightly forked or rounded, steel-blue..... *prasinus*, p. 56.
- i''. Tail rounded, purple-black ..... *peruanus*, p. 57.

1. *Chlorostilbon auriceps*.

*Trochilus auriceps*, *Gould, Contr. Orn.* 1852, p. 137.

*Sporadinus auriceps*, *Bp. Rev. Zool.* 1854, p. 225.

*Chlorostilbon auriceps*, *Gould, Mon. Troch.* v. pl. 350 (May 1857); *Villada, La Nat.* ii. p. 361; *de Oca, La Nat.* iii. p. 160; *Elliot, Ibis*, 1875, p. 168; *id. Syn. Troch.* p. 243; *Salv. & Godm. Ibis*, 1889, p. 366.

*Chlorolampis auriceps*, *Cab. & Heine, Mus. Hein.* iii. p. 48; *Gould, Intr. Troch.* p. 174; *Heine, J. f. Orn.* 1863, p. 200; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 79, iv. p. 198; *id. Ann. Soc. Linn. Lyon*, xxii. p. 209; *Eudes-Desl. Ann. Mus. Caen*, i. p. 511.

*Adult male.* Upper surface shining golden green, crown glittering golden green; entire under surface glittering green with a golden tinge; tail very long, steel-blue, all the rectrices except the outermost one on either side more or less tipped with grey; bill black at the tip, the mandible at the base and the maxilla for most of its length flesh-colour. Total length about 3.6 inches, wing 1.7, lateral rectrices 1.6, central 0.6, bill 0.6.

*Adult female.* Upper surface shining grass-green, a postocular

spot and the whole under surface greyish white; ear-coverts dusky; flanks washed with green; central rectrices green: lateral with the tip, the outer web for most of its length, and a bar beyond the middle greyish white; a subterminal bar and the inner web towards the base purple-black.

*Hab.* Mexico, in the mountains of the Western States of Jalisco, Colima, and Guerrero.

<i>a-d.</i> ♂ ad. : <i>e.</i>	Mexico ( <i>Floresi</i> ).	Gould Coll.
♀ ad. sk.		(Types of the species.)
<i>f.</i> ♂ ad. : <i>g.</i> ♀	Mexico ( <i>Floresi</i> ).	Salvin-Godman Coll.
ad. sk.		(Typical specimens.)
<i>h.</i> ♂ ad. : <i>i.</i> ♂	Santiago, Terr. of Tepic.	Salvin-Godman Coll.
juv. ; <i>j.</i> ; <i>k.</i> ♀	Mexico, May ( <i>W. B. Richardson</i> ).	
ad. sk.		
<i>l-n.</i> ♀ ad. sk.	Tepic, Mexico, May ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>o.</i> ♂ ad. sk.	San Blas, Tepic, Mexico, May ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>p, q.</i> ♂ ad. sk.	Tonila, Jalisco, Mexico, June ( <i>W. Lloyd</i> ).	Salvin-Godman Coll.
<i>r.</i> ♂ ad. sk.	Chilpancingo, Guerrero, Mexico, Aug. ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
<i>s.</i> ♀ ad. sk.	Acaquizotla, Guerrero, Oct. ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.

## 2. *Chlorostilbon forficatus*.

*Chlorostilbon forficatus*, *Ridgw. Pr. U. S. Nat. Mus.* viii. p. 574; *Salv. Ibis*, 1889, p. 366.

*Chlorostilbon caniveti*, *Salv. Ibis*, 1885, p. 191 (*nee Less.*).

*Adult male.* Very similar to that of *C. auriceps*, but rather larger and with a longer bill; crown less bright, and lateral rectrices wider. Total length about 3·8 inches, wing 1·95, lateral rectrices 1·75, central 0·65, bill 0·7.

*Adult female.* Like that of *C. auriceps*, but larger, less deeply forked tail, and wider rectrices.

*Hab.* Islands off the coast of Yucatan, Cozumel, &c.

<i>a.</i> ♂ ad. sk.	Mugeres I., Yucatan, Dec. ( <i>G. F. Gaumer</i> ).	Salvin-Godman Coll.
<i>b-f.</i> ♂ ad. : <i>g-j.</i>	Cozumel I., April ( <i>G. F. Gaumer</i> ).	Salvin-Godman Coll.
♀ ad. sk.		
<i>k.</i> ♂ ad. sk.	Cozumel I. ( <i>E. C. J. Davis</i> ).	Salvin-Godman Coll.

## 3. *Chlorostilbon caniveti*.

*Ornis-mya caniveti*, *Less. Suppl. Ois.-Mouches*, p. 174, pls. 37, 38.

*Trochilus caniveti*, *Less. Ind. Gén. Troch.* p. xxii.

*Hylocharis caniveti*, *Gray, Gen. B.* i. p. 114.

*Thaumatias caniveti*, *Bp. Consp. Av.* i. p. 78.

*Chlorestes* ♂. *Ricordia caniveti*, *Reich. Aufz. d. Col.* p. 8; *id. Troch.*

*Enum.* p. 4, pl. 703. ff. 4581-3.



- Sporadinus caniveti, *Bp. Rev. Zool.* 1854, p. 225; *Sci. P. Z. S.* 1859, p. 367.
- Chlorolampis caniveti, *Cab. & Heine, Mus. Hein.* iii. p. 47; *Gould, Intr. Troch.* p. 174; *Heine, J. f. Orn.* 1863, p. 200; *Boucard, P. Z. S.* 1878, p. 71; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 81, iv. p. 198; *id. Ann. Soc. Linn. Lyon*, xxii. p. 209; *Eudes-Desl. Ann. Mus. Caen*, i. p. 513.
- Chlorolampis salvini, *Cab. & Heine, Mus. Hein.* iii. p. 48; *Cab. J. f. Orn.* 1863, p. 164; *Gould, Intr. Troch.* p. 174; *Heine, J. f. Orn.* 1863, p. 200; *Laur. Bull. U.S. Nat. Mus.* no. 4, p. 128.
- Chlorostilbon osberti, *Gould, P. Z. S.* 1860, p. 309; *id. Mon. Troch.* v. pl. 354 (July 1861); *Salv. Ibis*, 1860, pp. 195, 263, 271, 1866, p. 204; *Sci. Cat. Am. B.* p. 318; *Eudes-Desl. Ann. Mus. Caen*, i. p. 515; *Nutting, Pr. U.S. Nat. Mus.* vi. pp. 375, 394.
- Chlorostilbon caniveti, *Gould, Mon. Troch.* v. pl. 351 (May 1860); *Sci. & Salv. Ibis*, 1859, p. 130; 1860, pp. 195, 263, 271, 1866, p. 204; *Sci. Cat. Am. B.* p. 318; *Laur. Bull. U.S. Nat. Mus.* no. 4, p. 33; *Elliot, Syn. Troch.* p. 168; *Salv. Cat. Strickl. Coll.* p. 370; *Boucard, P. Z. S.* 1883, p. 451.
- Chlorolampis osberti, *Gould, Intr. Troch.* p. 174; *Heine, J. f. Orn.* 1863, p. 200.
- Chlorostilbon salvini, *Frantz. J. f. Orn.* 1869, p. 317; *Berl. Pr. U.S. Nat. Mus.* xi. p. 564.
- Chlorostilbon osberti salvini, *Nutting, Pr. U.S. Nat. Mus.* v. p. 501.

*Adult male.* Entire upper surface shining golden-green, glittering on the crown; under surface glittering green; tail steel-blue, central rectrices more or less tipped with grey; bill black at the tip, the base of the maxilla and mandible for most of its length flesh-colour. Total length about 3.6 inches, wing 1.9, lateral rectrices 1.5, central 0.75, bill 0.75.

*Adult female.* Like that of *C. auriceps*, but larger, with much less deeply forked tail.

Eastern Mexican specimens, the true *C. caniveti*, have, as a rule, a more deeply forked tail than those from Guatemala (*C. osberti*), but I doubt the possibility of separating these two forms in every case. In the Guatemalan bird the central rectrices have the tip rather less grey, but this is eminently a variable character. Gould's type of *C. osberti* has hardly any of this colour on these feathers, but in others from the same locality it is very plainly shown. The green tips sometimes seen to these feathers I believe to be due to immaturity, or perhaps only observable in perfectly freshly moulted feathers. One Duñas specimen before me has the left central rectrix tipped with green on the outer web, whilst the right-hand one is plain.

Costa-Rican specimens (*C. salvini*) have a still less deeply forked tail, but the male specimens before me have the grey tips to the median rectrices, moreover the base of the maxilla is less red. I do not, however, think that this bird can be definitely separated from the more northern forms.

*Hab.* Eastern Mexico, southwards through Central America to Costa Rica.

a. ♀ ad. sk.	Tampico, Mexico, March ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
b. ♂ ad. sk.	Misantla, Mexico, March ( <i>F. D. Godman</i> ).	Salvin-Godman Coll.
c. ♂ ad. sk.	Hac. de los Atlixcos, Vera Cruz, Mexico, March ( <i>F. D. Godman</i> ).	Salvin-Godman Coll.
d, e. ♂ ad. sk.	Vera Cruz, Feb. ( <i>F. D. God- man</i> ).	Salvin-Godman Coll.
f-i. ♂ ad.; j. ♀ ad. sk.	Cordova, Vera Cruz ( <i>Sallé</i> ).	Salvin-Godman, Gould, & Selater Colls.
k. ♀ ad. sk.	Atoyac, Vera Cruz, May ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
l. ♂ ad. sk.	Coatepec, Vera Cruz, Oct. ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
m. ♀ ad. sk.	Jalapa, Vera Cruz, May ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
n-p. ♂ ad. sk.	Jalapa ( <i>de Oca</i> ).	Gould Coll.
q. ♂ ad. sk.	Jalapa ( <i>de Oca</i> ).	Salvin-Godman Coll.
r. ♂ ad.; s. ♀ ad. sk.	Playa Vicente, Vera Cruz, Dec. ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
t. ♂ ad. sk.	Chimalapa, Tehuantepec, Feb. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
u. ♂ ad. sk.	N. Yucatan ( <i>G. F. Gaumer</i> ).	Salvin-Godman Coll.
v. ♂ ad. sk.	Tabi, Yucatan, Feb. ( <i>F. D. Godman</i> ).	Salvin-Godman Coll.
w-z. ♂ ad. sk.	Holbox I., Coast of Yucatan ( <i>G. F. Gaumer</i> ).	Salvin-Godman Coll.
a'. ♂ ad.; b'. ♀ ad. sk.	Orange Walk, Brit. Honduras ( <i>Gaumer</i> ).	Salvin-Godman Coll.
c'. ♂ ad. sk.	Belize, Brit. Honduras ( <i>Blan- caneaux</i> ).	Salvin-Godman Coll.
d'-f'. ♂ ad. sk.	Ruatan I., Bay of Honduras ( <i>G. F. Gaumer</i> ).	Salvin-Godman Coll.
g'-m'. ♂ ad. sk.	Bonacca I., Bay of Honduras ( <i>G. F. Gaumer</i> ).	Salvin-Godman Coll.
n'. ♂ ad. sk.	Guatemala ( <i>Delattre</i> ).	Gould Coll.
o', p'. ♂ ad. et ♂ juv. sk.	Guatemala ( <i>Skinner</i> ).	Gould Coll.
q'-s'. ♂ ♀ ad. sk.	Dueñas, Guatemala, Feb. ( <i>O. Salvin</i> ).	Gould Coll. (Types of <i>C. osberti</i> .)
t'-y'. ♂ ad.; z', a. ♂ juv.; β-ε. ♀ ad. sk.	Dueñas, Guatemala, July, Sept., Oct., Nov. ( <i>O. S. &amp; F. D. G.</i> )	Salvin-Godman Coll.
ζ. ♂ ad. sk.	Volcan de Fuego, Guatemala, Sept. ( <i>O. S.</i> ).	Salvin-Godman Coll.
η. ♂ ad. sk.	Coban, Guatemala, Nov. ( <i>O. S.</i> ).	Salvin-Godman Coll.
θ, ι. ♂ ad. et ♂ juv. sk.	Sau Gerónimo, Guatemala Nov. ( <i>O. S.</i> ).	Salvin-Godman Coll.
κ. ♂ ad. sk.	Lanquin, Guatemala, March ( <i>O. S.</i> ).	Salvin-Godman Coll.
λ, μ. ♂ ad.; ν. ♀ ad.; ξ. ♂ juv. sk.	Nicaragua? ( <i>Delattre</i> ).	Gould Coll.

o. ♂ ad.; π. ♂ juv. sk.	Tucurriqui, Costa Rica ( <i>Arcé</i> ).	Salvin-Godman Coll.
ρ, σ. ♂ ad.; τ, υ, φ. ♂ juv.; χ. ♀ ad. sk.	Costa Rica ( <i>Endres</i> ).	Gould Coll.
ψ. ♂ ad. skeleton.	Costa Rica.	Gould Coll.

#### 4. *Chlorostilbon splendidus*.

- Pica flores mas bello*, *Azara, Apunt.* ii. p. 487, no. 293.  
*Trochilus splendidus*, *Vieill. N. Dict. d'Hist. N.* vii. p. 361; *id. Enc. Méth.* p. 563.  
*Pica flores cienicente obscuro debaxo*, *Azara, Apunt.* ii. p. 489, no. 294.  
*Trochilus cinereus*, *Vieill. N. Dict. d'Hist. N.* vii. p. 359 (*nec* p. 348).  
*Trochilus cinereicollis*, *Vieill. Enc. Méth.* p. 562.  
*Ornismya aureiventris*, *d'Orb. & Lafr. Syn. Av.* ii. p. 28 (1836).  
*Trochilus flavifrons*, *Gould, Voy. Beagle*, iii. p. 110 (1841).  
*Trochilus phaeton*, *Bourc. Rev. Zool.* 1848, p. 274; *Gray, Gen. B.* iii. App. p. 300.  
*Chlorestes phaethon*, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* p. 4, pl. 743. ff. 4734-5.  
*Chlorestes aureiventris*, *Reich. Troch. Enum.* p. 4, pl. 754. ff. 4729-30.  
*Hylocharis aureiventris*, *Bp. Rev. Zool.* 1854, p. 255.  
*Hylocharis phaeton*, *Bp. Rev. Zool.* 1854, p. 255.  
*Hylocharis bicolor*, *Burm. Syst. Ueb.* ii. p. 348; *id. J. f. Orn.* 1860, p. 245, 1865, p. 229; *id. La Plata Reise*, ii. p. 448.  
*Chlorolampis phaeton*, *Cab. & Heine, Mus. Hein.* iii. p. 48.  
*Chlorostilbon bicolor*, *Cab. & Heine, Mus. Hein.* iii. p. 46.  
*Chlorostilbon phaeton*, *Gould, Mon. Troch.* v. pl. 354 (July 1861)  
*id. Intr. Troch.* p. 175; *Heine, J. f. Orn.* 1863, p. 167; *Burm. J. f. Orn.* 1866, p. 88.  
*Chlorostilbon aureiventris*, *Gould, Intr. Troch.* p. 176; *Heine, J. f. Orn.* 1863, p. 197.  
*Chlorostilbon splendidus*, *Elliot, Ibis*, 1875, p. 165, 1877, p. 136; *id. Syn. Troch.* p. 244; *Dunford, Ibis*, 1877, p. 184; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 93, iv. p. 198; *id. Ann. Soc. Linn. Lyon*, xxii. p. 209; *Scl. & Salv. P. Z. S.* 1879, p. 631; *Salv. Ibis*, 1880, p. 360; *Eudes-Desl. Ann. Mus. Caen*, i. p. 521; *E. W. White, P. Z. S.* 1882, p. 616; *Scl. & Huds. Arg. Orn.* ii. p. 9.

*Adult male.* Entire upper surface golden grass-green, brighter on the crown; under surface glittering golden green, tinged with blue on the throat; tail steel-blue; bill, except at the tip, flesh-colour. Total length about 3·6 inches, wing 1·85; tail, lateral rectrices 1·2, central 0·85; bill 0·8.

*Adult female.* Upper surface paler than that of the male, the crown usually duller; under surface and a postocular spot dusky white; tail steel-blue, the central rectrices green, the lateral tipped with white.

*C. splendidus* apparently varies considerably as to the colour of the upper surface, some specimens being of a more glittering hue, especially on the crown, than others. *C. aureiventris* is one of

these bright birds; but I have not been able to arrange the series before me so as to show that the differences are in any way localized. Compared with *C. splendidus* of the Argentine Republic, Bourcier's specimen of *C. aureiventris*, from Bolivia, has a shorter bill and more golden tint on the abdomen; the crown, too, is more golden. I am not sure that these colour-differences are normal, but rather due to stain of some kind. *C. phaeton* belongs to the long-billed form.

The Mendoza specimens are intermediate between the two extremes as regards the length of their bills, and vary considerably amongst themselves both in the colour of the abdomen and in that of the crown.

A larger series of specimens with authentic localities and dates of capture are necessary to determine satisfactorily the status of these forms.

Count v. Berlepsch tells me that *C. egregius*, Heine, from Rio Grande do Sul, is intermediate between *C. splendidus* and *C. pucherani*, and may be called with equal propriety a "subspecies" of either.

*Hab.* Bolivia, Paraguay, and the Argentine Republic.

a. ♂ ad. sk.	Bolivia.	Gould Coll.
		(Type of <i>C. phaeton</i> , Bourc.)
b, c. ♂ ad. sk.	Bolivia (ex Bourcier).	Gould Coll.
d. ♂ ad. sk.	Bolivia.	Sclater Coll.
e. ♂ ad. sk.	Bolivia ( <i>Bridges</i> ).	Gould Coll.
f. ♂ ad. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.
g. ♂ ad.; h. ♀ ad. sk.	Misqui, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
i. ♂ ad. sk.	Salta, Argentine Rep., June.	H. Durnford [C.].
j-n. ♂ ad.; o. ♀ ad. sk.	Mendoza ( <i>Weisshaupt</i> ).	Salvin-Godman and Gould Colls.
p. ♂ ad.; q. ♀ ad. sk.	Mendoza ( <i>Reed</i> ).	Gould Coll.
r. ♂ ad.; s. ♀ ad. sk.	Mendoza.	Gould Coll.
t. ♂ ad.; u. ♀ ad. sk.	Pampas Argentinas ( <i>Leybold</i> ).	Salvin-Godman Coll.
v. ♂ ad. sk.	La Plata.	Gould Coll.
w. ♂ ad. sk.	Rioja, Argentine Rep.	Gould Coll.
x. ♂ ad. sk.	Monte Video ( <i>Darwin</i> ).	Gould Coll.
y. ♂ juv. sk.	Punta Lara, Buenos Ayres, July.	H. Durnford [C.].
z. ♂ ad. sk.	Brazil.	Gould Coll.
a'. ♂ ad. sk.	Brazil.	Sclater Coll.

### 5. *Chlorostilbon pucherani*.

*Trochilus pucherani*, Bourc. *Rev. Zool.* 1848, p. 271.

*Hylocharis similis*, Bp. *Consp. Ar.* i. p. 74.

*Chlorostilbon prasinus*, Gould, *Mon. Troch.* v. pl. 355 (May 1853);

*id.* *Intr. Troch.* p. 176; *Scl. Cat. Am. B.* p. 318.

*Chlorestes pucherani*, Reich. *Aufz. d. Col.* p. 7; *id.* *Troch. Enum.* p. 4, pl. 755. f. 4736.

*Chlorestes nitidissima*, Reich. *Aufz. d. Col.* p. 7; *id. Troch. Enum.* pl. 693. ff. 4538-9.

*Hylocharis pucherani*, *Bp. Rev. Zool.* 1854, p. 255.

*Hylocharis prasinus*, *Burm. Syst. Ueb.* ii. p. 350.

*Chlorostilbon nitidissimus*, *Cab. & Heine, Mus. Hein.* iii. p. 47; *Reinh. Vidensk. Medd. For. Kjöb.* 1870, p. 114.

*Chlorostilbon igneus*, *Gould, Intr. Troch.* p. 176; *Heine, J. f. Orn.* 1863, p. 199.

*Chlorostilbon egregius*, *Heine, J. f. Orn.* 1863, p. 197.

*Chlorostilbon pucherani*, *Heine, J. f. Orn.* 1863, p. 198; *Elliot, Ibis*, 1875, p. 161; *id. Syn. Troch.* p. 244; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 209; *Eudes-Desl. Ann. Mus. Cuen.* i. p. 518; *Salv. Cat. Strickl. Coll.* p. 370; *Berl. Pr. U.S. Nat. Mus.* xi. p. 564.

*Chlorostilbon insularis*, *Lawr. Ann. Lyc. N.Y.* vii. p. 457; *id. Pr. Bost. Soc. N. H.* xiv. p. 284; *id. Mem. Bost. Soc. N. H.* ii. p. 292; *Heine, J. f. Orn.* 1863, p. 199; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 100.

*Hylocharis flavifrons*, *Pelz. Orn. Bras.* p. 33.

*Chlorostilbon bicolor*. *Reinh. Vidensk. Medd. For. Kjöb.* 1870, p. 113.

*Adult male.* Very similar to that of *C. splendidus*, but smaller, and with the abdomen less decidedly tinged with a golden hue; upper surface, especially the crown, of a brighter, more glittering golden green. Total length about 3.3 inches, wing 1.8; tail, lateral rectrices 1.05, central 0.8; bill 0.65.

*Adult female.* Similar to that of *C. splendidus*, but smaller, and with a shorter, less deeply forked tail.

*C. igneus* of Gould was based upon a specimen supposed to have come from Para. The type has rich reddish-golden plumage, unlike that of normal *C. pucherani*; but a second specimen from Bahia is somewhat intermediate, so that I doubt the distinctness of *C. igneus*, and believe these specimens to be in abnormal, perhaps stained, plumage. *C. insularis*, Lawr., supposed to belong to the Tres Marias Islands, is now admitted to have been based upon a specimen of *C. pucherani* wrongly located.

*Hab.* South-eastern Brazil.

<i>a-f.</i> ♂ ad.; <i>g.</i> ♀ ad.; <i>h, i.</i> ♂ juv. sk.	Bahia.	Gould Coll.
<i>j.</i> ♂ ad. sk.	Bahia.	E. Fielding, Esq. [P.] Gould Coll.
<i>k.</i> ♀ ad.; <i>l.</i> ♂ juv. sk.	Brazil ( <i>Rogers</i> ).	Salvin-Godman Coll.
<i>m.</i> ♂ ad.; <i>n.</i> ♀ ad. sk.	Santa Fé, Minas Geraes ( <i>Rogers</i> ).	Salvin-Godman Coll.
<i>o.</i> ♂ ad. sk.	Rio ( <i>Youds</i> ).	Gould Coll.
<i>p-t.</i> ♂ ad.; <i>u.</i> ♀ ad. sk.	Brazil (Rio make).	Selater Coll.
<i>v.</i> ♂ ad. sk.	Brazil.	Salvin-Godman Coll.
<i>w.</i> ♂ ad. sk.	Chapada, Matto Grosso, Brazil, June ( <i>H. H. Smith</i> ).	Gould Coll.
<i>x, y,</i> ♂ ad.; <i>z.</i> ♀ juv. sk.	[Brazil.]	Gould Coll.
<i>a'</i> ♂ ad. sk.	Para?	Gould Coll. (Type of <i>C. igneus</i> .)

6. *Chlorostilbon angustipennis*.

*Trochilus angustipennis*, *Fraser, P. Z. S.* 1840, p. 18.

*Trochilus gibsoni*, *Fraser, P. Z. S.* 1840, p. 17.

*Trochilus chrysogaster*, *Bourc. Rev. Zool.* 1843, p. 101.

*Hylocharis angustipennis*, *Gray, Gen. B. i.* p. 114.

*Hylocharis chrysogaster*, *Gray, Gen. B. i.* p. 114; *Bp. Consp. Av. i.* p. 74.

*Chlorestes chrysogaster*, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* p. 4, pl. 693. ff. 4540-1.

*Chlorostilbon angustipennis*, *Gould, Mon. Troch.* v. pl. 353 (May 1861); *id. Intr. Troch.* p. 175 (partim); *Berl. J. f. Orn.* 1884, p. 312, 1887, p. 333.

*Chlorolampis chrysogaster*, *Cab. & Heine, Mus. Hein.* iii. p. 47.

*Chlorolampis angustipennis*, *Heine, J. f. Orn.* 1863, p. 201.

*Chlorostilbon peruana*, *Heine, J. f. Orn.* 1863, p. 201 (*vide H. v. Berlepsch*).

*Chlorostilbon chrysogaster*, *Scl. Cat. Am. B.* p. 318; *Gould, P. Z. S.* 1870, p. 803.

*Chlorostilbon haerberlini* (*nec Reich.*), *Wyatt, Ibis*, 1871, p. 378; *Elliot, Ibis*, 1875, p. 160; *id. Syn. Troch.* p. 245; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 101, iv. p. 199?

*Chrysomirus angustipennis*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 102, pl. 35, iv. p. 199.

*Adult male.* Upper surface nearly uniform golden green; under surface glittering golden green without any blue tint; tail steel-blue; bill black, the basal half of the mandible flesh-colour. Total length about 3·2 inches, wing 1·8; tail, lateral rectrices 1·1, central 0·65; bill 0·7.

*Adult female.* Upper surface shining golden green, duller on the crown; under surface dirty white; ear-coverts blackish; central rectrices like the back, lateral greyish white, with a wide steel-blue subterminal band; bill black, the mandible pale towards the base.

I have, through the kindness of the authorities of the Derby Museum at Liverpool, had an opportunity of examining the type of this species, and find that it has the base of the mandible flesh-coloured. It follows that Mr. Elliot was wrong in his application of the name. Comparing the type of *C. angustipennis* with that of *C. chrysogaster*, which is in the Gould Collection, I find them absolutely alike, as Gould, in his monograph, stated they were. *T. gibsoni*, Fraser, the type of which is before me, is a female of *C. angustipennis*.

*Hab.* Colombia, neighbourhood of Bogota.

<i>a-m.</i> ♂ ad. sk.	Colombia (Bogota make).	Gould Coll.
<i>n, o.</i> ♂ ad. sk.	Colombia (Bogota make).	Salvin-Godman Coll.
<i>p, q.</i> ♂ ad. sk.	Colombia.	Selater Coll.
<i>r.</i> ♂ ad. sk.	Colombia ( <i>Bourcier</i> ).	Gould Coll.
	(Type of <i>C. chrysogaster</i> , Bourc.)	
<i>s.</i> ♂ ad.; <i>t.</i> ♀ ad. sk.	Colombia ( <i>Bourcier</i> ).	Gould Coll.
<i>u.</i> ♂ ad. sk.	Popayan, Colombia.	Gould Coll.
<i>v.</i> ♂ ad. sk.	Colombia?	Gould Coll.

w. ♀ ad. sk.	Magdalena Valley ( <i>Warszewicz</i> ).	Gould Coll.
x. ♂ ad.; y. ♀ ad. sk.	Bucaramanga, Colombia ( <i>Wyatt</i> ).	Salvin-Godman Coll.
z. ♂ ad. sk.	Ocaña, Colombia ( <i>Wyatt</i> ).	Salvin-Godman Coll.
a'. ♂ ad. sk.	Heradura, Colombia ( <i>Wyatt</i> ).	Selater Coll.

### 7. *Chlorostilbon haeberlini*.

*Chlorestes haeberlini*, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* p. 4, pl. 703. ff. 4578-80.

*Chlorolampis haeberlini*, *Cab. & Heine, Mus. Hein.* iii. p. 48; *Heine, J. f. Orn.* 1863, p. 201.

*Chlorolampis smaragdina*, *Cab. & Heine, Mus. Hein.* iii. p. 48; *Heine, J. f. Orn.* 1863, p. 202?

*Chlorostilbon haeberlini*, *Gould, Intr. Troch.* p. 175; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 209; *Eudes-Dest. Ann. Mus. Caen*, i. p. 523.

*Chlorostilbon nitens*, *Laur. Ann. Lyc. N. Y.* viii. p. 305; *Gould, Intr. Troch.* p. 179.

*Adult male.* Very similar to that of *C. angustipennis*, but with a brighter crown, and a slight shade of blue over under surface. Total length about 3.4 inches, wing 1.8; tail, lateral rectrices 1.2, central 0.65; bill 0.75.

Very closely allied to *C. angustipennis*, but at present apparently distinguishable by the brighter crown, rather bluer tint of the under plumage, and more deeply forked tail. The specimen from Panama attributed to this species belongs, I have little doubt, to *C. assimilis*, though the basal half of the mandible is rather pale. It agrees with that species in every other respect rather than with the true *C. haeberlini*.

*Hab.* Colombia, Lower Magdalena Valley; Venezuela.

a, b. ♂ ad. sk.	Santa Marta, Colombia.	Gould Coll.
c. ♂ ad. sk.	Venezuela (ex <i>G. N. Lawrence</i> ).	Gould Coll.
d. ♂ ad. sk.	—?	(Typical of <i>C. nitens</i> ) Gould Coll.

### S. *Chlorostilbon melanorhynchus*.

*Chlorostilbon melanorhynchus*, *Gould, P. Z. S.* 1860, p. 308; *Berl. & Tacz. P. Z. S.* 1883, p. 568, 1884, p. 306; *Tacz. Orn. Pér.* i. p. 415; *Berl. J. f. Orn.* 1884, p. 313.

*Chlorostilbon chrysogaster*, *Gould, Intr. Troch.* p. 198 (*nec Bourc.*).

*Chlorostilbon angustipennis*, *Elliot, Ibis*, 1875, p. 173; *id. Syn. Troch.* p. 254 (*nec Fraser*); *Eudes-Dest. Ann. Mus. Caen*, i. p. 524.

*Chlorostilbon atala*, *Sel. P. Z. S.* 1859, p. 145, 1860, p. 94.

*Adult male.* Upper surface shining golden green, rather more glittering on the crown; entire under surface glittering golden green, with a very slight tinge of blue on the throat; tail steel-blue; bill wholly black. Total length about 3 inches, wing 2; tail, lateral rectrices 1.05, central 0.8; bill 0.75.

*Adult female.* Upper surface shining grass-green, duller on the crown, brighter on the rump; a postocular spot and under surface dusky white, central rectrices green towards the base, lateral steel-blue with white tips.

*Hab.* Colombia and Ecuador.

<i>a-f.</i> ♂ ad.; <i>g-j.</i> ♀ ad.; <i>k.</i> ♂ juv. sk.	Ecuador.	Gould Coll.
<i>l-o.</i> ♂ ad. sk.	Loxa, Ecuador.	Gould Coll.
<i>p, q.</i> ♂ ♀ ad. sk.	Cuenca, Ecuador.	Gould Coll.
<i>r-t.</i> ♂ ad.; <i>u, v.</i> ♀ ad. sk.	Quito, Ecuador.	Gould Coll.
<i>w, x.</i> ♂ ♀ ad. sk.	Quito, Ecuador.	(Types of species.) Salvin-Godman Coll.
<i>y.</i> ♂ ad. sk.	Perucho, Ecuador, March ( <i>Fraser</i> ).	Gould Coll.
<i>z, a'.</i> ♂ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>b'.</i> ♀ ad. sk.	Santiago, Ecuador ( <i>Lehmann</i> ).	Gould Coll.
<i>c'.</i> ♂ ad.; <i>d'.</i> ♀ ad. sk.	Popayan, Colombia ( <i>Delattre</i> ).	Gould Coll.
<i>e'.</i> ♂ ad.; <i>f'.</i> ♀ ad. sk.	Colombia? ( <i>Delattre</i> ).	Gould Coll.

### 9. *Chlorostilbon pumilus*.

*Chlorostilbon pumilus*, *Gould, Ann. & Mag. N. II.* 1872, ix. p. 195.

*Chlorostilbon angustipennis*, *Scl. & Salv. P. Z. S.* 1879, p. 531 (*nee Fraser*).

*Chlorostilbon comptus*, *Berl. Ibis*, 1887, p. 296.

*Adult male.* Very similar to that of *C. melanorhynchus*, but smaller, with rather brighter crown and shorter bill, &c. Total length about 3 inches, wing 1.75; tail, lateral rectrices 1.05, central 0.83; bill 0.65.

*Hab.* Colombia, Cauca Valley; Western Ecuador.

<i>a, b.</i> ♂ ad.; <i>c.</i> ♀ ad.; <i>d.</i> ♂ juv. sk.	Medellin, Colombia ( <i>Salmon</i> ).	Salvin-Godman Coll. [Compared with <i>C. comptus</i> , Berl.]
<i>e-h.</i> ♂ ad.; <i>i.</i> ♀ ad. sk.	Medellin, Colombia ( <i>Salmon</i> ).	Gould Coll.
<i>j, k.</i> ♂ ad. sk.	Popayan, Colombia.	Gould Coll.
<i>l, m.</i> ♂ ad.; <i>n.</i> ♂ juv. sk.	Citado, Ecuador ( <i>Buckley</i> ).	Gould Coll. (Types of <i>C. pumilus</i> , Gould.)
<i>o, p.</i> ♂ ad. sk.	Pallatanga, Ecuador, Sept. ( <i>Fraser</i> ).	Gould Coll.
<i>q.</i> ♂ ad. sk.	Pallatanga ( <i>Fraser</i> ).	Sclater Coll.
<i>r.</i> ♂ ad. sk.	Puellaro, Ecuador, April ( <i>Fraser</i> ).	Gould Coll.

### 10. *Chlorostilbon assimilis*.

*Chlorostilbon assimilis*, *Lawr. Ann. Lyc. N. Y.* vii. p. 292, ix. p. 128 (?); *Gould, Intr. Troch.* p. 178.

*Chlorolampis assimilis*, *Heine, J. f. Orn.* 1863, p. 202; *Scl. & Salv. P. Z. S.* 1864, p. 365; *Salv. P. Z. S.* 1867, p. 156, 1870, p. 211.



*Adult male.* Similar to *C. melanorhynchus* and *C. pumilus*, but with shorter bill and with the crown dark shining green like the back, not glittering. Total length about 3 inches, wing 1·9; tail, lateral rectrices 1·12, central 0·8; bill 0·6.

*Hab.* Central America, State of Panama.

<i>a.</i> ♂ ad. sk.	Volcan de Chiriqui ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>b.</i> ♀ ad. sk.	Chitra, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>c.</i> ♂ ad. sk.	Castillo, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>d.</i> ♂ ad. sk.	Santa Fé, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>e-h.</i> ♂ ad. sk.	Santiago de Veraguas ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
<i>i, j.</i> ♂ ad. sk.	Calovevora, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>k.</i> ♂ ad.; <i>l.</i> ♀ ad. sk.	Veraguas ( <i>Warszewicz</i> ).	Gould Coll.
<i>m-o.</i> ♂ ad.; <i>p.</i> ♀ ad. sk.	Paraiso Station, Panama ( <i>Hughes</i> ).	Salvin-Godman & Selater Colls.
<i>q-t.</i> ♂ ad.; <i>u.</i> ♀ ad. sk.	Lion Hill, Panama ( <i>M'Leaman</i> ).	Salvin-Godman & Gould Colls.
<i>v, w.</i> ♂ ad. sk.	"Paragua."	Gould Coll.

### 11. Chlorostilbon atala.

*Trochilus atala*, *Less. Ind. Gén. Troch.* p. xxxix.

*Hylocharis atala*, *Gray, Gen. B. i.* p. 114.

*Saucerotia atala*, *Bp. Consp. Av. i.* p. 77.

*Chlorestes* (*Saucerotia*) *atala*, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* p. 4, pl. 700. f. 4568.

*Chlorostilbon atala*, *Gould, Mon. Troch.* v. pl. 356 (Sept. 1860); *id. Intr. Troch.* p. 177; *E. C. Taylor, Ibis*, 1863, p. 82; *Elliot, Ibis*, 1875, p. 159; *id. Syn. Troch.* p. 246; *Eules-Desl. Ann. Mus. Caen*, i. p. 526.

*Chlorolampis atala*, *Heine, J. f. Orn.* 1863, p. 202.

*Chlorostilbon caribæus*, *Lavr. Ann. Lyc. N. Y.* x. p. 2.

*Chrysomirus atala*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 105, iv. p. 199; *id. Ann. Soc. Linn. Lyon*, xxii. p. 210.

*Adult male.* Very similar to that of *C. pumilus* or *C. melanorhynchus*, but smaller, with less deeply forked tail and rather wider lateral rectrices. Total length about 2·8 inches, wing 1·6; tail, lateral rectrices 1, central 0·75; bill 0·6.

*Hab.* Venezuela, Trinidad, and Curaçoa.

<i>a, b.</i> ♂ ad.; <i>c.</i> ♀ ad. sk.	Trinidad.	Gould Coll.
<i>d, e.</i> ♂ ad.; <i>f.</i> ♀ ad. sk.	Venezuela ( <i>Dyson</i> ).	Gould Coll.
<i>g.</i> ♂ ad. sk.	Venezuela ( <i>Spence</i> ).	Selater Coll.
<i>h, i.</i> ♂ ad.; <i>j.</i> ♀ ad. sk.	Caracas, Venezuela.	E. Dyson [C.].
<i>k.</i> ♂ ad. sk.	Caracas, Venezuela.	Gould Coll.
<i>l.</i> ♂ juv. sk.	Curaçoa ( <i>G. N. Lawrence</i> ).	Gould Coll.
<i>m.</i> ♀ ad. sk.	Valencia, N. Colombia ( <i>Simons</i> ).	[Typical of <i>C. caribæus</i> .] Salvin-Godman Coll.

12. *Chlorostilbon prasinus*.

- All green Humming Bird, *Edw. Gleanings Nat. Hist.* iii. p. 316, pl. 360. f. 1.  
 L'Orvert, *Buff. Hist. Nat. Ois.* vi. p. 17.  
 Ornismya prasina, *Less. Hist. Nat. Ois.-Mouches*, pp. xxxv, 188, pl. 65.  
 Trochilus prasinus, *Less. Ind. Gén. Troch.* p. xxxix.  
 Ornismya mellisuga, *d'Orb. & Lafr. Syn. Av.* ii. p. 30.  
 Hylocharis prasina, *Bp. Consp. Av.* i. p. 74; *id. Rev. Zool.* 1854, p. 255.  
 Chlorestes prasina, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* p. 4, pl. 691. ff. 4529-30, pl. 755. f. 4737.  
 Helianthia  $\beta$ . Helianthea phœbe, *Reich. Aufz. d. Col.* p. 9.  
 Hylocharis phœbe, *Bp. Rev. Zool.* 1854, p. 255.  
 Hylocharis daphne, *Bp. Rev. Zool.* 1854, p. 255.  
 Prasitis prasina, *Cab. & Heine. Mus. Hein.* iii. p. 49; *Heine, J. f. Orn.* 1863, p. 203.  
 Chlorostilbon prasinus, *Scl. Cat. Am. B.* p. 318; *Elliot, Ibis*, 1875, p. 163, 1877, p. 139; *id. Syn. Troch.* p. 246; *Scl. & Salv. P. Z. S.* 1876, p. 17, 1879, p. 631; *Eudes-Desl. Ann. Mus. Caen*, i. p. 527; *Tacz. Orn. Pér.* i. p. 414; *Salv. Ibis*, 1885, p. 436.  
 Chlorostilbon napensis, *Gould, Intr. Troch.* p. 177; *Scl. & Salv. P. Z. S.* 1867, p. 979, 1873, p. 289.  
 Chlorostilbon daphne, *Gould, Intr. Troch.* p. 177; *Scl. & Salv. P. Z. S.* 1866, p. 195.  
 Chlorostilbon brevicaudatus, *Gould, Intr. Troch.* p. 178; *Tacz. P. Z. S.* 1874, p. 545, 1882, p. 40.  
 Chlorolampis daphne, *Heine, J. f. Orn.* 1863, p. 201.  
 Chlorolampis napensis, *Heine, J. f. Orn.* 1863, p. 201.  
 Chlorolampis brevicaudatus, *Heine, J. f. Orn.* 1863, p. 202.  
 Agyrtria media, *Pelz. Orn. Bras.* pp. 29, 57; *Elliot, Ibis*, 1874, p. 263.  
 Agyrtria meliphila, *Pelz. Orn. Bras.* pp. 29, 57; *Elliot, Ibis*, 1874, p. 263.  
 Chrysomirus prasinus, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 108, pl. 36, iv. p. 199; *id. Ann. Soc. Linn. Lyon*, xxii. p. 210.  
 Chlorostilbon subfureatus, *Berl. Ibis*, 1887, p. 297.

*Adult male.* Very similar to that of *C. atala* but with the tail scarcely if at all forked, the throat too sometimes has a faint tint of blue.

With typical specimens of *C. daphne*, *C. napensis*, *C. brevicaudatus*, and *C. subfureatus* before me, I am unable to distinguish between them or to separate them from *C. prasinus* of Cayenne.

*Hab.* Guiana and the whole of the Amazon, up to the foot of the Andes of Ecuador and Peru.

- |                                     |                               |                                      |
|-------------------------------------|-------------------------------|--------------------------------------|
| <i>a-f.</i> ♂; <i>g.</i> ♀ ad. sk.  | Cayenne.                      | Gould & Selater<br>Colls.            |
|                                     |                               | (Types of <i>C. brevicaudatus</i> .) |
| <i>h, i</i> ♂ ad. & juv. sk.        | Demerara.                     | Gould Coll.                          |
| <i>j, k.</i> ♂; <i>l.</i> ♀ ad. sk. | Roraima, Brit. Guiana, Nov.   | Salvin-Godman Coll.                  |
|                                     | & Dec. ( <i>H. Whitely</i> ). | (Typical of <i>C. subfureatus</i> .) |
| <i>m.</i> ♂; <i>n.</i> ♀ ad. sk.    | Pebas, Amazons, June & July   | Salvin-Godman Coll.                  |
|                                     | ( <i>Hauwvell</i> ).          |                                      |

<i>o-t.</i> ♂; <i>u.</i> ♀ ad. sk.	Pebas, Amazons, May, June, & July ( <i>Hauvwell</i> ).	Gould Coll.
<i>v.</i> ♂; <i>w.</i> ♀ ad. sk.	Nauta, Amazons, April.	E. Bartlett [C.].
<i>x, y.</i> ♂ ad. sk.	Napo.	Gould Coll.
		(Types of <i>C. napensis</i> .)
<i>z-b'</i> . ♂ ad. sk.	Ecuador.	Gould Coll.
<i>c'</i> . ♂ ad. sk.	Pampas del Sacramento, Bolivia ( <i>Bourcier</i> ).	Gould Coll. (Type of <i>C. daphne</i> .)

### 13. *Chlorostilbon peruanus*. (Plate IV. fig. 2.)

*Trochilus phæopygos*, *Tsch. Faun. Per.* p. 247 ?  
*Metallura phæopygos*, *Reich. Aufz. d. Col.* p. 8.  
*Chlorostilbon peruanus*, *Gould, Intr. Troch.* p. 179.  
*Prasitis phæopyga*, *Heine, J. f. O.* 1863, p. 204.  
*Chlorostilbon stuebeli*, *Meyer, Zeitsch. ges. Orn.* i. p. 206 (1884).

*Adult male.* Similar to that of *C. prasinus*, but the tail more distinctly rounded and of a purple-black, not steel-blue colour.

*Female* unknown.

United by Mr. Elliot with *C. prasinus*, but easily distinguishable by the colour of the tail.

*Hab.* Peru and Bolivia.

<i>a.</i> ♂ ad. sk.	Peru ( <i>Bourcier</i> ).	Gould Coll.
		(Type of species.)
<i>b-d.</i> ♂ ad. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.

### 9. SPORADINUS.

<i>Chlorestes</i> ♂. <i>Ricordia</i> , <i>Reich. Aufz. d. Col.</i> p. 8 (Mar. 1854)	Type.
<i>Sporadinus</i> , <i>Bp. Rev. Zool.</i> 1854, p. 255	<i>S. ricordi</i> .
<i>Sporadicus</i> , <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 25	<i>S. ricordi</i> .
<i>Erasmia</i> , <i>Heine, J. f. Orn.</i> 1863, p. 191.	
<i>Sporadinus</i> ( <i>Marsyas</i> ), <i>Muls. Hist. Nat. Ois.-Mouches</i> , ii. p. 77	<i>S. maugæi</i> .

*Range.* Greater Antilles, Bahamas, and Florida.

#### *Key to the Species.*

- a.* Under surface glittering grass-green.  
*a'*. Under tail-coverts white ..... *ricordi*, p. 57.  
*b'*. Under tail-coverts green ..... *maugæi*, p. 58.  
*b.* Throat glittering green, middle of the abdomen  
black, flanks green ..... *elegans*, p. 59.

#### 1. *Sporadinus ricordi*.

*Trochilus ricordi*, *Gerr. Mag. Zool.* 1835, pls. 41, 42; *Bp. Consp. Av.* i. p. 81.  
*Ornismya parzudakii*, *Less. Rev. Zool.* 1838, p. 315.

- Orthorhynchus ricordi*, *d'Orb. in R. de la Sagra, Hist. Cuba*, iii. p. 100, pl. 21. fig. 2 (1839).  
*Hylecharis ricordi*, *Gray, Gen. B. i. p. 114; id. Hand-l. i. p. 150.*  
*Chlorestes a. Ricordia ramondii*, *Reich. Aufz. d. Col. p. 8; id. Troch. Enum. p. 4, pl. 704. ff. 4584-6.*  
*Sporadinus ricordi*, *Bp. Rev. Zool. 1854, p. 255; Gould, Mon. Troch. v. pl. 348 (Sept. 1860); id. Intr. Troch. p. 173; Elliot, Ibis, 1872, p. 356; id. Syn. Troch. p. 241; Muls. Hist. Nat. Ois.-Mouches, ii. p. 74, iv. p. 197; id. Ann. Soc. Lim. Lyon, xxii. p. 209; Eudes-Desl. Ann. Mus. Caen, i. p. 502; Cory, B. West Ind. p. 153.*  
*Sporadicus ricordi*, *Cab. & Heine, Mus. Hein. iii. p. 25.*  
*Sporadinus bracei*, *Laur. N. Y. Ac. Sc. i. p. 50; Elliot, Syn. Troch. p. 240; Cory, B. Bahama Is. p. 113.*  
*Chlorolampis ricordi*, *Muls. & Ferr. Class. Troch. p. 40.*  
*Chlorestes ricordi*, *Gundl. Orn. Cub. pp. 108, 272.*

*Adult male.* Upper surface uniform shining grass-green, longest upper tail-coverts bronze; under surface glittering grass-green; under tail-coverts white; tail bronzy black: maxilla blackish; mandible except the tip flesh-colour. Total length about 4.2 inches, wing 2; tail, lateral rectrices 1.6, central 0.9; bill 0.8.

*Adult female.* Rather brighter on the upper surface than the male, under surface dusky.

*Hab.* Cuba, some of the Bahama Islands, and part of Florida.

<i>a-e.</i> ♂ ad.; <i>f-h.</i> ♀ ad. sk.	Abaco I., Bahamas.	Gould Coll.
<i>i.</i> ♂ ad. sk.	Cuba ( <i>Gundlach</i> ).	Salvin-Godman Coll.
<i>j.</i> ♀ ad. sk.	Cuba ( <i>C. Wright</i> ).	Salvin-Godman Coll.
<i>k.</i> ♂ ad.; <i>l.</i> ♀ ad. sk.	San Cristobal, Cuba ( <i>Gaumer</i> ).	Salvin-Godman Coll.
<i>m.</i> ♂ ad.; <i>n.</i> ♀ ad. sk.	Cuba ( <i>ex Bourcier</i> ).	Gould Coll.
<i>o.</i> ♂ ad. sk.	Cuba.	Purchased.

## 2. *Sporadinus maugæi*.

- Trochilus maugæus*, *Vieill. Ois. Dor. i. p. 93, pls. 37, 38; id. N. Dict. d'Hist. N. vii. p. 368; id. Enc. Méth. p. 567.*  
*Ornismya maugæi*, *Less. Hist. Nat. Ois.-Mouches*, pp. xiv, 194, pls. 68, 69.  
*Trochilus maugæi*, *Less. Ind. Gén. Troch. p. xxii.*  
*Thaumatias ourissa*, *Bp. Consp. Av. i. p. 79.*  
*Cœligena a. Thaluranina ourissa*, *Reich. Troch. Enum. p. 3, pl. 688. ff. 4519-21.*  
*Sporadinus maugæus*, *Bp. Rev. Zool. 1854, p. 255.*  
*Sporadinus maugæi*, *Gould, Mon. Troch. v. pl. 349 (Sept. 1861); id. Intr. Troch. p. 173; Elliot, Ibis, 1872, p. 356; id. Syn. Troch. p. 242; Muls. Hist. Nat. Ois.-Mouches, ii. p. 77, iv. p. 198; id. Ann. Soc. Lim. Lyon, xxii. p. 209; Gundl. J. f. Orn. 1878, p. 182; Eudes-Desl. Ann. Mus. Lyon, i. p. 503; Cory, B. West Ind. p. 154.*  
*Chlorestes gertrudis*, *Gundl. J. f. Orn. 1874, p. 315.*  
*Chlorolampis gertrudis*, *Cab. J. f. Orn. 1875, p. 223.*  
*Chlorolampis maugæus*, *Muls. & Ferr. Class. Troch. p. 40; Gundl. An. Soc. Esp. Nat. Hist. vii. p. 225.*

*Adult male.* Similar to that of *S. ricordi*, but with the crown

glittering and the under tail-coverts green instead of white (*file* Gould, Mon. Troch.).

*Female.* Under surface whitish; lateral rectrices tipped with white.

*Hab.* Puerto Rico.

### 3. *Sporadinus elegans.*

*Trochilus elegans*, *Vieill. Ois. Dor.* i. p. 37, pl. 14; *id. N. Diet. d'Hist.* N. vii. p. 351; *id. Enc. Méth.* p. 556; *Less. Suppl. Ois.-Mouches*, p. 99.

*Ornismya swainsoni*, *Less. Hist. Nat. Ois.-Mouches*, pp. xvii, 197, pl. 70.

*Trochilus swainsoni*, *Less. Ind. Gén. Troch.* p. xxiii.

*Hylocharis elegans*, *Gray, Gen. B.* i. p. 114; *id. Hand-l. B.* i. p. 150.

*Lampornis elegans*, *Bp. Consp. Av.* i. p. 72.

*Chlorestes* ♂. *Ricordia elegans*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 4, pl. 704. f. 4587.

*Sporadinus elegans*, *Bp. Rev. Zool.* 1854, p. 255; *Gould, Mon. Troch.* v. pl. 347 (May 1859); *id. Intr. Troch.* p. 173; *Elliot, Ibis*, 1872, p. 356; *id. Syn. Troch.* p. 241; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 72, iv. p. 197; *id. Ann. Soc. Linn. Lyon*, xxii. p. 209; *Eudes-Desl. Ann. Mus. Caen*, i. p. 500; *Cory, B. West Ind.* p. 152.

*Sporadinus elegans*, *Cab. & Heine, Mus. Hein.* iii. p. 25.

*Trochilus* (*Sporadinus*) *elegans*, *Bryant, Pr. Bost. Soc. N. II.* xi. p. 95.

*Chlorolampis elegans*, *Muls. & Verr. Class. Troch.* p. 40.

*Adult male.* Upper surface shining grass-green tinged with bronze; throat glittering green; flanks shining green; whole of the centre of the abdomen black; under tail-coverts dark green; tail bronze-black; maxilla blackish; mandible except the tip flesh-colour. Total length about 4.5 inches, wing 2.3; tail, lateral rectrices 1.8, central 0.9; bill 0.75.

*Adult female.* Under surface dusky grey, darker on the abdomen and under tail-coverts; lateral rectrices with grey bases and grey tips.

*Hab.* San Domingo.

a. ♂ ad.; b. ♀ ad. sk.	Samana, S. Domingo, April 27 ( <i>C. B. Cory</i> ).	Salvin-Godman Coll.
c-g. ♂ ad.; h, i. ♀ ad. sk.	San Domingo.	Gould Coll.
j. ♂ ad.; k. ♀ ad. sk.	San Domingo.	Purchased.

### 10. IACHE.

*Circe*, *Gould, Mon. Troch.* v. pl. 338 (May 1857); *Intr. Troch.* p. 169 (*nec Mert.*) . . . . .

*Iache*, *Elliot, Syn. Troch.* p. 234 (*vice Circe, Gould*).

Type.

I. *latirostris*.

*Range.* Mexico, highlands and west coast.

## Key to the Species.

- a. Crown shining grass-green like the back; under tail-coverts white.
- a'. Throat glittering green, more or less tinged with blue.
- a''. Larger ..... *latirostris*, p. 60.
- b''. Smaller ..... *magica*, p. 61.
- b. Crown glittering green, without blue shade .. *lawrencii*, p. 61.
- b. Crown glittering blue or bluish green; under tail-coverts dark.
- c'. Crown glittering bluish green; under tail-coverts brown ..... *doubledayi*, p. 62.
- d'. Crown glittering blue; under tail-coverts steel-blue ..... *nitida*, p. 62.

1. *Iache latirostris*.

*Cyananthus latirostris*, *Sv. Phil. Mag.* new ser. i. p. 441.

*Ornismya lessoni*, *Delattre, Rev. Zool.* 1839, p. 15.

*Amazilius latirostris*, *Bp. Consp. Av.* i. p. 77; *Rev. Zool.* 1854, p. 254.

*Amazilia latirostris*, *Reich. Aufz. d. Col.* p. 10.

*Circe latirostris*, *Gould, Mon. Troch.* v. pl. 338 (May 1857); *id. Intr. Troch.* p. 169; *Sci. Cat. Am. B.* p. 317; *id. P. Z. S.* 1858, p. 297, 1859, p. 367, 1864, p. 177; *Heine, J. f. Orn.* 1863, p. 196; *A. Dugès, La Nat.* i. p. 141; *Villada, La Nat.* ii. p. 366; *Lawr. Mem. Bost. Soc. N. H.* ii. p. 292 (partim); *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 46, iv. p. 192; *id. Ann. Soc. Linn. Lyon*, xxii. p. 208; *Eudes-Desl. Ann. Mus. Caen*, i. p. 487.

*Hylocharis* β. *Cyanophaia lazula*, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 8, pl. 770. ff. 4783-4.

*Sapphironia circe*, *Bp. Rev. Zool.* 1854, p. 256.

*Hylocharis* β. *Cyanophaia circe*, *Reich. Troch. Enum.* p. 8, pl. 771. ff. 4786-8.

*Hylocharis doubledayi*, *Cab. & Heine, Mus. Hein.* iii. p. 44 (fide *Gould*).

*Hylocharis latirostris*, *Muls. & Verr. Class. Troch.* p. 38; *Gray, Hand-l.* i. p. 151.

*Iache latirostris*, *Elliot, Syn. Troch.* p. 235; *Scott, Auk*, iii. p. 431.

*Trochilus circe*, *Bourc.* (fide *Gould*).

*Trochilus schimperi*, *Sauv. MS.* (fide *Gould*).

*Adult male.* Upper surface shining grass-green with a shade of bronze, duller on the crown; under surface dark bluish grass-green, centre of the throat more or less shaded with dark glittering blue; under tail-coverts white; tail dark steel-blue, the middle rectrices tipped with dark grey; bill coral red, tipped with black. Total length about 3.8 inches, wing 2.2; tail, lateral rectrices 1.3, central 0.95; bill 1.

*Adult female.* Similar to the male on the upper surface; under surface grey, paler on the abdomen and under tail-coverts; a long postocular white stripe; lateral rectrices tipped with white; tail less deeply forked.

Considerable variation exists in the colouring of the throat in the male. A series of specimens, all shot in the middle of February in the Sierra of Bolaños by Mr. Richardson, show every gradation from a deep blue throat to a nearly pure green one.

*Hab.* Mexico, nearly generally with a range in altitude extending from the sea-level to a height of 7000 or 8000 feet.

a. ♀ ad. sk.	Distr. of Moctezuma, Sonora, Dec. ( <i>Com. Geogr. Expl. Mex.</i> ).	Salvin-Godman Coll.
. ♂ ad. sk.	Nuri, Sonora, April ( <i>W. Lloyd</i> ).	Salvin-Godman Coll.
c. ♀ ad. sk.	Ysleta, Sonora, May ( <i>W. Lloyd</i> ).	Salvin-Godman Coll.
d. ♂ ad. sk.	Sierra de Victoria, Tamaulipas, April ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
e. ♀ ad. sk.	Aguas Calientes, Mexico, Aug. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
f. ♂ ad.; g. ♀ ad. sk.	Calvillo, Aguas Calientes, Aug. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
h-m. ♂ ad.; n-r. ♀ ad. & juv.	Bolaños, Jalisco, Feb. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
s-u. ♂ ad. sk.	San Blas, Tepic, Mex., April ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
v. ♂ ad. sk.	Lake Chapala, Jalisco, Aug. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
w. ♂ ad.; x. ♀ ad. sk.	Santa Ana, Jalisco, Feb. ( <i>W. Lloyd</i> ).	Salvin-Godman Coll.
y. ♂ ad.; z. ♀ ad. sk.	Patzcuaro, Mex., Jan. ( <i>F. D. Godman</i> ).	Salvin-Godman Coll.
a'. ♂ ad. sk.	Hacienda Eslava, Valley of Mexico, Jan. ( <i>Com. Geogr. Expl. Mex.</i> ).	Salvin-Godman Coll.
b'-e'. ♂ ad.; f'-i'. ♀ ad.; j'. ♂ juv. sk.	Mexico ( <i>Floresi</i> ).	Salvin-Godman & Gould Colls.

## 2. Iache magica.

*Hylocharis magica*, *Muls. & Ferr. Class. Troch.* p. 38; *id. Ann. Soc. Linn. Lyon*, xviii. p. 110 (1872).

*Circe magica*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 49, pl. 33; *id. Ann. Soc. Linn. Lyon*, xxii. p. 209; *Eudes-Desl. Ann. Mus. Caen*, i. p. 489.

*Iache magica*, *Elliot, Syn. Troch.* p. 235.

Very similar to *I. latirostris*, but smaller, with shorter bill, wings, and tail.

A doubtful species. The collection contains a specimen agreeing with the dimensions given by Mr. Elliot.

*Hab.* Western Mexico, Mazatlan.

a. ♂ ad. sk.	Mazatlan, Mexico ( <i>A. Forrer</i> ).	Salvin-Godman Coll.
b. ♂ ad. sk.	[Mexico.]	Purchased.

## 3. Iache lawrencii.

*Circe latirostris*, *Grayson, Pr. Bost. Soc. N. H.* xiv. p. 282 (1871);

*Lawr. Mem. Bost. Soc. N. H.* ii. p. 292 (partim).

*Iache lawrencii*, *Berl. Ibis*, 1887, p. 292.

Similar to *I. latirostris*, but with the throat nearly glittering green with scarcely any tinge of blue; the upper surface is of a rather more coppery hue.

This is another doubtful species, of which the Museum contains a pair from the Tres Marias Islands. Count von Berlepsch says that it occurs at Mazatlan, where *I. latirostris* and *I. magica* are also found. The green of the throat is purer than the greenest of the Bolaños specimens, but that three such closely allied birds should all occur at Mazatlan is extremely doubtful.

*Hab.* Tres Marias Islands and, according to v. Berlepsch, the opposite mainland at Mazatlan.

*a.* ♂ ad.; *b.* ♀ ad. sk. Tres Marias Isl., Mexico, Salvin-Godman Coll. Feb. (*A. Forrer*).

#### 4. *Iache doubledayi*.

*Trochilus doubledayi*, *Bourc. P. Z. S.* 1847, p. 46; *id. Rev. Zool.* 1847, p. 259.

*Hylocharis doubledayi*, *Gray, Gen. B. i.* p. 114; *Muls. & Verr. Class. Troch.* p. 38.

*Thaumatias doubledayi*, *Bp. Consp. Av. i.* p. 78.

*Hylocharis* β. *Cyanophaia doubledayi*, *Reich. Aufz. d. Col.* p. 10?

*Sapphironia doubledayi*, *Bp. Rev. Zool.* 1854, p. 256.

*Circe doubledayi*, *Gould, Mon. Troch.* v. pl. 339 (Sept. 1860); *id. Intr. Troch.* p. 163; *de Oca, La Nat.* iii. p. 302, pl. —; *Muls. Hist. Nat.*

*Ois.-Mouches*, ii. p. 44; *id. Ann. Soc. Linn. Lyon*, xxii. p. 208; *Eules-Dest. Ann. Mus. Cuen.* i. p. 486.

*Iache doubledayi*, *Elliot, Syn. Troch.* p. 235.

*Trochilus lereboulleti*, *Sauv. MS. (fide Gould)*.

*Adult male.* Upper surface dark bronzy shining green, crown glittering bluish green; under surface glittering dark blue, greener on the abdomen; under tail-coverts brown; tail steel-blue, central rectrices tipped with grey; bill coral-red tipped with black. Total length about 2·8 inches, wing 1·9; tail, lateral rectrices 1·1, central 0·8; bill 0·8.

*Female* unknown.

*Hab.* South-western Mexico.

*a.* ♂ ad. sk. Chinantla, Mexico (*Dr. Saucerotte*). Gould Coll.

#### 5. *Iache nitida*.

*Circe doubledayi*, *Lawr. Bull. U. S. Nat. Mus.* no. 4, p. 33.

*Iache nitida*, *Salv. & Godm. Ibis*, 1889, p. 240.

*Adult male.* Similar to that of *I. doubledayi*, but with the whole throat and breast of a richer blue, and the crown glittering blue with less of a green tinge.

*Adult female.* Upper surface shining grass-green; under surface dusky, with the sides of the breast and the flanks washed with green, a long postocular dusky spot; base of the lateral rectrices



greenish, the apical portion steel-blue and the tips white; bill black, mandible except the tip fleshy.

Specimens from the Isthmus of Tehuantepec agree with *I. nitida* rather than with *I. doubleclayi*, of which at present I have only seen the specimen figured by Gould. A larger series may prove that the two birds are inseparable.

*Hab.* S.W. Mexico, between the Sierra Madre del Sur, Guerrero, and the Pacific Ocean: Tehuantepec.

a-c. ♂ ad. sk.	Venta del Pelegrino, Guerrero,	Salvin-Godman Coll.
	Oct. ( <i>Mrs. H. H. Smith</i> ).	
d. ♀ ad. sk.	Rincon, Guerrero, Oct. ( <i>Mrs.</i>	Salvin-Godman Coll.
	<i>H. H. Smith</i> ).	
e. ♂ ad. sk.	Dos Arroyos, Guerrero, Oct.	Salvin-Godman Coll.
	( <i>Mrs. H. H. Smith</i> ).	
f. ♀ ad. sk.	Acapulco, Guerrero, Sept. ( <i>Mrs.</i>	Salvin-Godman Coll.
	<i>H. H. Smith</i> ).	
g, h. ♂ ad. sk.	Saliba Cruz, Tehuantepec, Feb.	Salvin-Godman Coll.
	( <i>W. B. Richardson</i> ).	
i, j. ♂ ad.; k. ♂	Tehuantepec, Feb. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
juv.; l. ♀ ad.		
sk.		

## 11. PHÆOPTILA.

Type.

Phæoptila, <i>Gould, Mon. Troch.</i> v. pl. 340 (July 1861);	
<i>id. Intr. Troch.</i> p. 169 .....	<i>P. sordida</i> .
<i>Doleromyia</i> (Phæoptilia), <i>Muls. Hist. Nat. Ois.-Mouches</i> ,	
i. p. 207.	

*Range.* South-western Mexico.

### 1. Phæoptila sordida.

*Cyanomyia* (?) *sordida*, *Gould, Ann. & Mag. N. H.* 1859, iv. p. 97;  
*Sci. P. Z. S.* 1859, p. 386.

*Uranomitra sordida*, *Cub. & Heine, Mus. Hein.* iii. p. 41.

*Phæoptila sordida*, *Gould, Mon. Troch.* v. pl. 340 (July 1861); *id.*  
*Intr. Troch.* p. 169; *de Oca, La Nat.* iii. p. 210; *Elliot, Syn. Troch.*

p. 10; *Eudes-Desl. Ann. Mus. Caen*, i. p. 482.

*Leucolia sordida*, *Muls. & Verr. Class. Troch.* p. 35.

*Doleromyia sordida*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 207; *id.*  
*Ann. Soc. Linn. Lyon*, xxii. p. 204.

*Phæoptila zonura*, *Gould, Intr. Troch.* p. 170; *de Oca, La Nat.* iii.  
p. 304.

*Hylocharis sordida*, *Gray, Hand-l.* i. p. 152.

*Adult male.* Upper surface dull shining green, darker on the crown, ear-coverts blackish; under surface dark greyish brown, darker on the throat, paler on the under tail-coverts; tail like the back but darker. Total length about 4.2 inches, wing 2.1; tail, central rectrices 1.2, lateral 1.5; bill 1.

*Female.* Paler than the male on the under surface, outer rectrices greyish, the tips greyish white and with a subterminal black band.

*P. zonura* was based upon a specimen in the Loddiges Collection,

said to have been obtained at Bolaños in Central Mexico. It is most probably a female of *P. sordida*.

*Hab.* South-western Mexico.

<i>a.</i> ♂ ad. sk.	Sierra Madre del Sur, Guerrero, Mexico ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
<i>b-d.</i> ♂ ad.; <i>e.</i> ♀ ad. sk.	Chilpancingo, Guerrero, Mex., Aug., Oct. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
<i>f.</i> ♀ ad. sk.	Tepetlapa, Guerrero, Nov. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
<i>g.</i> ♂ ad. sk.	Venta de Zopilote, Guerrero, Oct. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
<i>h.</i> ♀ ad. sk.	Omiteme, Guerrero, Aug. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
<i>i.</i> ♂ ad.; <i>j, k.</i> ♀ ad. sk.	Oaxaca, Mexico, March ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
<i>l.</i> ♂ ad. sk.	Oaxaca, Mexico ( <i>Sallé</i> ).	Gould Coll.
<i>m, n.</i> ♂ ad. sk.	Oaxaca, Mexico ( <i>Fenochio</i> ).	(Type of the species.) Salvin-Godman Coll.
<i>o.</i> ♂ ad. sk.	Mexico ( <i>Sallé</i> ).	Salvin-Godman Coll.
<i>p-r.</i> ♂ ad.; <i>s, t.</i> ♀ ad. sk.	Mexico ( <i>Sallé</i> ).	Gould Coll.
<i>u.</i> ♂ ad. sk.	Mexico? ( <i>Sallé</i> ?).	Purchased.
<i>v, w.</i> ♀ ad. sk.	Oaxaca, Mexico ( <i>Sallé</i> ).	Purchased.

## 12. AITHURUS.

	Type.
Trochilus, <i>Gray, List Gen. B.</i> p. 14 (1840) ( <i>nee Linn.</i> ) . . .	A. polytmus.
Polytmus, <i>Reich. Av. Syst. Nat.</i> pl. 39 (1849) ( <i>nee Brisson</i> ) . . . . .	A. polytmus.
Aithurus, <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 50 . . . . .	A. polytmus.

*Range.* Jamaica.

### 1. Aithurus polytmus.

Mellisuga avis maxima, *Sloane, Jam.* ii. p. 309, pl. 264. f. 4

Long-tailed Humming Bird, *Albin Av.* iii. pl. 49.

Long-tailed Black-cap Humming Bird, *Edw.* i. pl. 34.

Polytmus viridans, *Brown, Jam.* p. 475; *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 9, pl. 799. ff. 485<sup>2</sup>-60.

♀ Mellisuga jamaicensis cauda bifurca, *Briss. Orn.* iii. pp. 728, 732, pl. 35. f. 6 (= Troch. forficatus, *apud Linn.*).

Mellisuga jamaicensis atricapilla, *Briss. Orn.* iii. p. 729.

Oiseaux Mouche à longue queue noire, *Buff. Hist. Nat. Ois.* vi. p. 39.

Trochilus polytmus, *Linn. Syst. Nat.* i. p. 189; *Gm. Syst. Nat.* i. p. 486; *Vicill. N. Dict. d'Hist. N.* vii. p. 355; *id. Enc. Méth.* p. 554; *Gosse, B. Jam.* p. 97; *Gould, Mon. Troch.* ii. pl. 98 (June 1849).

Black-capped Humming-Bird, *Lath. Syn.* i. 2, p. 748.

La Colibri à tête noire, *Aud. Ois. Dor.* i. p. 146, pl. 67.

Trochilus cephalatra, *Less. Ind. Gén. Troch.* p. xvi.

Ornismya cephalatra, *Less. Hist. Nat. Ois.-Mouches*, pp. xviii, 78, pl. 17.

- Trochilus maria*, *Gosse, Ann. & Mag. N. H.* 1849, iii. p. 258; *id. Ill. B. Jam.* pl. 22.  
*Polytmus cephalatra*, *Bp. Consp. Av.* i. p. 72; *id. Rev. Zool.* 1854, p. 354; *Scl. P. Z. S.* 1861, p. 79; *Muls. & Verr. Class. Troch.* p. 36.  
*Aithurus polytmus*, *Cab. & Heine, Mus. Hein.* iii. p. 50; *Scl. Cat. Am. B.* p. 293; *Gould, Intr. Troch.* p. 75; *Gray, Hand-l. B. i.* p. 134; *Elliot, Ibis*, 1872, p. 353; *id. Syn. Troch.* p. 93; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 335, pl. 29, iv. p. 185; *id. Ann. Soc. Linn. Lyon*, xxii. p. 207; *Eudes-Desl. Ann. Mus. Caen*, i. p. 296; *Salv. Cat. Strickl. Coll.* p. 362; *Cory, B. West Ind.* p. 147.  
*Aithurus forficatus*, *Heine, J. f. O.* 1863, p. 205.  
*Aithurus fuliginosus*, *Hill* (apud *Gray, Hand-l. i.* p. 134).

*Adult male.* Upper surface shining grass-green; crown, elongated crest, and sides of the head as far as a line below the eyes black; under surface glittering grass-green; under tail-coverts blue-black; wing-coverts like the back; tail blue-black, the central rectrices washed with green: bill flesh-colour, tip dark; feet dark hazel. Total length about 10 inches, wing 2.6; tail—pair of rectrices next the outermost 7.2, outermost pair 1.7, central pair 1.2; bill 0.95.

*Adult female.* Upper surface shining grass-green; crown brown, each feather with a green discal spot; under surface white, each feather of the sides of the neck and flanks with a shining green discal spot; under tail-coverts white; tail blue-black, the two lateral feathers on either side tipped with white, the central pair washed with green.

*Young male.* Upper surface, including the head, shining grass-green; under surface dull green, throat and belly sooty black; tail blue-black, the central rectrices washed with green, the rest tipped with the same colour: maxilla of the bill hazel, mandible flesh-colour; the pair of rectrices next the outermost hardly exceed the outer pair in length. As the young males advance to maturity the adult plumage first appears in the glittering green feathers of the throat, the lateral rectrices lose their green tips, and the pair next the outermost gradually elongate; the maxilla too becomes paler, and gradually assumes the flesh-colour of the adult.

*Hab.* Jamaica.

<i>a.</i> ♂ ad.; <i>b.</i> ♀ ad. sk.	Jamaica.	H. Bryant [P.]
<i>c.</i> ♂ ad.; <i>e.</i> ♀ ad. sk.	Jamaica ( <i>H. Bryant</i> ).	Salvin-Godman & Sclater Colls.
<i>g.</i> ♂ ad. sk.	Jamaica ( <i>Osburn</i> ).	Sclater Coll.
<i>h.</i> ♂ ad.; <i>j.</i> ♀ ad. sk.	Moneague, Jamaica, Aug. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
<i>k.</i> ♂ ad.; <i>l.</i> ♂ juv.; <i>m.</i> ♀ ad. sk.	Jamaica.	Salvin-Godman & Gould Colls.
<i>p.</i> ♂ ad.; <i>r.</i> ♀ ad. sk.	Jamaica.	Capt. Hamilton [P.].
<i>t.</i> ♂ ad.; <i>v.</i> ♂ juv. sk.	Jamaica ( <i>J. Hill</i> ).	Gould & Sclater Colls.

- x. ♂ ad. sk. Jamaica (*J. Hill*). Salvin-Godman Coll.  
 [Faded specimen, probably *A. fuliginosus*, Hill: see Gray, *Hand-l. i.*  
 p. 134.]  
 y. ♂ ad. st. [Jamaica.]

## 13. MICROCHERA.

Type.

Microchera, *Gould, Mon. Troch. ii.* pl. 116 (Sept. 1858); *Intr. Troch.* p. 82 ..... *M. albocoronata*.

*Range.* Nicaragua, Costa Rica, and the State of Panama.

*Key to the Species.*

- a. General plumage dark with reddish coppery reflections; terminal band of the lateral rectrices narrow and sharply defined ..... *albocoronata*, p. 66.  
 b. General plumage lighter and more purple; terminal band of the lateral rectrices wider and less definite ..... *purvirostris*, p. 67.

1. *Microchera albocoronata*.

*Mellisuga albocoronata*, *Lawr. Ann. Lyc. N. Y.* vi. p. 137, pl. 4.  
*Microchera albocoronata*, *Gould, Mon. Troch. ii.* pl. 116 (Sept. 1858); *id. Intr. Troch.* p. 82; *Lawr. Ann. Lyc. N. Y.* ix. p. 122; *Salv. P. Z. S.* 1867, p. 154, 1870, p. 207; *Gray, Hand-l. i.* p. 134; *v. Frantz. J. f. Orn.* 1869, p. 315; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 134, pl. 81; *id. Ann. Soc. Linn. Lyon*, xxiii. p. 221; *Elliot, Syn. Troch.* p. 104.  
*Chrysolampis albocoronata*, *Muls. & Ferr. Class. Troch.* p. 57 (1865).

*Adult male.* Upper surface nearly black viewed from in front, rich dark shining coppery red when viewed from behind; whole crown pure silky white; under surface like the upper, the throat washed with dark green; under tail-coverts white; tail with central rectrices dark bronze, the rest white for two-thirds of their length from the base, the remaining third blue-black with a narrow white terminal edge; bill black. Total length about 2·7 inches, wing 1·5, tail 0·75.

*Adult female.* Upper surface shining grass-green, more golden on the rump and central rectrices; under surface pure white; rest of the tail white, with a subterminal blue-black band.

*Young male* like the female; dark plumage of the adult showing first on the throat and middle of the abdomen, the white crown being assumed at the last.

*Hab.* State of Panama, mountains of the western portion.

- a. f. ♂ ad.; g, h. Santiago de Veraguas, Panama Salvin-Godman &  
 ♂ juv. sk. (Arcé). Gould Colls.

- i, j.* ♂ ad.; *k.* ♂ juv.; *l.* ♀ ad. sk. Cordillera del Chucu, Panama Salvin-Godman & Gould Colls.  
(*Arcé*).
- m.* ♂ ad.; *n.* ♂ juv.; *o.* ♀ ad. sk. Veraguas (*Arcé*). Gould Coll.

2. *Microchera parvirostris*.

*Panychlora parvirostris*, *Lavr. Pr. Ac. Phil.* 1865, p. 39.  
*Microchera parvirostris*, *Salv. P. Z. S.* 1867, p. 154; *id. Ibis*, 1872, p. 319; *Lavr. Ann. Lyc. N. Y.* ix. p. 122; *Gray, Hand-l. B.* i. p. 134; *v. Frantz, J. f. Orn.* 1869, p. 315; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 136; *id. Ann. Soc. Linn. Lyon*, xxii. p. 221; *Elliot, Syn. Troch.* p. 104; *Boucard, P. Z. S.* 1878, p. 69; *Gould, Suppl. Troch.* pl. 30 (Aug. 1880).

*Adult male.* Very similar to that of *M. albocoronata*, but the plumage generally of a much brighter, more lustrous hue, the terminal dark band of the lateral rectrices is wider and less clearly defined from the white base.

*Adult female.* Differs from that sex of *M. albocoronata* in having much less white at the base of the lateral rectrices, the subterminal band being wider and its edges less definite.

*Hab.* Nicaragua and Costa Rica.

- a-f.* ♂ ad.; *g.* ♀ ad. sk. Chontales, Nicaragua (*T. Belt*). Salvin-Godman, Gould, & Selater Colls.
- h.* ♂ ad. sk. Tucurriqui, Costa Rica (*Arcé*). Salvin-Godman Coll.
- i, j.* ♀ ad. sk. Valza, Costa Rica (*Carmirol*). Salvin-Godman & Gould Colls.
- k.* ♂ ad.; *l, m.* ♂ juv.; *n.* ♀ ad. sk. Costa Rica (*Carmirol*). Salvin-Godman & Gould Colls.

## 14. CALLIPHARUS.

Type.

- Eupherusa* (*Clotho*), *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 205 (1875); *id. Hist. Nat. Ois.-Mouches*, i. p. 169 (1875) (*nec Fauj.; nec Walk.; nec Gray!*) . . . . . *C. nigriventris*.
- Callipharus*, *Elliot, Syn. Troch.* p. 211 (1879). . . . . *C. nigriventris*.

*Range.* Costa Rica and the State of Panama.

1. *Callipharus nigriventris*.

- Eupherusa nigriventris*, *Lavr. Pr. Ac. Phil.* 1867, p. 232; *id. Ann. Lyc. N. Y.* ix. p. 127; *Salv. P. Z. S.* 1870, p. 210; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 270, pl. 23, iv. p. 179.
- Eupherusa* (*Clotho*) *nigriventris*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 205.
- Callipharus nigriventris*, *Elliot, Syn. Troch.* p. 211; *Eudes-Desl. Ann. Mus. Caen*, i. p. 330; *Sharpe in Gould's Suppl. Troch.* pl. 54 (March 1887).

*Adult male.* Upper surface shining bronzy green, longest upper tail-coverts and four median rectrices deeper bronze; crown and entire under surface black, under tail-coverts and three lateral rectrices on either side pure white; wings purple-black, the inner primaries and secondaries chestnut towards the base; bill black. Total length about 3.5 inches, wing 1.9, tail (rounded) 1.15, bill 0.65.

*Adult female.* Entire upper surface including the crown shining grass-green, sides of the head dusky; under surface dusky white; crissum and lateral rectrices, as in the male, white.

*Young male.* Greenish black beneath; the pure black feathers of the adult commencing on the middle and gradually spreading over the under surface and then over the crown.

*Hab.* Costa Rica and Panama.

<i>a, b.</i> ♂ ad.; <i>c.</i>	Costa Rica ( <i>Carmiol</i> ).	Salvin-Godman & Gould Colls.
<i>d.</i> ♀ ad. sk.		Gould Coll.
<i>c.</i> ♂ ad. sk.	Costa Rica ( <i>Endres</i> ).	Gould Coll.
<i>f.</i> ♂ ad.; <i>g.</i> ♂ juv.; <i>h.</i> ♀ ad. sk.	Cordillera del Chucu, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>i.</i> ♀ ad. sk.	Calobre, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>j, k.</i> ♂ ad.; <i>l.</i> ♂ juv. sk.	Veragua ( <i>Arcé</i> ).	Gould Coll.

## 15. PANYCHLORA.

Type.

*Panychlora*, *Cab. & Heine, Mus. Hein.* iii. p. 49 (1860) . . . . *P. aliciae*.

*Range.* Colombia and Venezuela.

This genus is closely related to *Chlorostilbon*, and is sometimes united with it; but the interramal space is more feathered and the tail has the peculiar shining colour, characters which serve to separate *Panychlora* from *Chlorostilbon*. Some of the species, such as *P. inexpectata*, *P. euchloris*, and *P. poortmani*, are very closely allied, and may prove to be undefinable. The uncertainty of the exact origin of the specimens before me renders it expedient to leave their position at present in some doubt.

### *Key to the Species.*

<i>a.</i> Lateral rectrices normal.	
<i>a'</i> . Tail shining green.	
<i>a''</i> . Base of the mandible pale . . . . .	<i>inexpectata</i> , p. 69.
<i>b'</i> . Mandible wholly black.	
<i>a'''</i> . Larger; tail lighter shining green.	
<i>a</i> . Crown and under surface glittering green . . . . .	<i>poortmani</i> , p. 69.
<i>b'</i> . Crown and under surface glittering golden green . . . . .	<i>euchloris</i> , p. 70.
<i>b'''</i> . Smaller; tail darker green.	
<i>c'</i> . Tail rather lighter, nearly even . . . . .	<i>aliciae</i> , p. 70.
<i>d'</i> . Tail darker, slightly forked . . . . .	<i>micans</i> , p. 71.
<i>b'</i> . Tail rich coppery bronze . . . . .	<i>russata</i> , p. 71.
<i>b.</i> Lateral rectrices very narrow . . . . .	<i>stenura</i> , p. 71.

1. *Panychlora inexpectata*.

*Panychlora inexpectata*, *Berl. Orn. Centralbl.* 1879, p. 63; *id. J. f. Orn.* 1879, p. 209, 1887, p. 334.

*Adult male.* Upper surface shining dark golden green, crown and under surface glittering golden green, under tail-coverts less brilliant, tail dark shining olive-green; bill black, basal third of the mandible pale. Total length about 3 inches, wing 1·7; tail, central rectrices 0·8, lateral 1; bill 0·8. (Type in the collection of Graf von Berlepsch described.)

The type described above is the only specimen of this bird I have seen. The colour of the crown and under surface is almost exactly that of *P. euchloris*, and more golden than that of *P. poortmani*.

*Hab.* Colombia.

2. *Panychlora poortmani*.

*Ornismya poortmani*, *Bourc. Ann. Sc. Phys. et Nat. Lyon*, vi. p. 39 (1843); *id. Rev. Zool.* 1843, p. 2.

*Hylocharis poortmani*, *Gray, Gen. B.* i. p. 115; *Bp. Consp. Av.* i. p. 74.

*Chlorestes poortmani*, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* p. 4, pl. 691, figs. 4530-1.

*Chlorestes β. Smaragditis esmeralda*, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* p. 4, pl. 694, f. 4542-3.

*Chlorostilbon poortmani*, *Bp. Rev. Zool.* 1854, p. 255; *Gould, Mon. Troch.* v. pl. 358 (Sept. 1860); *Sci. Cat. Am. B.* p. 319.

*Panychlora poortmani*, *Cab. & Heine, Mus. Hein.* iii. p. 50; *Gould, Intr. Troch.* p. 180; *Gray, Hand-l. B.* i. p. 149; *Elliot, Ibis*, 1875, p. 170; *id. Syn. Troch.* p. 247; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 112; *id. Ann. Soc. Linn. Lyon*, xxii. p. 210; *Eudes-Desl. Ann. Mus. Caen*, i. p. 530, iv. p. 199; *Berl. J. f. Orn.* 1887, p. 334.

*Chlorostilbon (Panychlora) poortmanni*, *Muls. & Ferr. Cl. Troch.* p. 42.

*Adult male.* Upper surface shining grass-green, crown and under surface glittering grass-green; tail also shining, a little darker and of a more olive tint than the back; bill black. Total length about 3 inches, wing 1·7; tail, central rectrices 0·75, lateral 0·9; bill 0·75.

*Adult female.* Upper surface shining golden green; ear-coverts black; under surface dingy white, flanks washed with golden green; lateral rectrices pale greenish at the base, white at the tip, and with a wide steel-blue subterminal bar; bill black.

Individuals appear to differ in dimensions, some specimens having shorter tails and shorter bills than others, but I am unable to separate them definitely.

*Hab.* Colombia, vicinity of Bogota.

<i>a-p.</i> ♂ ad.; <i>q-b'.</i>	Colombia (Bogota make).	Salvin-Godman,
♂ juv.; <i>e'-e'.</i>		Gould, & Selater
♀ ad. sk.		Colls.
<i>f'-h'.</i> ♂ ad.; <i>i'.</i>	[Colombia.]	Salvin-Godman,
♂ juv. st.		Gould, & Selater
		Colls.

3. *Panychlora euchloris*.

- Chlorestes  $\beta$ . *Smaragdites euchloris*, *Reich. Aufz. d. Col.* p. 7.  
 Chlorestes *euchloris*, *Reich. Aufz. d. Col.* p. 23; *id. Troch. Enum.*  
 p. 4, pl. 694. f. 4514.  
*Panychlora euchloris*, *Cab. & Heine, Mus. Hein.* iii. p. 49; *Berl.*  
*J. f. Orn.* 1887, p. 336.  
 Chlorostilbon (*Panychlora*) *euchloris*, *Muls. & Ferr. Class. Troch.*  
 p. 42.  
*Panychlora poortmani major*, *Berl. J. f. Orn.* 1884, p. 313.

*Adult male.* Very similar to that of *P. poortmani*, but the colour of the crown and under surface of a more golden hue.

The following specimens have been named from Count von Berlepsch's series kindly lent me for comparison.

*Hab.* Colombia.

- |                |   |  |
|----------------|---|--|
| a-d. ♂ ad. sk. | Colombia (Bogota make).                               | Salvin-Godman,<br>Gould, & Sclater<br>Colls. |
| e. ♂ ad. sk.   | Bucaramanga, Colombia<br>( <i>H. von Berlepsch</i> ). | Salvin-Godman Coll.                          |
- [Typical of *P. poortmani major*.]

4. *Panychlora aliciaë*.

- Trochilus aliciaë*, *Bourc. Rev. Zool.* 1848, p. 274.  
 Chlorestes  $\beta$ . *Smaragdites alicie*, *Reich. Aufz. d. Col.* p. 7.  
 Chlorestes  $\beta$ . *Smaragdites maculicollis*, *Reich. Aufz. d. Col.* p. 7.  
 Chlorestes *maculicollis*, *Reich. Aufz. d. Col.* p. 23; *id. Troch. Enum.*  
 p. 4, pl. 694. ff. 4545-6.  
 Chlorestes *mellisuga*, *Reich. Troch. Enum.* p. 4, pl. 754. f. 4731.  
 Chlorestes *alicie*, *Reich. Troch. Enum.* p. 4, pl. 754. ff. 4732-3.  
 Chlorostilbon *aliciaë*, *Bp. Rev. Zool.* 1854, p. 255; *Gould, Mon.*  
*Troch.* v. pl. 357 (Sept. 1860).  
*Panychlora aliciaë*, *Cab. & Heine, Mus. Hein.* iii. p. 50; *Gould, Intr.*  
*Troch.* p. 178; *Gray, Hand-l. B.* i. p. 149; *Elliot, Ibis*, 1875,  
 p. 171; *id. Syn. Troch.* p. 248; *Muls. Hist. Nat. Ois.-Mouches*, ii.  
 p. 115, iv. p. 199; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216; *Eudes-*  
*Desl. Ann. Mus. Caen*, i. p. 530; *Berl. J. f. Orn.* 1887, p. 334.  
*Panychlora maculicollis*, *Cab. & Heine, Mus. Hein.* iii. p. 49.  
*Panychlora aurata*, *Cab. & Heine, Mus. Hein.* iii. p. 50.  
*Smaragdites aliciaë*, *Muls. & Ferr. Class. Troch.* p. 42.

*Adult male.* Smaller than that of *P. poortmani*, and with darker, shorter, nearly even tail.

*Hab.* Venezuela.

- |                 |                     |                                 |
|-----------------|---------------------|---------------------------------|
| a-e. ♂ ad.; f.  | [Venezuela.]        | Salvin-Godman &<br>Gould Colls. |
| g. ♂ juv. sk.   | Venezuela.          | Slater Coll.                    |
| h, i. ♂ ad. sk. | Caracas, Venezuela. | E. Dyson [C.].                  |
| j. ♂ ad. st.    | [Venezuela.]        | E. Dyson [C.].                  |



5. *Panychlora micans*. (Plate IV. fig. 1.)

*Adult male*. Similar to that of *P. aliciae* and of about the same size. The whole plumage is of a rich reddish golden hue, brighter and redder on the crown. The tail is very dark and of a more bronzy tint than in the allied species, but the outer rectrices are distinctly green and not coppery-bronze as in *P. russata*; moreover the tail is slightly forked.

A single male specimen in the Gould Collection is the only one I have seen of this bird. It is very richly coloured, and though differing obviously from *P. aliciae* may possibly prove to be a variety of that species.

*Hab.* — ?

a. ♂ ad. sk. — ? Gould Coll.

6. *Panychlora russata*.

*Panychlora* — ?, *Salv. & Godm. Ibis*, 1879, p. 205, 1880, p. 174.

*Panychlora russata*, *Salv. & Godm. Ibis*, 1881, p. 597; *Sharpe in Gould's Suppl. Troch.* pl. 59 (Jan. 1883).

*Adult male*. Similar to that of *P. euchloris*, of the same size and with the crown and under surface of nearly the same golden green, the back and wing-coverts are of a more bronzy hue, and the tail of a rich coppery bronze.

*Adult female*. Like the females of *P. poortmani* and *P. euchloris*, but the lateral rectrices are bronzy towards the base, which colour blends on the subterminal band into a rich purplish bronze.

*Hab.* N. Colombia.

a-e. ♂ ad. sk.	Manaure, N. Colombia, May, June, July ( <i>F. Simons</i> ).	Salvin-Godman Coll.
f. ♂ juv. ; g, h. ♀ ad. sk.	San José, N. Colombia, March ( <i>F. Simons</i> ).	Salvin-Godman Coll.
i. ♀ ad. sk.	San Sebastian, N. Colombia, July ( <i>F. Simons</i> ).	Salvin-Godman Coll.
j. ♀ ad. sk.	Atanques, N. Colombia, Feb. ( <i>F. Simons</i> ).	Salvin-Godman Coll. (Types of the species.)

7. *Panychlora stenura*.

*Panychlora stenura*, *Cab. & Heine, Mus. Hein.* iii. p. 50; *Gould, Intr. Troch.* p. 180; *Heine, J. f. Orn.* 1863, p. 205; *Sci. & Salv. P. Z. S.* 1870, p. 782; *Elliot, Ibis*, 1875, p. 171; *id. Syn. Troch.* p. 248; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 117; *id. Ann. Soc. Linn. Lyon*, xxii. p. 210; *Eudes-Desl. Ann. Mus. Caen*, i. p. 530; *Sharpe in Gould's Mon. Troch.* pl. 58 (Jan. 1883).

*Chlorostilbon acuticaudus*, *Gould, P. Z. S.* 1860, p. 308.

*Chlorostilbon stenura*, *Muls. & Ferr. Class. Troch.* p. 42.

*Panychlora aliciae*, *Wyatt, Ibis*, 1871, p. 379.

*Adult male.* Upper surface shining grass-green; crown and under surface glittering grass-green, the former a little more golden; tail shining green, rather darker and more olive than the back, the lateral pair of rectrices very narrow and gradually tapering to a rounded end; bill black. Total length about 3.3 inches, wing 1.75, tail (slightly forked) 0.9, bill 0.8.

*Adult female.* Upper surface shining golden green, duller on the crown, greener on the central rectrices; under surface dingy white; ear-coverts black; lateral rectrices green at the base, white at the tip, and with a subterminal steel-blue band. They seem narrower than in *P. poortmani*.

*Hab.* Venezuela and Colombia.

- a. ♂ ad. sk. Merida, Venezuela (*Goering*). Salvin-Godman Coll.  
 b, c. ♂ ad.; d. Merida. Gould Coll.  
 ♀ ad. sk. (Types of *P. acuticaudus*.)  
 e. ♀ ad. sk. Ocaña, Colombia (*C. W. Wyatt*) Salvin-Godman Coll.

## 16. EUPHERUSA.

*Eupherusa*, *Gould, Mon. Troch.* v. pl. 324 (Sept. 1857); Type.  
*Intr. Troch.* p. 163 ..... *E. eximia*.

*Range.* Central America from S.W. Mexico to Panama.

### *Key to the Species.*

- a. Two lateral rectrices white towards the base.  
 a'. Basal two-thirds of the inner web of the lateral rectrices and the shaft adjoining white; outer web black ..... *eximia*, p. 72.  
 b'. Lateral rectrices tipped with black, outer web white next the shaft, edged only with black. *egregia*, p. 73.  
 b. Four lateral rectrices on either side white towards the base, grey on the outer web and tip ..... *poliocerca*, p. 74.

### 1. *Eupherusa eximia*.

*Ornismya eximia*, *Delattre, Echo du Monde Sav.* 1843, p. 1069.

*Chlorestes γ. Saucerottia eximia*, *Reich. Aufz. d. Col.* p. 8.

*Saucerottia eximia*, *Bp. Rev. Zool.* 1854, p. 255.

*Amazilia eximia*, *Reich. Troch. Enum.* p. 8, pl. 776. f. 4802.

*Eupherusa eximia*, *Gould, Mon. Troch.* v. pl. 324 (Sept. 1857); *id.*

*Intr. Troch.* p. 163; *Sci. & Salv. Ibis*, 1859, p. 130; *Salv. Ibis*, 1860,

pp. 195, 271; *Sci. Cat. Am. B.* p. 316; *Muls. & Ferr. Class. Troch.*

p. 32; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 272, pl. 25. iv. p. 179;

*Elliot, Syn. Troch.* p. 212; *Eudes-Desl. Ann. Mus. Caen*, i.

p. 333.

*Polytmus eximius*, *Gray, Hand-l. B.* i. p. 133.

*Eupherusa eximia*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 205.

*Adult male.* Upper surface dark shining grass-green; under surface glittering grass-green; under tail-coverts pure white; wings purple-black, secondaries chestnut with dark tips; tail nearly black, central rectrices tinged with bronze, two lateral rectrices on either side with the inner web and shaft adjoining white for two thirds of their length, outer web black: bill black, feet flesh-colour. Total length about 3·8 inches, wing 2·3, tail 1·4, bill 0·8.

*Adult female.* Upper surface, wings, and tail like those of the male; under surface including the under tail-coverts dusky white.

*Hab.* Guatemala.

<i>a, b.</i> ♂ ad. sk.	Chimalapa, Tehuantepec, March & April ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>c.</i> ♂ ad. sk.	Sierra de San Domingo, Tehuantepec, April ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>d.</i> ♂ ad. sk.	Choctum, Guatemala, Feb. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
<i>e.</i> ♂ ad. sk.	Kamkhal, Vera Paz, Jan. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
<i>f-h.</i> ♂ ad.; <i>i-k.</i> ♀ ad. sk.	Coban, Guatemala, Nov. ( <i>O. S.</i> ).	Salvin-Godman Coll.
<i>l-p.</i> ♂ ad.; <i>q, r.</i> ♀ ad. sk.	Guatemala ( <i>G. U. Skinner</i> ).	Gould Coll.

## 2. *Eupherusa egregia*.

*Eupherusa egregia*, *Scl. & Salv. P. Z. S.* 1868, p. 389; *Lawr. Ann. Lyc. N. Y.* ix. p. 146; *Salv. P. Z. S.* 1869, p. 316, 1870, p. 210; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 274, iv. p. 179; *Bourc. P. Z. S.* 1878, p. 71; *Elliot, Syn. Troch.* p. 213; *Eudes-Desl. Ann. Mus. Caen*, i. p. 335; *Sharpe in Gould's Suppl. Troch.* (April 1885).

*Eupherusa eximia*, *Lawr. Ann. Lyc. N. Y.* ix. p. 127.

*Polytmus egregius*, *Gray, Hand-l. B.* i. p. 133.

*Eupherusa egregia*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 205.

*Adult male.* Similar to that of *E. eximia*, but with the central rectrices clearer bronze, and with the outer webs of the laterals white next the shaft, the edge only being dark.

*Female* differs in having the white on the lateral rectrices extending to the tip of the shaft and either side of it, having a dark margin only near the tip.

*Young male.* Like the female, but darker beneath; the glittering feathers of the under surface of the adult commencing to appear about the middle of the throat and thence spreading over the under surface.

*Hab.* Costa Rica and Panama.

<i>a-c.</i> ♂ ad.; <i>d-f.</i> ♀ ad. sk.	Costa Rica ( <i>Carmirol</i> ).	Salvin-Godman & Gould Colls.
<i>g.</i> ♂ juv.; <i>h, i.</i> ♀ ad. sk.	Costa Rica ( <i>Endres</i> ).	Gould Coll.

- j.* ♂ ad. ; *k.* ♀ ad. sk. Volcan de Chiriqui (*Arcé*). Salvin Godman Coll.  
*l.* ♂ juv. sk. Castillo, Panama (*Arcé*). Salvin-Godman Coll. }  
*m.* ♀ ad. sk. Calovevora, Panama (*Arcé*). Salvin-Godman Coll. }  
 (Types of the species.)  
*n.* ♂ juv. sk. Veraguas (*Arcé*). Selater Coll.

### 3. *Eupherusa poliocerca*.

*Eupherusa poliocerca*, *Elliot, Ann. & Mag. N. H.* 1871, p. 266 ;  
*Syn. Troch.* p. 212 ; *de Oca, La Nat.* iii. p. 302. pl. — ; *Muls. Hist.*  
*Nat. Ois.-Mouches*, i. p. 271, pl. 24 ; *Eules-Desl. Ann. Mus. Caen*,  
 i. p. 332 ; *Gould, Suppl. Troch.* pl. 55 (April 1881).  
*Eupherusa poliocerca*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 205.

*Adult male.* Very similar to that of *E. eximia* so far as regards the colour of the body and wings, the central rectrices are paler bronze-green and the four laterals on either side are white at the base, gradually shading into purple-grey towards the tip and outer edge of the outer web.

*Female* unknown.

*Hab.* South-western Mexico.

- a.* ♂ ad. sk. Putla, W. Mexico (*Rébouch*). Gould Coll. (A  
typical specimen.)  
*b, c.* ♂ ad. sk. Omilteme, Sierra Madre del Sur, Mexico, July (*Mrs. H.*  
*H. Smith*).

### 17. ELVIRA.

*Leucochloris* (*Elvira*), *Muls. & Ferr. Classif. Troch.* Type.  
 p. 32 (1865) ..... *E. chionura*.  
*Elvira*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 266.

*Range.* Costa Rica and Panama.

#### *Key to the Species.*

- a.* Bill straighter ; crown grass-green ; submedian pair  
of rectrices not marked with white ..... *chionura*, p. 74.  
*b.* Bill more curved ; crown bronzy green ; submedian  
pair of rectrices marked with white ..... *cupreiceps*, p. 75.

### 1. *Elvira chionura*.

*Trochilus* (*Thaumatias*) *chionura*, *Gould, P. Z. S.* 1850, p. 162.  
*Thaumatias chionurus*, *Gould, Mon. Troch.* v. pl. 300 (May 1852) ;  
*id. Intr. Troch.* p. 153 ; *Lawr. Ann. Lyc. N. Y.* viii. p. 349 ; *Elliot,*  
*Ibis*, 1878, p. 48.

- Thaumantias chionura, *Bp. Rev. Zool.* 1854, p. 255; *Salv. P. Z. S.* 1867, p. 156, 1870, p. 210.  
 Agyrtia chionura, *Cub. & Heine, Mus. Hein.* iii. p. 32; *Heine, J. f. Orn.* 1863, p. 183.  
 Eupherusa niveicauda, *Lawr. Ann. Lyc. N. Y.* viii. p. 134.  
 Elvira chianura, *Muls. & Verr. Class. Troch.* p. 32.  
 Eupherusa chionura, *Lawr. Ann. Lyc. N. Y.* ix. p. 127.  
 Polytmus chionurus, *Gray, Hand-l. B.* i. p. 129.  
 Elvira chionura, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 166, iv. p. 179;  
*id. Ann. Soc. Linn. Lyon*, xxii. p. 205; *Eudes-Dest. Ann. Mus. Caen*, i. p. 327; *Elliot, Syn. Troch.* p. 210.

*Adult male.* Upper surface dark shining grass-green; under surface glittering grass-green; under tail-coverts white; central rectrices bronzy green, three laterals on either side white tipped with bronzy black; wings purple-black, without chestnut at the base of the secondaries; bill black, basal half of the mandible whitish. Total length about 3·3 inches, wing 2, tail 1·15, bill 0·7.

*Adult female.* Like the male on the upper surface; under surface nearly pure white, the sides of the head and neck green; lateral rectrices tipped with white, leaving a dark subterminal bar.

*Hab.* Costa Rica and Panama.

a-c. ♂ ad.; d. ♀ ad. sk.	Costa Rica ( <i>Carmiöl</i> ).	Salvin-Godman & Gould Colls.
e. ♂ ad.; f. ♀ ad. sk.	Chiriqui ( <i>Warszewicz</i> ).	Gould Coll. (Type of the species.)
g. ♂ juv.; h-j. ♀ ad.; k. ♂ juv. sk.	Chiriqui ( <i>Arcé</i> ).	Salvin-Godman, Gould, & Selater Colls.
l, m. ♂ ad.; n. ♀ ad. sk.	Calovevora, Panama ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
o-r. ♂ ad.; s. ♀ ad. sk.	Veraguas ( <i>Arcé</i> ).	Gould & Selater Colls.

## 2. Elvira cupreiceps.

- Eupherusa cupreiceps, *Lawr. Ann. Lyc. N. Y.* viii. p. 348 (1866), ix. p. 127.  
 Elvira cupreiceps, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 263, iv. p. 179; *Elliot, Syn. Troch.* p. 210; *Gould, Suppl. Troch.* pl. 53 (Aug. 1880); *Eudes-Dest. Ann. Mus. Caen*, i. p. 328.  
 Thaumantias cupreiceps, *Bourc. P. Z. S.* 1878, p. 71.  
 Elvira caeruleiceps (?), *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 328.

*Adult male.* Like that of *E. chionura* in general appearance, but with the bill shorter and more curved; the crown and the central pair of rectrices deeper bronze and the latter alone without white on either web. Total length about 3·3 inches, wing 1·85, tail 1, bill 0·65.

*Adult female.* Also has the curved bill and bronze crown of the male; the lateral rectrices are tipped with white, leaving a very narrow subterminal oblique dark bar.

*Hab.* Costa Rica.

a. ♂ ad.; b, c. ♀ ad. sk.	Costa Rica ( <i>Carmiöl</i> ).	Salvin-Godman Coll.
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- d. ♀ ad. sk. Tucuriqui, Costa Rica (*Arcé*). Salvin-Godman Coll.  
 e. ♂ ad. sk. Costa Rica (*ex G. N. Lawrence*). Gould Coll. (Typical specimen.)  
 f. ♂ ad.; g. ♂ Costa Rica (*Carmirol?*). Gould Coll.  
 juv. sk.  
 h-k. ♂ ad.; l-q. Costa Rica (*Endres*). Gould Coll.  
 ♀ ad. sk.

## 18. THALURANIA.

Type.

- Mellisuga, *Boie, Isis*, 1831, p. 545 (*nee Brisson*) . . . . T. furcata.  
 Thalurania, *Gould, P. Z. S.* 1848, p. 13. . . . . T. nigrofasciata.  
 Glaucoptis, *Burm. Syst. Ucb.* ii. p. 333 (1856) (*nee Hübner*) . . . . . T. glaucopis.

*Range.* Central America from Honduras to Panama, and South America generally to South Brazil.

*Key to the Species.*

- a. Crown and throat differently coloured.  
 a'. Throat and abdomen uniform glittering green.  
 a''. Crown glittering violet-blue.  
 a'''. Upper surface and shoulders shining grass-green. . . . . *glaucopis*, p. 77.  
 b''. Upper surface dark shining grass-green, shoulders glittering violet-blue . . . . . *townsendi*, p. 78.  
 b'. Crown glittering green . . . . . *hypochlora*, p. 78.  
 c'. Crown shining dark green . . . . . *watertoni*, p. 78.  
 b'. Throat glittering green; abdomen violet-blue.  
 d''. Crown glittering violet-blue . . . . . *columbica*, p. 79.  
 e''. Crown glittering green.  
 e'''. Throat only glittering green . . . . . *eriphile*, p. 80.  
 d'''. Throat and breast glittering green. . . . . *fannia*, p. 81.  
 f''. Crown shining green like the back.  
 e'''. Larger.  
 a. Green of the throat extending over the breast; a black pectoral band. *nigrofasciata*, p. 82.  
 b'. Green of the throat not extending over the breast; no pectoral band. *tschudii*, p. 83.  
 f'''. Smaller . . . . . *jelskii*, p. 84.  
 g''. Crown greenish black.  
 g'''. Tail more or less deeply forked; under tail-coverts greenish blue, usually indistinctly edged with dusky white . . . . . *furcata*, p. 84.  
 h'''. Tail slightly forked; under tail-coverts dusky blue plainly edged with white . . . . . *furcatoides*, p. 85.  
 i'''. Tail deeply forked; under tail-coverts uniform dark steel-blue . . . . . *refulgens*, p. 86.  
 b. Crown and throat uniform dark shining blue. *bicolor*, p. 86.

1. *Thalurania glaucopsis*.

- Trochilus glaucopsis*, *Gm. Syst. Nat.* i. p. 497; *Vieill. N. Dict. d'Hist. N.* vii. p. 370; *id. Enc. Méth.* p. 557; *Less. Ind. Gén. Troch.* p. xxi; *Wied, Beitr.* iv. p. 85.  
*Trochilus frontalis*, *Lath. Ind. Orn.* p. 318.  
*Trochilus pileatus*, *Wied, Reise*, i. p. 64.  
*Ornismya glaucopsis*, *Less. Hist. Nat. Ois.-Mouches*, pp. xiv, 175, pls. 58, 59.  
*Thalurania glaucopsis*, *Bp. Consp. Av.* i. p. 77; *id. Rev. Zool.* 1854, p. 254; *Gould, P. Z. S.* 1852, p. 9; *id. Mon. Troch.* ii. pl. 99 (May, 1856); *id. Intr.* p. 76; *Cab. & Heine, Mus. Hein.* iii. p. 23; *Scl. Cat. Am. B.* p. 293; *Muls. & Ferr. Class. Troch.* p. 51; *Hamilton, Ibis*, 1871, p. 307; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 103; *Pelz. Orn. Bras.* p. 29; *Salv. & Elliot, Ibis*, 1873, p. 355; *Berlepsch, J. f. Orn.* 1873, p. 274; *id. Pr. U.S. Nat. Mus.* xi. p. 561; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 59, pl. 72; *id. Ann. Soc. Linn. Lyon*, xxii. p. 218; *Elliot, Syn. Troch.* p. 99; *Eudes-Desl. Ann. Mus. Caen*, i. p. 304; *Salv. Cat. Strickl. Coll.* p. 362; *Allen, Bull. Am. Mus. N. H.* ii. p. 260.  
*Cœligena a. Thalurania glaucopsis*, *Reich. Aufz. der Col.* p. 7; *id. Troch. Enum.* p. 2, pl. 685, ff. 4509-10.  
*Glaucopsis frontalis*, *Burm. Syst. Ueb.* ii. p. 333; *Euler, J. f. Orn.* 1867, p. 222.  
*Thalurania luciae*, *Lawr. Ann. Lyc. N. Y.* vii. p. 2; *id. Pr. Bost. Soc. N. H.* xiv. p. 284; *id. Mem. Bost. Soc. N. H.* ii. p. 291; *Salv. & Elliot, Ibis*, 1873, p. 355; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 62.  
*Polytmus glaucopsis*, *Gray, Hand-l. B.* i. p. 130.  
*Thaumantias luciae*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 240.

*Adult male.* Upper surface and shoulders of the wing shining grass-green; crown rich dark glittering violet-blue; nape black; entire under surface including the under tail-coverts glittering green; tail steel-blue; bill black. Total length about 4·8 inches, wing 2·4; tail, lateral rectrices 2, central 0·9; bill 0·8.

*Adult female.* Upper surface including the crown shining grass-green; under surface dusky white, lateral rectrices with dusky tips.

Count von Berlepsch has shown that *T. luciae*, said to be from the Tres Marias Islands, is certainly this species wrongly located.

*Hab.* South-eastern Brazil.

<i>a, b.</i> ♂ ad.; <i>c-f.</i> ♀ ad. sk.	Brazil (Bahia make).	Salvin-Godman & Gould Colls.
<i>g.</i> ♀ ad. sk.	Bahia, Brazil ( <i>Wücherer</i> ).	Salvin-Godman Coll.
<i>h.</i> ♂ ad. sk.	Novo Friourgo, Brazil ( <i>Louds</i> ).	Salvin-Godman Coll.
<i>i-k.</i> ♂ ad.; <i>l.</i> ♀ ad. sk.	Brazil (Rio make).	Salvin-Godman & Gould Colls.
<i>m.</i> ♂ ad. sk.	Itapetinga Brazil ( <i>J. F. Hamilton</i> ).	Gould Coll.
<i>n.</i> ♂ juv. sk.	S. Paolo, Brazil.	Gould Coll.
<i>o.</i> ♀ ad. sk.	Brazil ( <i>Rogers</i> ).	Gould Coll.
<i>p.</i> ♂ ad. sk.	[Brazil] (dark var.)	Gould Coll.
<i>q.</i> ♂ ad.; <i>r.</i> ♀ ad. st.	[Brazil.]	Gould Coll.

2. *Thalurania townsendi*.

*Thalurania townsendi*, *Ridgw. Pr. U. S. Nat. Mus.* x. p. 590 (1887).

*Adult male*. Like that of *T. glaucopsis* but smaller, the upper surface darker, the violet-blue of the crown darker and more restricted to the front, the shoulders of the wings and interscapular feathers tinged with glittering blue; under tail-coverts dark blue edged with white; bill black. Total length about 3.8 inches, wing 2.1; tail, lateral rectrices 1.4, central 1; bill 0.9.

*Female* like that of *T. glaucopsis* but smaller.

I am indebted to the authorities of the United States National Museum for an inspection of the types of this species.

*Hab.* Honduras, Segovia River (*C. H. Townsend*), U. S. Nat. Mus.

3. *Thalurania hypochlora*.

*Thalurania hypochlora*, *Gould, P. Z. S.* 1870, pp. 803, 804; *id. Suppl. Troch.* pl. 28 (Aug. 1880); *Salv. & Elliot, Ibis*, 1873, p. 360; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 66, pl. 74; *id. Ann. Soc. Linn. Lyon*, xxii. p. 218; *Elliot, Syn. Troch.* p. 102; *Eudes-Desl. Ann. Mus. Caen*, i. p. 309; *Bert. & Tacz. P. Z. S.* 1883, p. 567.  
*Thalurania fannyæ*, var., *Simon, Mém. Soc. Zool. Fr.* 1889, p. 229.

*Adult male*. Darker on the upper surface than *T. glaucopsis*, anterior half of the crown glittering green like the under surface; nape and hind neck black; shoulders of the wings glittering blue; under tail-coverts dark blue, edged narrowly with white; bill black. Total length about 4 inches, wing 2.15; tail, lateral rectrices 1.6, central 1; bill 0.9.

*Adult female*. Brighter on the upper surface, the whole crown like the back; under surface greyish white, lateral rectrices tipped with white.

*Young male*. Dusky black beneath; the glittering green feathers of the adult appearing first on the throat and crown.

*Hab.* Ecuador.

- |              |              |                                     |                         |
|--------------|--------------|-------------------------------------|-------------------------|
| a. ♂ ad.;    | b. ♂ juv.;   | Citado, Ecuador ( <i>Buckley</i> ). | Gould Coll.             |
| c. ♀ ad. sk. |              |                                     | (Types of the species.) |
| d. ♂ ad. sk. |              | Napo, Ecuador.                      | Salvin-Godman Coll.     |
| e. ♂ ad.;    | f. ♀ ad. sk. | Ecuador.                            | Salvin-Godman Coll.     |

4. *Thalurania watertoni*.

*Trochilus watertonii*, "*Lodd.*," *Bourc. P. Z. S.* 1847, p. 44.  
*Thalurania watertoni*, *Bp. Consp.* i. p. 76; *id. Rev. Zool.* 1854, p. 254; *Gould, P. Z. S.* 1852, p. 9; *id. Mon. Troch.* ii. pl. 100 (May, 1856); *id. Intr. Troch.* p. 76; *Salv. & Elliot, Ibis*, 1873, p. 358; *Elliot, Syn. Troch.* p. 101; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 218; *Eudes-Desl. Ann. Mus. Caen*, i. p. 313.  
*Coeligena a. Thalurania whatertoni*, *Reich. Aufz. der Col.* p. 7.  
*Thalurania watertoni*, *Muls. & Ferr. Class. Troch.* p. 51; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 78.



*Adult male.* Upper surface dark grass-green; nape and hind neck black; back dark glittering violet-blue; under surface glittering green; under tail-coverts and tail dark steel-blue; bill black. Total length about 5 inches, wing 2·1; tail, lateral rectrices 2·35, central ·8; bill 1.

There is some doubt respecting the habitat of this species. Waterton's original specimen is stated to have been obtained by him at the "Miribi Creek, about 40 miles up the Essequibo River," but no authentic specimens have of late years been found in Demerara. On the other hand, Count von Berlepsch has recently received specimens from Pernambuco, and Gould's examples were supposed by him to have been obtained near the mouth of the Amazons.

*Hab.* Guiana?; Eastern Brazil.

- a, b. ♂ ad. sk. "N. Brazil, near the mouth of the Amazons." Gould Coll.  
 c, d. ♂ ad. sk. Guiana? Salvin-Godman Coll.

### 5. *Thalurania columbica.*

*Ornismya columbica*, Bourc. *Rev. Zool.* 1843, p. 2; *id.* *Ann. Sci. Phys. et Nat. Lyon*, vi. pl. 6.

*Trochilus* (*Thalurania*) *venusta*, Gould, *P. Z. S.* 1850, p. 163.

*Thalurania columbica*, Gould, *P. Z. S.* 1852, p. 8; *id.* *Mon. Troch.* ii. pl. 106 (Sept. 1858); *id.* *Intr. Troch.* p. 78; *Bp. Rev. Zool.* 1854, p. 254; *Cab. & Heine, Mus. Hein.* ii. p. 24; *Sci. Cat. Am. B.* p. 294; *Wyatt, Ibis*, 1871, p. 376; *Salv. & Elliot, Ibis*, 1873, p. 355; *Elliot, Syn. Troch.* p. 99; *Muls. & Ferr. Class. Troch.* p. 51; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 63, pl. 73, iv. p. 217; *id.* *Ann. Soc. Linn. Lyon*, xxii. p. 218; *Boucard, P. Z. S.* 1878, p. 69; *Salv. & Godm. Ibis*, 1880, p. 172; *Eudes-Desl. Ann. Mus. Caen*, i. p. 306; *Berl. J. f. Orn.* 1884, p. 310, 1887, p. 319.

*Coeligena a. Thalurania columbica*, Reich. *Aufz. der Col.* p. 7; *id.* *Troch. Enum.* p. 3, pl. 685. ff. 4511-12.

*Coeligena a. Thalurania puella*, Reich. *Aufz. der Col.* p. 7.

*Thalurania venusta*, Gould, *P. Z. S.* 1852, p. 9; *id.* *Mon. Troch.* ii. pl. 108 (Sept. 1858); *Intr. Troch.* p. 78; *Bp. Rev. Zool.* 1854, p. 254; *id.* *Laur. Ann. Lyc. N. Y.* vii. p. 292, ix. p. 122; *Sci. & Salv. P. Z. S.* 1864, p. 365; *Muls. & Ferr. Class. Troch.* p. 51; *Salv. P. Z. S.* 1867, p. 153, 1870, p. 207; *id.* *Ibis*, 1872, p. 319; *v. Frantz. J. f. Orn.* 1863, p. 315; *Eudes-Desl. Ann. Mus. Caen*, i. p. 308.

*Polytmus venustus*, Gray, *Hand-l. B.* i. p. 130.

*Polytmus columbicus*, Gray, *Hand-l. B.* i. p. 130.

*Adult male.* Upper surface black when viewed from in front, bronzy green when viewed from behind; forehead, anterior half of the crown, interscapulium (more or less), smaller wing-coverts, and abdomen dark glittering violet-blue; throat glittering green; under tail-coverts and tail steel-blue, the former edged with white; bill black. Total length about 4 inches, wing 2·05; tail, central rectrices 0·9, laterals 1·6; bill 0·85.

*Adult female.* Upper surface shining green, duller and more bronzy on the crown and nape, bluer on the rump; sides of the

head and under surface dusky white; central rectrices greenish blue, laterals steel-blue tipped with white.

*T. venusta* was founded on Panama specimens, and said to be more extensively marked with blue on the back than is the case in *T. columbica*. This character is now known to be inconstant, and that there is no material difference between the Central-American and Colombian birds.

*Hab.* Central America from Nicaragua to Panama; Colombia.

<i>a, b.</i> ♂ ad.; <i>c, d.</i> ♀ ad. sk.	Chontales, Nicaragua ( <i>T. Belt</i> ).	Salvin-Godman Coll.
<i>e-g.</i> ♂ ad.; <i>h.</i> ♀ ad. sk.	Tueurriqui, Costa Rica.	Salvin-Godman & Gould Colls.
<i>i.</i> ♂ ad.; <i>j, k.</i> ♀ ad. sk.	Costa Rica.	Gould Coll.
<i>l, m.</i> ♂ ad.; <i>n.</i> ♀ ad. sk.	Costa Rica ( <i>Endres</i> ).	Gould Coll.
<i>o, p.</i> ♂ ad. sk.	Volcan de Chiriqui ( <i>Warszewicz</i> ).	Gould Coll. (Types of <i>T. venusta</i> , Gould.)
<i>q.</i> ♂ ad.; <i>r.</i> ♀ ad. sk.	Boquete de Chitra, Panama ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
<i>s.</i> ♀ ad. sk.	Castillo, Panama ( <i>Arcé</i> ).	Gould Coll.
<i>t, u.</i> ♂ ad. sk.	Laguna, Panama ( <i>Arcé</i> ).	Gould Coll.
<i>v, w.</i> ♂ ad.; <i>x.</i> ♀ ad. sk.	Calovevora, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>y-a'.</i> ♂ ad.; <i>b', c'.</i> ♀ ad. sk.	Santiago de Veraguas, Panama ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
<i>d'.</i> ♂ ad. sk.	Panama Railway ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>e'.</i> ♂ ad. sk.	Paraiso Station, Panama ( <i>Hughes</i> ).	Salvin-Godman Coll.
<i>f'-h'.</i> ♂ ad.; <i>i'.</i> ♂ juv.; <i>j'-l'.</i> ♀ ad. sk.	Lion Hill, Panama ( <i>M'Leannan</i> ).	Salvin-Godman & Gould Colls.
<i>m'.</i> ♂ ad. sk.	Minca, Sierra Nevada de Santa Marta, 13 March ( <i>F. Simons</i> ).	Salvin-Godman Coll.
<i>n'.</i> ♂ ad.; <i>o'.</i> ♀ ad. sk.	San José, Santa Marta, March, June ( <i>F. Simons</i> ).	Salvin-Godman Coll.
<i>p'.</i> ♂ ad. sk.	Pueblo Viejo, Santa Marta, Jan. ( <i>F. Simons</i> ).	Salvin-Godman Coll.
<i>q'.</i> ♀ ad. sk.	Chinchicua Valley, Santa Marta, Feb. ( <i>F. Simons</i> ).	Salvin-Godman Coll.
<i>r'-y'.</i> ♂ ad.; <i>z'-a.</i> ♂ juv.; <i>β-ε.</i> ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>ζ.</i> ♂ ad. sk.	San Cristobal, Venezuela ( <i>Goering</i> ).	Salvin-Godman Coll.
<i>η.</i> ♂ ad.; <i>θ.</i> ♀ ad. st.	[Colombia.]	Purchased.

## 6. *Thalurania eriphile*.

*Ornismya eriphile*, *Less. Suppl. Ois.-Mouches*, p. 148, pl. 25.

*Trochilis eriphile*, *Less. Ind. Gén. Troch.* p. xxii.

*Thalurania eriphile*, *Ip. Consp. Ar.* i. p. 77; *id. Rev. Zool.* 1854, p. 254; *id. Gould, P. Z. S.* 1852, p. 9; *id. Mon. Troch.* ii. pl. 108 (Sept. 1858); *id. Intr. Troch.* p. 79; *Cab. & Heine, Mus. Hein.* iii. p. 23; *Scl. Cat.*

*Am. B.* p. 294; *Muls. & Verr. Class. Troch.* p. 51; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 104; *Pelz. Orn. Bras.* p. 30; *Salv. & Elliot, Ibis*, 1873, p. 359; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 67, iv. p. 217; *id. Ann. Soc. Linn. Lyon*, xxii. p. 219; *Elliot, Syn. Troch.* p. 101; *Eudes-Desl. Ann. Mus. Caen*, i. p. 310; *Simon, Bull. Soc. Zool. Fr.* 1889, p. 230.

*Cœligena a.* *Thalurania eriphile*, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* p. 3, pl. 684. ff. 4507-8.

*Cœligena a.* *Thalurania lydia*, *Reich. Aufz. d. Col.* p. 7.

*Glaucoptis eriphile*, *Burm. Syst. Ueb.* ii. p. 334.

*Polytmus eriphile*, *Gray, Hand-l. B.* i. p. 130.

*Adult male.* Upper surface dark shining bronzy-green, brighter on the rump, nearly black when viewed from in front; scapulars dark blue; forehead and anterior half of the crown and throat glittering green; breast and abdomen glittering dark violet-blue; under tail-coverts and tail steel-blue; bill black. Total length about 4 inches, wing 2·3; tail, central rectrices 1·2, lateral 1·6; bill 0·9.

*Adult female.* Upper surface shining grass-green; central rectrices darker; under surface dusky white, lateral rectrices steel-blue tipped with dusky white.

*Hab.* Eastern Brazil.

<i>a, b.</i> ♂ ad. sk.	Brazil (Bahia make).	Gould Coll.
<i>c-e.</i> ♂ ad.; <i>f.</i> ♀ ad. sk.	Brazil (Rio make).	Salvin-Godman & Gould Colls.
<i>g-i.</i> ♂ ad. sk.	Brazil.	Salvin-Godman & Gould Colls.
<i>j.</i> ♀ ad. sk.	[Brazil.]	
<i>k-p.</i> ♂ ad.; <i>q.</i> ♀ ad. sk.	Chapada, Matto Grosso, Jan., May, July, Oct. ( <i>H. H. Smith</i> ).	Salvin-Godman Coll.

### 7. *Thalurania fannia*.

*Trochilus fannyi*, *Bourc. & Delattre, Rev. Zool.* 1846, p. 310.

*Thalurania verticeps*, *Gould, Contr. Orn.* 1851, pl. 107; *id. P. Z. S.* 1852, p. 9; *id. Mon. Troch.* ii. pl. 107 (Sept. 1858); *id. Intr. Troch.* p. 78; *Bp. Rev. Zool.* 1854, p. 254; *Scl. P. Z. S.* 1860, p. 95; *id. Cat. Am. B.* p. 294; *Muls. & Verr. Class. Troch.* p. 51.

*Cœligena a.* *Thalurania fanny*, *Reich. Troch. Enum.* p. 3, pl. 683. ff. 4502-3.

*Chlorestes δ.* *Ricordia verticeps*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 4, pl. 705. f. 4590.

*Thalurania fanny*, *Bp. Rev. Zool.* 1854, p. 254; *Cab. & Heine, Mus. Hein.* iii. p. 23.

*Thalurania fannia*, *Gould, Intr. Troch.* p. 78; *Simon, Bull. Soc. Zool. Fr.* 1889, p. 229.

*Thalurania fannyi*, *Muls. & Verr. Class. Troch.* p. 51.

*Polytmus verticeps*, *Gray, Hand-l. B.* i. p. 130.

*Adult male.* Similar to that of *T. eryphile*, but with the glittering green of the throat spread over the breast, instead of confined to the throat; rectrices narrower, and the tail more deeply forked.

Total length about 4 inches, wing 2·2; tail, central rectrices 0·95, lateral 1·65; bill 0·9.

*Adult female?* Like that of the allied species, but with the dusky white of the under surface extending only to the breast, the abdomen being dusky washed with green.

This species has been united of late years to *T. eryphile*, but appears to me to be distinct, and with a very differently coloured female, if the specimen I have described as such is really of that sex. The Quindiu male agrees with Ecuador specimens typical of *T. verticeps*, Gould.

*Hab.* Colombia and Ecuador.

a. ♂ ad. sk.	Quindiu Mts., Colombia (Warszewicz).	Gould Coll.
b. ♀ ad. sk.	Colombia (Bogota make).	Gould Coll.
c. ♂ ad. sk.	Popayan, Colombia.	Gould Coll.
d. ♀ ad. sk.	Near Pasto, Ecuador ( <i>Lchmann</i> ).	Salvin-Godman Coll.
e-g. ad. ♂; h, i. ♀ ad. sk.	Quito, Ecuador ( <i>Jameson</i> ).	Gould Coll.
j-l. ♂ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
m, n. ♂ juv. sk.	Ecuador.	Salvin-Godman Coll.
o. ♂ juv. sk.	Ecuador.	Gould Coll.

### 8. *Thalurania nigrofasciata*.

*Trochilus* (—?) *nigrofasciata*, *Gould, P. Z. S.* 1846, p. 89.

*Thalurania viridipectus*, *Gould, P. Z. S.* 1848, p. 13, 1852, p. 9; *Bp. Rev. Zool.* 1854, p. 254.

*Thalurania nigrofasciata*, *Gould, P. Z. S.* 1852, p. 8; *id. Mon. Troch.* ii. pl. 104 (May 1861); *id. Intr. Troch.* p. 78; *Bp. Consp.* i. p. 76; *id. Rev. Zool.* 1854, p. 254; *Cub. & Heine, Mus. Hein.* iii. p. 23; *Scl. Cat. An. B.* p. 294; *Muls. & Verr. Class. Troch.* p. 51; *Scl. & Salv. P. Z. S.* 1866, p. 194, 1867, p. 979, 1873, p. 287; *Pelz. Orn. Bras.* p. 30; *Salv. & Elliot, Ibis*, 1873, p. 357 (partim); *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 74; *id. Ann. Soc. Linn. Lyon*, xxii. p. 319; *Elliot, Syn. Troch.* p. 100 (partim); *Eudes-Desl. Ann. Mus. Caen*, i. p. 318; *Tacz. P. Z. S.* 1882, p. 35; *id. Orn. Pér.* i. p. 293 (partim).

*Cœligena a. Thalurania nigrofasciata*, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* p. 3, pl. 684. f. 4506.

*Cœligena a. Thalurania viridipectus*, *Reich. Aufz. d. Col.* p. 7.

*Thalurania tshudii*, *Scl. & Salv. P. Z. S.* 1867, p. 753, 1873, p. 287.

*Polytmus nigrofasciatus*, *Gray, Hand-l. B.* i. p. 30.

*Adult male.* Upper surface dark shining green, tinged with bronze on the crown, nape, and upper tail-coverts; shoulders of the wings and abdomen dark glittering violet-blue; throat and breast glittering green, separated from the blue abdomen by a black line; under tail-coverts and tail steel-blue; bill black. Total length about 4·3 inches, wing 2·3; tail, central rectrices 1, lateral 1·6; bill 0·9.

*Adult female.* Upper surface grass-green, duller on the crown, darker on the central rectrices; under surface dusky white, lateral rectrices steel-blue, grey at the base and tipped with white.

*Hab.* Upper Amazon valley, to the slopes of the Andes of Colombia and Ecuador.

a. ♂ ad. sk.	Colombia (Bogota make).	Gould Coll.
b, c. ♂ ad. sk.	Quito, Ecuador ( <i>Jameson</i> ).	Gould Coll.
d, e. ♂ ad.; f. ♂ juv.; g. ♀ ad. sk.	Napo, Ecuador ( <i>Jameson</i> ).	Gould & Selater Colls.
h, i. ♂ ad. sk.	Canelos, Ecuador ( <i>Buckley</i> ).	Gould Coll.
j, k. ♂ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
l, m. ♂ ad.; n. ♀ ad. sk.	Ecuador.	Gould Coll.
o-r. ♂ ad.; s, t. ♀ ad. sk.	Pebas, Amazons, June ( <i>J. Hauvwell</i> ).	Salvin-Godman & Gould Colls.
u. ♂ ad. sk.	Guia, Rio Negro, Nov. ( <i>A. R. Wallace</i> ).	Gould Coll.
v. ♀ ad. sk.	Cobati, Rio Negro.	A. R. Wallace [C.].
w. ♀ ad. sk.	Rio Javari, Amazons.	H. W. Bates [C.].
x. ♂ ad.; y-a'. ♀ ad. sk.	Upper Amazons ( <i>E. Bartlett</i> ).	Gould Coll.
b'-d'. ♂ ad.; e'-g'. ♀ ad. sk.	Yquitos, Amazons, March to May ( <i>H. Whitely</i> ).	Gould Coll.
h'. ♂ ad. sk.	Rio Tigre, Amazons, Oct. ( <i>J. Hauvwell</i> ).	Selater Coll.
i'. ♂ juv. st.		Gould Coll.

### 9. *Thalurania tschudii*.

*Trochilus furcatus*, *Tsch. Fam. Per.* p. 39 (*nec Gm.*).

*Thalurania tschudii*, *Gould, P. Z. S.* 1860, p. 312; *id. Mon. Troch.* ii. pl. 103 (May 1861); *id. Intr. Troch.* p. 78; *Muls. & Verr. Class. Troch.* p. 51; *Tacz. P. Z. S.* 1874, p. 542, 1882, p. 35; *id. Orn. Pér.* i. p. 293 (partim); *Eudes-Dest. Ann. Mus. Caen*, i. p. 320.

*Polytmus tschudii*, *Gray, Hand-l. B.* i. p. 130.

*Thalurania nigrofasciata*, *Salv. & Elliot, Ibis*, 1873, p. 357 (partim); *Elliot, Syn. Troch.* p. 100 (partim); *Scl. & Salv. P. Z. S.* 1879, p. 629.

*Adult male.* Similar to that of *T. nigrofasciata*, but without the black pectoral collar; the green throat not drawn to a point over the breast but terminating transversely, below which the green colour to some extent blends with the blue of the abdomen.

*Female.* Similar to that of *T. nigrofasciata*.

Gould's types were from the Ucayali River at the foot of the Andes of Peru. Bolivian examples are rather richer blue on the abdomen, and the line between the green and the blue of the throat is sharply defined.

*Hab.* Andes of Peru and Bolivia.

a, b. ♂ ad. sk.	Ucayali, Peru ( <i>J. Hauvwell</i> ).	Gould Coll.
c, d. ♂ ♀ ad. sk.	Chairo, Bolivia ( <i>Buckley</i> ).	(Types of the species.) Salvin-Godman Coll.
e. ♂ ad. sk.	Consata, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
f. ♀ ad. sk.	Mapiri, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
g-k. ♂ ad.; l, m. ♀ ad. sk.	Yungas, Bolivia ( <i>Buckley</i> ).	Gould Coll.

10. *Thalurania jelskii*.

*Thalurania jelskii*, *Tacz. P. Z. S.* 1874, pp. 138, 542; *id. Orn. Pér.* i. p. 295; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 70; *id. Ann. Soc. Linn. Lyon*, xxii. p. 219; *Elliot, Syn. Troch.* p. 101; *Eudes-Desl. Ann. Mus. Caen*, i. p. 320; *Sharpe in Gould's Suppl. Troch.* pl. 29 (Mar. 1887).

*Adult male*. Similar to that of *T. nigrofasciata*, but smaller. Length of wing 2·15 inches, tail 1·35, bill ·88.

Unknown to me. Mr. Elliot, who compared the type with specimens of *T. nigrofasciata*, says there is absolutely no difference between the two except in size. This difference is not great, and I think *T. jelskii* must be considered a species of doubtful value.

*Hab.* Pern.

11. *Thalurania furcata*.

Oiseau monche à queue fourchue, *Buff. Pl. Ent.* 599. fig. 2; *Aud. Ois. Dor.* i. p. 87, pl. 34.

*Trochilus furcatus*, *Gm. Syst. Nat.* i. p. 486; *Vieill. N. Dict. d'Hist. N.* vii. p. 376; *id. Enc. Méth.* p. 572; *Less. Ind. Gén. Troch.* p. xxii; *Cab. in Schomb. Guiana*, iii. p. 708.

Oiseau monche violet, *Aud. Ois. Dor.* i. p. 71, pl. 34.

*Ornismya furcata*, *Less. Hist. Nat. Ois.-Mouches*, pp. xiv, 82, pl. 18.

*Thalurania furcata*, *Bp. Consp. Av.* i. p. 76; *id. Rev. Zool.* 1854, p. 254; *Gould, P. Z. S.* 1852, p. 8; *id. Mon. Troch.* ii. pl. 101 (Sept. 1858); *id. Intr. Troch.* p. 77; *Cab. & Heine, Mus. Hein.* iii. p. 24; *Sci. Cat. Am. B.* p. 294; *Muls. & Verr. Class. Troch.* p. 51; *Salv. & Elliot, Ibis*, 1873, p. 356; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 71; *id. Ann. Soc. Linn. Lyon*, xxii. p. 219; *Elliot, Syn. Troch.* p. 99; *Eudes-Desl. Ann. Mus. Caen*, i. p. 313; *Salv. Cat. Strickl. Coll.* p. 433.

*Cœligena a. Thalurania furcata*, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* p. 3, pl. 682. ff. 4498-9.

*Cœligena a. Thalurania gyrimno*, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* pl. 682. ff. 4500-1.

*Thalurania forficata*, *Cab. & Heine, Mus. Hein.* iii. p. 24; *Heine, J. f. Orn.* 1863, p. 181.

*Polytmus furcatus*, *Gray, Hand-l. B.* i. p. 150.

*Adult male*. Upper surface nearly black when viewed from in front, with a slight shade of green, which is brighter on the rump; interscapulum glittering blue; throat glittering green; abdomen glittering blue; under tail-coverts black, with white edges and green discs; tail steel-blue; bill black. Total length about 4·3 inches, wing 2; tail, central rectrices 0·8, lateral 1·75; bill 0·85.

*Adult female*. Upper surface shining grass-green tinged with golden, central rectrices darker and bluer; under surface dusky white, lateral rectrices steel-blue, grey at the base, and tipped with white.

Some Cayenne skins have the tail longer and more deeply forked than others. Count Berlepsch tells me that he believes that the type of *T. forficata*, Cab. & Heine, really came from Cayenne, and not from Para, and is one of the long-tailed individuals of *T. furcata*.

Specimens from British Guiana also vary in the length and depth of the bifurcation of the tail; they also vary in the colour of the upper tail-coverts, some being greener, others more bronze; the same variation is to be found in a series of Cayenne birds. The under tail-coverts of the British-Guiana birds are, as a rule, steel-blue, like those of *T. refulgens*, but the character is not quite constant, some individuals showing light edges to these feathers. I do not, therefore, see any tangible character by which to separate the British-Guiana bird.

*Hab.* Guiana.

a. ♂ ad. ; b, c. ♀ ad. sk.	Bartica Grove, Brit. Guiana, April, June, and Nov. ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
d. ♂ ad. ; e. ♀ ad. sk.	Camacusa, Brit. Guiana, April ( <i>H. W.</i> ).	Salvin-Godman Coll.
f. ♂ ad. sk.	Merumé Mts., Brit. Guiana, July ( <i>H. W.</i> ).	Sclater Coll.
g. ♂ ad. sk.	Roraima, Brit. Guiana, Nov. ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
h, i. ♂ ad. sk.	Demerara.	Gould Coll.
j. ♂ juv. sk.	Cayenne.	H. C. Rothery [P.].
k-p. ♂ ad. sk.	(Cayenne make.)	Salvin-Godman & Gould Colls.
q. ♂ ad. st.		Purchased.

## 12. *Thalurania furcatoides*.

*Thalurania furcatoides*, *Gould, Mon. Troch.* ii. (sub *T. furcata*, pl. 101); *id. Intr. Troch.* p. 77; *Muls. & Verr. Class. Troch.* p. 51; *Scl. & Salv. P. Z. S.* 1867, p. 584; *Salv. & Elliot, Ibis*, 1873, p. 357; *Layard, Ibis*, 1873, p. 388; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 73, iv. p. 218; *id. Ann. Soc. Linn. Lyon*, xxii. p. 219; *Elliot, Syn. Troch.* p. 100; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 316.

*Thalurania forcipata*, *Heine, J. f. Orn.* 1863, p. 181.

*Thalurania subfurcata*, *Heine, J. f. Orn.* 1863, p. 181?

*Polytmus furcatoides*, *Gray, Hand-l. B.* i. p. 130.

*Thalurania furcata*, *Pelz. Orn. Bras.* p. 30.

*Adult male.* Very similar to that of *T. furcata*, but with the tail considerably shorter and less deeply forked (central rectrices 0.9 inch, lateral 1.4), and with the under tail-coverts white with steel-blue discs.

*T. forcipata* is a name substituted by Heine for *T. furcatoides*, and *T. subfurcata* is, Count Berlepsch tells me, probably referable to the same species. He also tells me that Natterer's birds from Barra, called by v. Pelzeln *T. furcata*, belong rather to *T. furcatoides*.

*Hab.* Lower Amazons Valley.

a-c. ♂ ad. ; d. ♀ ad. sk.	Para ( <i>A. R. Wallace?</i> ).	Gould Coll.
e. ♂ ad. ; f. ♀ ad. sk.	Para, Nov. and Dec. ( <i>E. L. Layard</i> ).	(Types of the species.) Tweeddale Coll.
g. ♂ ad. sk.	Para?	Gould Coll.

h. ♂ ad. ; i, j. ♀ ad. sk.	Amazons ( <i>A. R. Wallace</i> ).	Salvin-Godman Coll.
k. ♀ ad. sk.	Mexiana I., Amazons, Jan. ( <i>A. R. W.</i> ).	Salvin-Godman Coll.

### 13. *Thalurania refulgens*.

*Thalurania refulgens*, *Gould, P. Z. S.* 1852, p. 9; *id. Mon. Troch.* ii. pl. 102; *id. Intr. Troch.* p. 77; *Bp. Rev. Zool.* 1854, p. 254; *Muls. & Ferr. Class. Troch.* p. 51; *Salv. & Elliot, Ibis*, 1873, p. 358; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 79; *id. Ann. Soc. Linn. Lyon*, xxii. p. 219; *Elliot, Syn. Troch.* p. 101; *Eudes-Desl. Ann. Mus. Caen*, i. p. 312.

*Cœligena a. Thalurania refulgens*, *Reich. Aufz. d. Col.* p. 7.

*Adult male*. Similar to that of *T. fuscata*, but larger, with deeply forked tail and wider rectrices; under tail-coverts uniform steel-blue without any admixture of white. Total length about 4.9 inches, wing 2.2; tail, central rectrices 0.85, lateral 2; bill 0.9.

*Adult female*. Upper surface shining grass-green tinged with gold, especially on the crown; under surface dusky white; lateral rectrices grey at the base, with a comparatively narrow steel-blue subterminal band and white tips.

*Hab.* Trinidad.

a-g. ♂ ad. ; h. ♀ ad. sk.	Trinidad.	Salvin-Godman & Gould Colls.
i. ♂ ad. sk.	Trinidad.	Sclater Coll.

### 14. *Thalurania bicolor*.

*Trochilus bicolor*, *Gm. Syst. Nat.* i. p. 496; *Vicill. Ois. Dor.* i. p. 75, pl. 36.

*Ornismya wagleri*, *Less. Hist. Nat. Ois.-Mouches*, pp. xvii, 203, pl. 73.

*Trochilus wagleri*, *Less. Ind. Gén. Troch.* p. xxi.

*Thalurania wagleri*, *Bp. Consp.* i. p. 77; *id. Rev. Zool.* 1854, p. 254; *Gould, P. Z. S.* 1852, p. 9; *id. Mon. Troch.* ii. pl. 109 (May 1857); *id. Intr. Troch.* p. 79; *Cab. & Heine, Mus. Hein.* iii. p. 24; *Muls. & Ferr. Class. Troch.* p. 51; *Salv. & Elliot, Ibis*, 1873, p. 360; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 80; *id. Ann. Soc. Linn. Lyon*, xxii. p. 219; *Elliot, Syn. Troch.* p. 102; *Lawr. Ann. N.Y. Ac. Sc.* i. p. 46; *id. Pr. U.S. Nat. Mus.* i. p. 61.

*Cœligena a. Thalurania wagleri*, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* p. 3, pl. 702. ff. 4576-77.

*Polytmus bicolor*, *Gray, Hand-l. B.* i. p. 130.

*Thalurania bicolor*, *Elliot, Syn. Troch.* p. 102; *Eudes-Desl. Ann. Mus. Caen*, i. p. 302; *Cory, B. West Ind.* p. 148.

*Adult male*. Dark shining grass-green, more glittering on the under surface; upper tail-coverts blue; head and throat dark cobalt-blue, that of the throat gradually shading into the green of the breast; under tail-coverts blue tinged with green; tail steel-blue; maxilla black; mandible, except the tip, flesh-colour. Total



length about 4·3 inches, wing 2·4; tail, central rectrices 1·15, lateral 1·55; bill 0·8.

*Adult female.* Upper surface shining golden grass-green, blue on the crown and upper tail-coverts; under surface dusky white; central rectrices steel-blue, lateral whitish towards the base and at the tip, and with a wide subterminal steel-blue band.

The locality "Brazil" formerly given for this species is most probably erroneous. It rests on no satisfactory authority.

*Thalurania bicolor* is a somewhat abnormal species, having the nasal covers less feathered than in more typical *Thalurania*.

*Hab.* Dominica Island, West Indies.

a, b. ♂ ad. sk.	Dominica, West Indies ( <i>F. A. Ober</i> ).	Salvin-Godman & Selater Colls.
c. ♂ ad. sk.	Dominica, Jan. ( <i>Ramage</i> ).	West India Expl. Comm.
d-h. ♂ ad.; i. ♀ ad. sk.	"Brazil."	Salvin-Godman & Gould Colls.

## 19. HYPUROPTILA.

	Type.
<i>Agyrtria</i> ♂. <i>Chalybura</i> , <i>Reich. Aufz. d. Col.</i> p. 10 (1854) .....	<i>H. buffoni</i> .
<i>Hylocharis</i> ♂. <i>Chalybura</i> , <i>Reich. Aufz. d. Col.</i> p. 10 (1854) .....	<i>H. cæruleiventris</i> .
<i>Hypuroptila</i> , <i>Gould, Mon. Troch.</i> ii. pl. 89 (May 1854) .....	<i>H. buffoni</i> .
<i>Chalybura</i> (Methon), <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 203 (1875) .....	<i>H. cæruleiventris</i> .

*Range.* Central America from Nicaragua to Panama; Colombia and Venezuela.

### *Key to the Species.*

- a. Mandible black; under tail-coverts long.  
 a'. Under surface green ..... *buffoni*, p. 87.  
 b'. Under surface blue ..... *cæruleiventris*, p. 88.
- b. Mandible (except at the tip) flesh-colour; under tail-coverts shorter.  
 c'. Under tail-coverts white.  
 a'. Throat green ..... *urochrysea*, p. 89.  
 b'. Throat bluish green ..... *isauræ*, p. 89.
- d'. Under tail-coverts purple-black ..... *melanorrhœa*, p. 90.

### 1. *Hypuroptila buffoni*.

- Trochilus buffoni*, *Less. Hist. Nat. Troch.* p. 34, pl. 15.  
*Lampornis buffoni*, *Bp. Consp.* i. p. 72; *id. Rev. Zool.* 1854, p. 250;  
*Muls. Hist. Nat. Ois.-Mouches*, i. p. 170.  
*Hypuroptila buffoni*, *Gould, Mon. Troch.* ii. pl. 89 (May 1854).  
*Agyrtria* ♂. *Chalybura buffoni*, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 7, pl. 766. ff. 4773-74.

- Chalybura buffoni*, *Cab. & Heine, Mus. Hein.* iii. p. 20; *Sci. Cat. Am. B.* p. 292; *Gould, Intr. Troch.* p. 72; *Lawr. Ann. Lye. N. Y.* vii. p. 319; *Sci. & Salv. P. Z. S.* 1864, p. 365, 1869, p. 628, 1879, p. 529; *Salv. & Godm. Ibis*, 1879, p. 205, 1880, p. 171; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 203; *id. Hist. Nat. Ois.-Mouches*, iv. p. 156; *Elliot, Syn. Troch.* p. 45; *Endes-Dest. Ann. Mus. Caen*, i. p. 206; *Bert. J. f. Orn.* 1884, p. 309, 1887, p. 316.
- Chalybura aeneicauda*, *Lawr. Pr. Ac. Phil.* 1865, p. 38.
- Polytmus buffoni*, *Gray, Hand-l. B. i.* p. 126.

*Adult male.* Upper surface shining grass-green; upper tail-coverts bronzy green; under surface shining emerald-green; under tail-coverts pure white; tail steel-blue, central rectrices washed with dark bronzy green; bill black. Total length about 4·8 inches, wing 2·75; tail, central rectrices 1·5, lateral 1·85; bill 1·2.

*Adult female.* Under surface grey; flanks washed with shining green; lateral rectrices tipped with white.

Some specimens, apparently females, have the grey of the under surface washed with green, each feather having a faint green spot towards the end. These may be young birds, but I have no evidence on the point. The central rectrices of males differ in the extent to which they are washed with a bronze hue. *C. aeneicauda*, Lawr., appears to have been based upon a bird having this bronze tint in excess.

*Hab.* Panama, Colombia, and Venezuela. A lowland species.

- |   |  |  |
|---|--|--|
| <i>a-c.</i> ♂ ad. ; <i>d.</i> ♀ ad. sk.   | Lion Hill, Panama ( <i>McLe-annan</i> ).                                 | Salvin-Godman, Gould, & Selater Colls. |
| <i>e.</i> ♀ ad. sk.                       | Paraiso Station, Panama ( <i>Hughes</i> ).                               | Salvin-Godman Coll.                    |
| <i>f.</i> ♂ ad. ; <i>g.</i> ♀ ad. sk.     | Chepo, Panama ( <i>Arcé</i> ).   | Salvin-Godman Coll.                    |
| <i>h.</i> ♂ ad. ; <i>i.</i> ♀ ad. sk.     | Minca, Sierra de Santa Marta, Colombia, Jan., Feb. ( <i>F. Simons</i> ). | Salvin-Godman Coll.                    |
| <i>j.</i> ♂ ad. ; <i>k.</i> ♀ ad. sk.     | Manaure, Colombia, May ( <i>F. Simons</i> ).                             | Salvin-Godman Coll.                    |
| <i>l-t.</i> ♂ ad. ; <i>u-x.</i> ♀ ad. sk. | Colombia (Bogota make).  | Salvin-Godman & Gould Colls.           |
| <i>y.</i> ♂ ad. ; <i>z.</i> ♀ ad. sk.     | Venezuela.   | Gould Coll.                            |
| <i>a'</i> . ♂ ad. sk.                     | Venezuela ( <i>Goering</i> ).  | Gould Coll.                            |
| <i>b'</i> . ♂ ad. ; <i>c'</i> . ♀ ad. sk. | Venezuela.   | E. Dyson [C.].                         |

## 2. *Hypuroptila cæruleiventris*.

- Trochilus* (*Glaucis*?) *cæruleogaster*, *Gould, P. Z. S.* 1847, p. 96.
- Lampornis cæruleogaster*, *Bp. Consp.* i. p. 72; *id. Rev. Zool.* 1854, p. 250; *Muls. & Ferr. Class. Troch.* p. 24.
- Hypuroptila cæruleogaster*, *Gould, Mon. Troch.* ii. pl. 91 (May 1854).
- Ptylocharis* ♂. *Chalybura cæruleiventris*, *Reich. Aufz. d. Col.* p. 10.
- Agyrtria* ♂. *Chalybura cæruleiventris*, *Reich. Troch. Enum.* p. 7, pl. 767. ff. 4775-76.
- Chalybura cæruleiventris*, *Cab. & Heine, Mus. Hein.* iii. p. 20; *Sci.*

*Cat. Am. B.* p. 293; *Elliot, Syn. Troch.* p. 47; *Berl. J. f. Orn.* 1887, p. 316.

*Chalybura cæruleigaster*, *Gould, Intr. Troch.* p. 73; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 207.

*Lampornis cæruleiventris*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 168.

*Chalybura (Methon) cæruleogularis*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 203; *Hist. Nat. Ois.-Mouches*, iv. p. 153.

*Adult male.* Very similar to that of *H. buffoni*, but with the whole under surface, with the exception of the chin, of a rich blue; the middle of the back has a slightly bluer shade, and the central rectrices are purer steel-blue.

*Adult female.* Like that sex of *H. buffoni*, but the upper surface is of rather a bluer shade and the bronzy-green central rectrices are steel-blue towards their tips; the sides of the neck and the flanks are rather bluer than in the allied species.

*Hab.* Colombia.

*a-k.* ♂ ad.; *i-k.* ♀ ad. sk. Colombia (Bogota make). Salvin-Godman & Gould Colls.

### 3. *Hypuroptila urochrysea.*

*Hypuroptila urochrysea*, *Gould, P. Z. S.* 1861, p. 198; *id. Mon. Troch.* ii. pl. 90 (July 1861); *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 157; *Eudes-Desl. Ann. Mus. Cuen*, ii. p. 208.

*Chalybura urochrysea*, *Gould, Intr. Troch.* p. 72; *Elliot, Syn. Troch.* p. 46; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 203.

*Lampornis urochrysea*, *Muls. & Verr. Class. Troch.* p. 24; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 176.

*Adult male.* Upper surface dark grass-green; rump and upper tail-coverts bronzy; tail rich golden bronze; under surface emerald-green, almost the same shade as in *H. buffoni*; abdomen dull grey washed with green: maxilla black, mandible flesh-colour, tip black. Total length about 5 inches, wing 2.75; tail, central rectrices 1.6, lateral 1.8; bill 1.15.

*Female* unknown.

*Hab.* North-western Colombia, Cauca Valley, and Panama.

*a.* ♂ ad. sk. Panama (*Warszewicz*). Gould Coll. (Type of the species.)  
*b, c.* ♂ ad. sk. Medellin, Colombia (*T. K. Salmon*). Gould Coll.  
*d.* ♂ ad. sk. Remedios, Colombia (*T. K. S.*). Salvin-Godman Coll.

### 4. *Hypuroptila isauræ.*

*Hypuroptila isauræ*, *Gould, P. Z. S.* 1861, p. 199; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 203; *Hist. Nat. Ois.-Mouches*, iv. p. 153; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 209.

*Chalybura isauræ*, *Gould, Intr. Troch.* p. 72; *Salv. P. Z. S.* 1867,

- p. 152; *Lawr. Ann. Lyc. N. Y.* ix. p. 122; *Elliot, Syn. Troch.* p. 46.  
*Polytmus isauræ*, *Gray, Hand-l. B.* i. p. 126.  
*Lampornis isauræ*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 174.

*Adult male.* Similar to that of *H. wrochrysea*, but with the back slightly bluer, the rump tinged with purple; the throat and chest are tinted with blue, but not so dark a shade as in *H. ærulci-ventris*.

*Adult female.* Under surface from the chin to the vent grey, the under tail-coverts white; the two lateral rectrices on either side are tipped with dull grey preceded by a dark subterminal band.

*Hab.* Panama from Boca del Toro to Santa Fé.

- a. ♂ ad. sk. Boca del Toro, Costa Rica Gould Coll.  
 (Ferreaux). (Type of the species.)  
 b. ♂ ad.; c, d. ♀ Santa Fé, Panama (Arcé). Salvin-Godman Coll.  
 ad. sk.  
 e. ♂ ad.; f. ♀ Santiago de Veraguas, Panama Gould Coll.  
 ad. sk. (Arcé).

### 5. *Hypuroptila melanorrhœa*.

*Chalybura melanorrhœa*, *Salv. P. Z. S.* 1864, p. 584; *id. Ibis*, 1872, p. 319; *Lawr. Ann. Lyc. N. Y.* ix. p. 122; *Elliot, Syn. Troch.* p. 47; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 203; *Nutting, Pr. U.S. Nat. Mus.* vi. p. 406.

*Chalybura carmioli*, *Lawr. Pr. Ac. Phil.* 1865, p. 39.

*Polytmus melanorrhœa*, *Gray, Hand-l. B.* i. p. 126.

*Lampornis melanorrhœa*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 174, pl. 14.

*Hypuroptila melanorrhœa*, *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 137; *Eudes-Desl. Ann. Mus. Caen*, i. p. 210; *Gould, Suppl. Troch.* pl. 10 (July 1881).

*Adult male.* Like that of *H. wrochrysea*, but with the upper tail-coverts and tail rich purple-bronze; the green of the under surface is a little darker, but not bluish as in *H. isauræ*; and the under tail-coverts are purple-black, not white as in all other species of *Hypuroptila*.

*Adult female* also differs from that of *H. isauræ* in having the under tail-coverts dark grey instead of white.

*Hab.* Nicaragua and Costa Rica.

- a, b. ♂ ad.; c, d. Chontales, Nicaragua (T. Salvin-Godman Coll.  
 ♀ ad. sk. Belt).  
 e-h. ♂ ad. sk. Tucuriqui, Costa Rica (E. Salvin-Godman Coll.  
 Arcé). (Types of the species.)  
 i. ♂ ad. sk. Turrialba, Costa Rica (Arcé). Gould Coll.  
 j, k. ♂ ad.; l, m. Costa Rica (Endres). Salvin-Godman &  
 ♀ ad. sk. Gould Colls.  
 n. ♂ ad.; o. ♀ Costa Rica (Carmioli). Gould Coll.  
 ad. sk.

## 20. LAMPORNIS.

Type.

Lampornis, <i>Swains. Zool. Journ.</i> iii. p. 358 (1827) .....	L. mango.
Anthracothonax, <i>Boie, Isis</i> , 1831, p. 546 ..	L. violicauda.
Smaragdites, <i>Boie, Isis</i> , 1831, p. 547 .....	L. dominicus.
Anthracothonax $\beta$ . Floresia, <i>Reich. Aufz. d. Col.</i> p. 11 (1854) .....	L. porphyurus=L. mango.
Anthracothonax $\delta$ . Hypophania, <i>Reich. Aufz. d. Col.</i> p. 11 (1854) .....	L. dominicus.
Margarochrysis, <i>Reich. Aufz. d. Col.</i> p. 11 (1854) .....	L. dominicus.
Eudoxa, <i>Heine, J. f. Orn.</i> 1863, p. 179 ..	L. mango.
Campylopterus (Crimis), <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 202 (1875) .....	L. calosoma.

*Range.* Central America from S. Mexico to Panama, Greater Antilles (except Cuba), Virgin Islands, and Old Providence. South America generally to South Brazil.

*Key to the Species.*

- a. Lateral rectrices edged with black.
- a'. Sexes similar ..... mango, p. 91.
- b'. Sexes dissimilar.
- a''. Middle of the abdomen black.
- a'''. Throat black or bluish black ..... violicauda, p. 92.
- b'''. Throat glittering grass-green.
- a<sup>4</sup>. Crown dull green ..... gramineus, p. 95.
- b<sup>4</sup>. Crown glittering purple-green ..... calosoma, p. 96.
- c'''. Throat glittering golden-green.
- c<sup>4</sup>. Central rectrices steel-blue ..... dominicus, p. 96.
- d<sup>4</sup>. Central rectrices bronze ..... virginialis, p. 97.
- b''. Middle of the abdomen green.
- d'''. Throat black.
- e<sup>4</sup>. Bill longer ..... prevosti, p. 98.
- f<sup>4</sup>. Bill shorter ..... hendersoni, p. 99.
- e'''. Throat glittering green ..... veraguensis, p. 99.
- b. Lateral rectrices steel-blue, tipped with white .. viridis, p. 100.

## 1. Lampornis mango.

- Mellivora Avis maxima, *Sloane, Nat. Hist. Jamaica*, ii. p. 305, pl. 264. fig. 3.
- Mellivora mango, *Albin, Av.* iii. p. 45, pl. 49. fig. 2.
- Polytmus jamaicensis, *Briss. Orn.* iii. p. 679, pl. 35. fig. 1.
- Trochilus mango, *Linn. Syst. Nat.* i. p. 191; *Gm. Syst. Nat.* i. p. 491.
- Trochilus porphyurus, *Shaw, Nat. Misc.* ix. pl. 333; *id. Gen. Zool.* viii. p. 296.
- Lampornis floresii, *Bp. Consp.* i. p. 72; *id. Rev. Zool.* 1854, p. 250.
- Lampornis mango, *Gosse, B. Jam.* p. 88, pl. 18; *March, Pr. Ac. Phil.* 1863, p. 284; *Elliot, Ibis*, 1872, p. 350; *id. Syn. Troch.* p. 39; *Cory, B. West Ind.* p. 144.

- Anthracothorax  $\beta$ . Floresia porphyryra, *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 8, pl. 795, ff. 4849-50.  
 Lampornis porphyryrus, *Bp. Rev. Zool.* 1854, p. 250; *Gould, Mon. Troch.* ii. p. 81 (May 1858); *id. Intr. Troch.* p. 67; *Cab. & Heine, Mus. Heim.* iii. p. 19; *Scl. P. Z. S.* 1861, p. 79; *id. Cat. Am. B.* p. 291; *Muls. & Verr. Class. Troch.* p. 24; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 163, iv. p. 155; *id. Ann. Soc. Linn. Lyon*, xxii. p. 202; *Eudes-Dest. Ann. Mus. Cuen*, i. p. 196.  
 Eudoxa porphyryra, *Heine, J. f. Orn.* 1863, p. 179.  
 Polytmus porphyryrus, *Gray, Hand-l. B.* i. p. 126.

*Adult male.* Upper surface dark brown glossed with dark purple; a patch of glittering purple on either side of the neck from the gape and passing under the eye; whole under surface deep black; under tail-coverts greenish black; central rectrices brownish black; lateral rich purple with steel-blue margins; bill black. Total length about 4.7 inches, wing 2.9, tail 1.7, bill 1.1.

*Adult female.* Like the male.

Young birds (certainly males, but probably both sexes) have a dark glittering bluish-green throat, which is associated with white tips to somewhat pointed lateral tail-feathers (a sign of immaturity). A specimen in changing plumage is supplanting these green glittering feathers with pure black ones.

Birds with bright throats, associated as they are with black-throated ones, have long been a source of difficulty as regards their status. Gould considered them to be the normal females of this species, and so figured them in his Monograph. Dissected specimens before me do not support this view; and the bird in changing plumage, I think, clearly proves them to be immature. I know, however, of no similar instance in the *Trochilidae* in which immature birds are more highly ornamented than the adults.

*Hab.* Jamaica.

a, b. ♂ ad. sk.	Spanish Town, Jamaica, Feb. (H. Bryant).	II. Bryant [P.] & Slater Coll.
c. ♂ ad. sk.	Moneague, Jamaica, Feb. (H. Bryant).	Salvin-Godman Coll.
d. ♂ ad.; e. ♂ juv. ♀ sk.	Moneague (O. S. & F. D. G.).	Salvin-Godman Coll.
f, g. Ad. sk.	Jamaica (Osburn).	Slater Coll.
h-o. Ad. sk.	Jamaica.	Gould Coll.
p. ♂ ad. sk.	Jamaica.	Capt. Hamilton [P.].
q. Skeleton.	Jamaica.	Gould Coll.

## 2. *Lampornis violicauda.*

- Le Colibri à queue violette, *Buff. Hist. Nat. Ois.* vi. p. 55; *Aud. & Vieill. Ois. Dor.* i. p. 31, pl. 11.  
 Le Colibri à queue violette de Cayenne, *Buff. Pl. Enl.* 671. fig. 2.  
*Trochilus violicauda*, *Bodd. Tabl. Pl. Enl.* p. 41.  
*Trochilus albus*, *Gm. Syst. Nat.* i. p. 488.  
*Trochilus punctulatus*, *Gm. Syst. Nat.* i. p. 488; *Vieill. N. Dict. d'Hist. N.* vii. p. 358; *id. Enc. Méth.* p. 552.

- Trochilus nitidus*, *Lath. Ind. Orn.* i. p. 305.  
 Violet-tailed Humming Bird, *Lath. Syn.* i. pt. 2, p. 754.  
 Le Plastron noir, *Aud. & Vieill. Ois. Dor.* i. p. 25, pl. 7.  
*Trochilus punctatus*, *Aud. & Vieill. Ois. Dor.* i. p. 24, pl. 8; *Vieill. N. Dict. d'Hist. N.* vii. p. 357; *id. Enc. Méth.* p. 550.  
 Le Plastron violette, *Aud. & Vieill. Ois. Dor.* i. p. 150, pl. 70.  
*Pica flores turqui debaxo*, *Azara, Apunt.* ii. p. 491, no. 293.  
*Pica flores faxa negra a lo largo*, *Azara, Apunt.* ii. p. 490, no. 295.  
*Trochilus fasciatus*, *Shaw, Gen. Zool.* viii. p. 303.  
*Trochilus nigricollis*, *Vieill. N. Dict. d'Hist. N.* vii. p. 349; *id. Enc. Méth.* p. 553.  
*Trochilus mango*, *Vieill. N. Dict. d'Hist. N.* vii. p. 353; *id. Enc. Méth.* p. 557; *Less. Hist. Nat. Col.* p. 58, pl. 13, 13 bis, 14, 15; *id. Ind. Gén. Troch.* p. x; *Wied. Beitr.* iv. p. 47.  
*Trochilus quadricolor*, *Vieill. N. Dict. d'Hist. N.* vii. p. 353; *id. Enc. Méth.* p. 555.  
*Trochilus atricapillus*, *Vieill. N. Dict. d'Hist. N.* vii. p. 354; *id. Enc. Méth.* p. 553.  
*Lampornis mango*, *Bp. Consp.* i. p. 71; *id. Rev. Zool.* 1854, p. 250; *Gould, Mon. Troch.* ii. pl. 74 (Sept. 1856); *Burm. Syst. Ueb.* ii. p. 331; *id. J. f. Orn.* 1865, p. 229; *Cass. Pr. Ac. Phil.* 1860, p. 19; *Scl. P. Z. S.* 1860, p. 254; *id. Cat. Am. B.* p. 291; *Cab. & Heine, Mus. Hein.* iii. p. 19; *Laur. Ann. Lyc. N. Y.* vii. p. 319; *E. C. Taylor, Ibis*, 1863, p. 91; *Scl. & Salv. P. Z. S.* 1864, p. 365, 1866, p. 193, 1867, pp. 584, 752, 979, 1868, pp. 169, 628, 1873, p. 287; *Muls. & Ferr. Class. Troch.* p. 24; *Finsch, P. Z. S.* 1870, p. 562; *Wyatt, Ibis*, 1871, p. 376; *Pelz. Orn. Bras.* p. 28; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 103; *Ender, J. f. Orn.* 1873, p. 221; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 155, pl. 13, iv. p. 155; *id. Ann. Soc. Linn. Lyon*, xxii. p. 202; *Eudes-Desl. Ann. Mus. Caen*, i. p. 189.  
*Anthracothorax mango*, *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 8, pl. 791. ff. 48:39-41.  
*Lampornis iridescens*, *Gould, Intr. Troch.* p. 65; *Heine, J. f. Orn.* 1863, p. 179; *Tacz. P. Z. S.* 1877, p. 745; *Eudes-Desl. Ann. Mus. Caen*, i. p. 192; *Berl. & Tacz. P. Z. S.* 1883, p. 566.  
*Polytmus mango*, *Léot. Ois. Trin.* p. 131 (1866); *Gray, Hand-l. B.* i. p. 125.  
*Lampornis violicauda*, *Elliot, Ibis*, 1872, p. 351, 1877, p. 141; *id. Syn. Troch.* p. 38; *Layard, Ibis*, 1873, p. 235; *Scl. & Salv. P. Z. S.* 1879, pp. 528, 627; *Boucard, P. Z. S.* 1879, p. 178; *Salv. Cat. Strickl. Coll.* p. 361; *id. Ibis*, 1885, p. 432; *Tacz. Orn. Pér.* i. p. 281.  
*Lampornis nigricollis*, *Berl. J. f. Orn.* 1884, p. 309, 1887, p. 317.

*Adult male.* Upper surface golden green, duller on the crown; middle of the throat and abdomen black; sides of the neck glittering green, passing into glittering blue along the sides of the black throat; flanks dark green; under tail-coverts black tinged with dark greenish blue; central rectrices dark green, lateral rich purple edged with steel-blue; bill black. Total length 4.5 inches, wing 2.6, tail 1.4, bill 1.1.

*Adult female.* Under surface white, with a median black stripe from the chin to the vent; under tail-coverts green tipped with white; lateral rectrices rich purple tipped with white, and with a wide subterminal steel-blue bar.

*Young* birds are without the median black stripe, the middle of the under surface being wholly white. In their first plumage the

feathers of the sides of the neck and flanks are freely tipped with rufous.

*L. iridescens* seems hardly separable from the typical *L. violicauda*. In one of types the black of the throat is overspread with a blue gloss, in the other this is less visible.

*Hab.* South America generally from Panama to South Brazil.

*L. violicauda.*

a. ♂ ad.; b. ♀ ad. sk.	Lion Hill, Panama ( <i>M. Leannan</i> ).	Salvin-Godman Coll.
c. ♂ ad. sk.	Paraiso Station, Panama ( <i>Hughes</i> ).	Salvin-Godman Coll.
d. ♂ ad. sk.	Cauca Valley, Colombia ( <i>T. K. Salmon</i> ).	Slater Coll.
e-g. ♂ ad.; h. ♂ juv.; i. ♀ ad. sk.	Colombia (Bogota make).	Gould Coll.
j, k. ♂ ad.; l. ♀ ad. sk.	(Trinidad make.)	Gould Coll.
m. ♂ ad.; n. ♀ ad. sk.	Roraima, Brit. Guiana, Dec. ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
o. ♂ ad. sk.	Mexiana I., Amazons, Dec. ( <i>A. R. Wallace</i> ).	Salvin-Godman Coll.
p. ♂ juv.; q. ♀ ad. sk.	Para, Nov. ( <i>E. L. Layard</i> ).	Tweeddale Coll.
r. ♂ ad.; s. ♀ ad. sk.	Santarem, Amazons.	H. W. Bates [C.].
t. ♀ ad. sk.	Cobati, Rio Negro ( <i>A. R. Wallace</i> ).	Salvin-Godman Coll.
u-x. ♂ ad.; y. ♀ ad. sk.	Upper Amazons ( <i>E. Bartlett</i> ).	Salvin-Godman & Gould Colls.
z. ♂ ad.; a'. ♀ ad. sk.	Pernambuco ( <i>W. A. Forbes</i> ).	Salvin-Godman Coll.
b'. ♂ ad.; c'. ♀ ad. sk.	Bahia, Brazil ( <i>Wucherer</i> ).	Salvin-Godman Coll.
d'. ♀ ad. sk.	Brazil (Rio make).	Gould Coll.
e'. ♂ ad. sk.	Rio Claro, Goyaz, Brazil ( <i>Joyner</i> ).	Salvin-Godman Coll.
f'. Juv. sk.	— ?	Gould Coll.
g'. ♂ ad. sk.	(Var. or stained specimen.)	Gould Coll.
h'. ♂ ad.; i'. ♀ ad. st.	— ?	Purchased.

*L. iridescens.*

j', k'. ♂ ad.; l'. ♀ ad. sk.	Guayaquil, Ecuador ( <i>Jameson</i> ).	Gould Coll. (Types of <i>L. iridescens</i> .)
m'. ♂ ad.; n'. ♀ ad. sk.	Balzar Mts., Ecuador ( <i>Illingworth</i> ).	Salvin-Godman Coll.
o', p'. ♀ ad. sk.	Puna I., Gulf of Guayaquil ( <i>Villagomez</i> ).	Salvin-Godman Coll.
q'. ♂ ad.; r'. ♀ ad. sk.	Ecuador.	Salvin-Godman Coll.



3. *Lampornis gramineus*.

- Le Colibri à Cravate verte, *Buff. Hist. Nat. Ois.* vi. p. 56; *Aud. & Vieill. Ois. Dor.* i. p. 29, pl. 10.  
 Le Hausse-Col vert, *Buff. Hist. Nat. Ois.* vi. p. 58; *Aud. & Vieill. Ois. Dor.* i. p. 26, pl. 9.  
 Le Colibri à gorge verte de Cayenne, *Buff. Pl. Enl.* 671. fig. 1.  
 Green-throated Humming Bird, *Lath. Syn.* i. pt. 2, p. 755.  
 Black-breasted Humming Bird, *Lath. Syn.* i. pt. 2, p. 756.  
*Trochilus gramineus*, *Gm. Syst. Nat.* i. p. 488; *Less. Hist. Nat. Col.* p. 52, pls. 12, 13; *Ind. Gén. Troch.* p. x.  
*Trochilus maculatus*, *Gm. Syst. Nat.* i. p. 488.  
*Trochilus gularis*, *Lath. Ind. Orn.* pt. i. p. 563; *Vieill. N. Dict. d'Hist. N.* vii. p. 349; *Enc. Méth.* p. 553.  
*Trochilus pectoralis*, *Lath. Ind. Orn.* pt. 1, p. 306; *Vieill. N. Dict. d'Hist. N.* vii. p. 351; *id. Enc. Méth.* p. 551.  
*Lampornis gramineus*, *Gould, Mon. Troch.* ii. pl. 77 (May 1858); *id. Intr. Troch.* p. 65; *Cub. & Heine, Mus. Hein.* iii. p. 18; *Sci. Cat. Am. B.* p. 291; *E. C. Taylor, Ibis*, 1862, p. 91; *Muls. & Ferr. Class. Troch.* i. p. 24; *Sci. & Salv. P. Z. S.* 1867, p. 584; *Finsch, P. Z. S.* 1870, p. 562; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 148, iv. p. 153; *id. Ann. Soc. Linn. Lyon*, xxii. p. 202; *Elliot, Syn. Troch.* p. 40; *Eudes-Desl. Ann. Mus. Caen*, i. p. 201; *Salv. Cat. Strickl. Coll.* p. 362; *Ibis*, 1885, p. 432.  
*Polytmus dominicus*, *Léot. Ois. Trin.* p. 132 (1866).  
*Polytmus gramineus*, *Gray, Hand-l. B.* i. p. 125.

*Adult male.* Upper surface golden green, brighter on the lower back, duller on the head; throat glittering grass-green; middle of the abdomen black, flanks dark green; under tail-coverts greenish black; central rectrices dark brown with a purple gloss, lateral rich purple edged with steel-blue; bill black. Total length 4.8 inches, wing 2.85, tail 1.5.

*Adult female.* Under surface white, with a black median stripe from the chin towards the abdomen; sides of the neck and flanks green; lateral rectrices rich purple tipped with white and with a wide subterminal steel-blue bar.

*Young males* have more or less rufous on either side of the black median stripe beneath; the green of the throat of the adult is usually first assumed on the lower part of the throat, and thence spreads upwards and sideways; the lateral rectrices are at first like those of the female.

*Hab.* Venezuela, Trinidad, Guiana, and the Lower Amazon valley.

<i>a-d.</i> ♂ ad. sk.	(Trinidad make.)	Salvin-Godman, Gould, & Tweed- dale Colls.
<i>e.</i> ♂ ad. sk.	Guiana ( <i>Spence</i> ).	Slater Coll.
<i>f-h.</i> ♂ juv.; <i>i.</i> ♀ ad. sk.	Demerara.	Gould Coll.
<i>j.</i> ♂ ad.; <i>k, l.</i> ♂ juv.; <i>m.</i> ♀ ad. sk.	(Cayenne make.)	Gould & Slater Colls.
<i>n.</i> ♂ ad. sk.	Mexiana Island, Amazons, Dec. ( <i>A. R. Wallace</i> ).	Salvin-Godman Coll.

4. *Lampornis calosoma*.

*Chrysolampis chlorolema*, *Elliot, Ann. & Mag. N. H.* 1870, vi. p. 346; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 259.

*Lampornis calosoma*, *Elliot, Ibis*, 1872, p. 351; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 177, iv. p. 154, pl. 15; *Gould, Suppl. Troch.* pl. 9 (Aug. 1880); *Berl. J. f. Orn.* 1887, p. 334.

*Crinis calosoma*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 212.

*Campylopterus calosoma*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 202.

*Adult male*. Upper surface greenish black, darker on the middle of the back, more purple towards the longest tail-coverts; crown and nape silvery purple or greenish; whole throat glittering green; rest of the under surface black, the flanks washed with dark purple; under tail-coverts chestnut; tail coppery red, edged with dark purple; bill black. Total length about 4.5 inches, wing 2.5, tail 1.4, bill .95.

*Female*. Unknown.

Graf H. v. Berlepsch has a specimen of this bird received direct from Bahia.

The position of this bird in *Lampornis* is questionable, as the feathers of the forehead are carried further along the bill and over the nasal coverings than in any of the more typical members of that genus. It has, however, the serrate maxilla of *Lampornis*, and the colour of the tail is a corroborative character.

*Hab.* Brazil.

a. ♂ ad. sk.

—?

Salvin-Godman Coll.

5. *Lampornis dominicus*.

Plastron blanc, *Buff. Hist. Nat. Ois.* vi. p. 61.

Le Colibri de St. Domingue, *Buff. Pl. Enl.* 680. fig. 1.

*Polytmus dominicensis*, *Briss. Orn.* iii. p. 672, pl. 35. fig. 4.

*Trochilus dominicus*, *Linn. Syst. Nat.* i. p. 191; *Gm. Syst. Nat.* i. p. 489.

Grey-necked Humming Bird, *Lath. Syn.* i. pt. 2, p. 761.

*Trochilus margaritaceus*, *Gm. Syst. Nat.* i. p. 490.

Le Hausse-col doré, *Aud. & Vieill. Ois. Dor.* i. pls. 12, 13.

*Polytmus aurulentus*, *Vieill. Ois. Am. Sept.* ii. p. 72.

*Trochilus aurulentus*, *Vieill. N. Dict. d'Hist. N.* vii. p. 350; *id. Enc. Méth.* p. 555; *Less. Hist. Nat. Col.* p. 68, pls. 16, 17, 18, 19; *id. Ind. Gén. Troch.* p. xi; *Bryant, Pr. Bost. Soc. N. H.* xi. p. 95; *Sunder. Afr. K. Vet.-Ak. Förh.* 1869, p. 600.

*Lampornis dominicus*, *Bp. Consp.* i. p. 71; *id. Rev. Zool.* 1854, p. 250; *Elliot, Ibis*, 1872, p. 349; *id. Syn. Troch.* p. 41; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 154; *Eudes-Desl. Ann. Mus. Caen*, i. p. 199; *Cory, B. Haiti & S. Dom.* p. 90; *id. B. West Ind.* p. 143.

*Lampornis margaritaceus*, *Bp. Consp.* i. p. 72.

*Anthracothonax* ♂. *Hypophania dominica*, *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 9, pl. 793. ff. 4845-46.

*Margarochrysis aurulenta*, *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 8, pl. 781. ff. 4822-23.

*Eulampis aurulentus*, *Bp. Rev. Zool.* 1854, p. 250.

*Lampornis aurulentus*, *Gould, Mon. Troch.* ii. pl. 80 (May 1858);  
*id. Intr. Troch.* p. 68; *Cass. Pr. Ac. Phil.* 1860, p. 377; *Muls. &*  
*Ferr. Class. Troch.* p. 14; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 152;  
*id. Ann. Soc. Linn. Lyon*, xxii. p. 202; *Gundl. J. f. Orn.* 1878,  
 p. 181; *id. An. Soc. Esp. Nat. Hist.* vii. p. 223.  
*Polytmus aurulentus*, *Gray, Hand-l. B.* i. p. 126.

*Adult male.* Upper surface dark golden green, more bronze on the longest upper tail-coverts: throat glittering golden green, passing gradually into dark purple-black on the rest of the under surface, including the under tail-coverts; flanks green; central rectrices steel-blue, lateral rich purple edged with steel-blue; bill black. Total length about 5 inches, wing 2·8; tail, central rectrices 1·5, lateral 1·8; bill 1·2.

*Adult female.* Under surface grey; central rectrices dark green, lateral purple tipped with white and with a wide subterminal steel-blue bar.

*Young males* commence their adult dress by assuming golden-green feathers on the middle of the throat and purple-black ones on the middle of the chest and abdomen; these gradually spread laterally until the full adult plumage is acquired.

*Hab.* Island of San Domingo, including Haiti.

a. ♂ ad.; b-d. ♀ ad. sk.	Samana, San Domingo, Sept.	Salvin-Godman Coll. ( <i>C. G. McGregor</i> ).
e. ♂ ad.; f. ♀ ad. sk.	San Domingo.	A. Sallé [C.].
g. ♀ ad. sk.	Port au Prince, Haiti, March	Salvin-Godman Coll. ( <i>C. A. Younglove</i> ).
h. ♂ ad. sk.	San Domingo ( <i>Smiths. Inst.</i> ).	Salvin-Godman Coll.
i, j. ♂ ad.; k. ♂ juv.; l. ♀ ad. sk.	San Domingo.	Gould Coll.
m, n. ♂ ad.; o. ♀ ad. sk.	Puerto Plata, San Domingo, Nov., Dec. ( <i>M. A. Frazar</i> ).	Salvin-Godman Coll. ( <i>Cory Coll.</i> )
p. ♀ skeleton.	San Domingo.	Gould Coll.

### 6. *Lampornis virginalis*.

*Lampornis virginalis*, *Gould, Mon. Troch.* ii. pl. 80 (Sept. 1861);  
*id. Intr. Troch.* p. 66; *Scl. Cat. Am. B.* p. 291.  
*Polytmus virginalis*, *Gray, Hand-l. B.* i. p. 126.  
*Lampornis ellioti*, *Cory, Auk*, vii. p. 374 (1890).

*Adult male.* Similar to that of *L. dominicus* but smaller, with less black on the abdomen, shorter rounded tail, the central rectrices of which are bronze and not steel-blue. Length of tail, central rectrices 1·3, lateral 1·4.

*Young males* are grey beneath, the glittering golden-green feathers of the throat commence to appear in the centre and spread to the sides.

*Hab.* West Indies, Puerto Rico, and St. Thomas

a. ♂ ad. sk.	Puerto Rico.	H. Bryant [P.].
b, c. ♂ ad. sk.	Puerto Rico ( <i>H. Bryant</i> ).	Salvin-Godman & Sclater Colls.
d-g. ♂ ad.; h-j. ♂ juv. sk.	St. Thomas, W. I. ( <i>A. H. Riise</i> ).	Salvin-Godman & Sclater Colls.
k. ♂ juv. sk.	St. Thomas, W. I. ( <i>A. H. Riise</i> ).	A. Newton, Esq. [P.].

### 7. *Lampornis prevosti*.

*Trochilus prevosti*, *Less. Hist. Nat. Col.* p. 87, pl. 24; *id. Ind. Gén. Troch.* p. xii; *Bowre. & Muls. Ann. Soc. d'Agr. Lyons*, 1843, p. 39.

*Lampornis prevosti*, *Bp. Consp.* i. p. 72; *id. Rev. Zool.* 1854, p. 250; *Gould, Mon. Troch.* ii. pl. 75 (May 1858); *id. Intr. Troch.* p. 65; *Sci. P. Z. S.* 1856, p. 289, 1859, pp. 367, 385; *Sci. & Salv. Ibis*, 1859, p. 127; *id. P. Z. S.* 1870, pp. 207, 837; *Muls. & Ferr. Class. Troch.* p. 24; *Salv. Ibis*, 1860, p. 272, 1864, p. 389; *id. Cat. Strickl. Coll.* p. 362; *Lawr. Ann. Lyc. N. Y.* viii. p. 178; *id. Bull. U.S. Nat. Mus.* no. 4, p. 121; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 140, iv. p. 156; *id. Ann. Soc. Linn. Lyon*, xxii. p. 203; *Elliot, Syn. Troch.* p. 39; *Eudes-Desl. Ann. Mus. Caen*, i. p. 195; *Boucard, P. Z. S.* 1883, p. 451; *Salv. Ibis*, 1889, p. 365.

*Anthrocothorax prevosti*, *Reich. Aufz. d. Col.* p. 11; *id. Enum. Troch.* p. 8, pl. 792. ff. 4842-44.

*Polytmus prevosti*, *Gray, Hand-l. B.* i. p. 125.

*Lampornis thalassinus*, *Ridgw. Pr. Biol. Sc. Wash.* iii. p. 23.

*Lampornis prevosti thalassinus*, *Ridgw. Pr. U.S. Nat. Mus.* viii. p. 573.

*Adult male.* Upper surface shining golden green; under surface glittering green; throat black, on the sides of which and on the middle of the abdomen the green has a blue tint; under tail-coverts purple-black, the ends of the feathers dark coppery; central rectrices greenish steel-blue black, lateral rich purple edged with steel-blue; bill black. Total length 4.5 inches, wing 2.6, tail 1.45, bill 1.2.

*Adult female.* Under surface white, with a black median stripe sometimes mixed with green feathers on the lower part of the throat; under tail-coverts dark green tipped with white; lateral tail-feathers purple tipped with white, and with a wide subterminal steel-blue bar.

In *young birds* the sides of the neck and flanks are freely marked with chestnut; young males assume their adult plumage by the gradual spread of green feathers from the middle of the under surface towards the sides. The lateral rectrices in young males are tipped with white, sometimes tinged with chestnut.

*Hab.* Mexico from the State of Tamaulipas southwards, Yucatan and the islands of the Bay of Honduras, Guatemala, and thence southwards to Costa Rica, from the sea-level to a height of about 1500 feet; Venezuela.

a. ♂ ad.; b. ♀ ad. sk.	Altamira, Tamaulipas, Mexico, March ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
c. ♂ ad. sk.	Tampico, Tamaulipas, March ( <i>W. B. R.</i> ).	Salvin-Godman Coll.

<i>d.</i> ♂ ad. sk.	Tantina near Tampico, June ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>e, f.</i> ♂ ad.; <i>g.</i> ♀ ad. sk.	Misantla, Vera Cruz, March ( <i>F. D. Godman</i> ).	Salvin-Godman Coll.
<i>h.</i> ♂ ad. sk.	S. Mexico ( <i>A. Sallé</i> ).	Gould Coll.
<i>i, j.</i> ♂ ad. sk.	Northern Yucatan ( <i>G. F.</i> <i>Gaumer</i> ).	Salvin-Godman Coll.
<i>k.</i> ♂ ad. sk.	Meco I., Yucatan ( <i>G. F. G.</i> ).	Salvin-Godman Coll.
<i>l.</i> ♂ ad. sk.	Mugerres I., Yucatan ( <i>G. F. G.</i> ).	Salvin-Godman Coll.
<i>m-u.</i> ♂ ad.; <i>v.</i> ♀ ad. sk.	Cozumel I., Yucatan ( <i>G. F. G.</i> ).	Salvin-Godman Coll.
<i>w, x.</i> ♂ ad.; <i>y.</i> ♀ juv. sk.	Bonacca I., Honduras ( <i>G. F.</i> <i>G.</i> ).	Salvin-Godman Coll.
<i>z.</i> ♂ ad. sk.	Belize, Brit. Honduras ( <i>Blan-</i> <i>caneur</i> ).	Salvin-Godman Coll.
<i>a'-e'.</i> ♂ ad.; <i>f'-h'.</i> ♀ ad. sk.	Santana, Peten, April ( <i>O. Sal-</i> <i>vin</i> ).	Salvin-Godman, Gould, & Selater Colls.
<i>i', j'.</i> ♂ ad.; <i>k'.</i> ♀ ad. sk.	Escuintla, Guatemala, Jan. ( <i>O.</i> <i>Salvin</i> ).	Salvin-Godman & Gould Colls.
<i>l'.</i> ♂ juv. sk.	Guatemala ( <i>Constancia</i> ).	Salvin-Godman Coll.
<i>m'.</i> ♂ ad. sk.	Honduras?	Gould Coll.
<i>n'.</i> ♂ ad. sk.	Bebedero, Costa Rica ( <i>Arce</i> ).	Salvin-Godman Coll.
<i>o'.</i> ♀ ad. sk.	Costa Rica ( <i>Endres</i> ).	Salvin-Godman Coll.
<i>p'.</i> ♂ ad. sk.	Venezuela ( <i>Spence</i> ).	Sclater Coll.

### 8. *Lampornis hendersoni*.

*Lampornis hendersoni*, *Cory, Auk*, iv. p. 177 (1887).

*Adult male.* Similar to that of *L. prevosti*, but the bill considerably shorter, and the black gular patch longer and narrower. Total length about 4.4 inches, wing 2.65, tail 1.4, bill 0.9.

*Adult female.* Differs only in its shorter bill.

This bird is very closely allied to *L. prevosti*, and probably only to be distinguished by its short bill. The differences of colour alluded to by Mr. Cory are untrustworthy when a large series of *L. prevosti* is examined.

*Hab.* Old Providence Island.

<i>a, b.</i> ♂ ad.; <i>c.</i> ♀ ad. sk.	Old Providence I., March ( <i>R.</i> <i>Henderson</i> ). ( <i>Cory Coll.</i> )	Salvin-Godman Coll.
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### 9. *Lampornis veraguensis*.

*Lampornis veraguensis*, *Gould, Mon. Troch.* ii. pl. 76 (May 1858); *id. Intr. Troch.* p. 65; *Bp. Rev. Zool.* 1854, p. 251; *Cub. & Heine, Mus. Hein.* iii. p. 18; *Scl. Cat. Am. B.* p. 291; *Muls. & Ferr. Class. Troch.* p. 24; *Lawr. Ann. Lyc. N. Y.* viii. p. 177, ix. p. 121; *Salv. P. Z. S.* 1867, p. 153, 1870, p. 207; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 146, iv. p. 153; *id. Ann. Soc. Linn. Lyon*, xxii. p. 202; *Elliot, Syn. Troch.* p. 40; *Eudes-Desl. Ann. Mus. Caen*, i. p. 203.

*Anthracothorax* γ. *Senecotes veraguensis*, *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 9, pl. 794, f. 4848.

*Polytmus veraguensis*, *Gray, Hand-l. B.* i. p. 125.

*Adult male.* Similar to that of *L. prevosti*, but with the whole throat glittering green, not black.

*Hab.* Panama from the Volcan de Chiriqui to Calobre.

a. ♂ ad. ; b. ♀ ad. sk.	Volcan de Chiriqui ( <i>Warszewicz</i> ).	Gould Coll. (Types of the species.)
c-h. ♂ ad. ; i. ♂ juv. ; j, k. ♀ ad. sk.	Calobre, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.

#### 10. *Lampornis viridis*.

*Trochilus viridis*, *Aud. & Vieill. Ois. Dor.* i. p. 39, pl. 15 ; *Vieill. N. Diet. d'Hist. N.* vii. p. 357 ; *id. Enc. Méth.* p. 551 ; *Less. Hist. Nat. Col.* p. 50, pl. 11 ; *Ind. Gén. Troch.* p. x ; *Sunder. Œfr. K. Vet.-Ak. Förh.* 1869, p. 600.

*Lampornis viridis*, *Bp. Consp.* i. p. 71 ; *Gould, Mon. Troch.* ii. pl. 78 (May 1861) ; *id. Intr. Troch.* p. 66 ; *E. C. Taylor, Ibis*, 1864, p. 169 ; *Muls. & Verr. Class. Troch.* p. 24 ; *Elliot, Ibis*, 1872, p. 348 ; *id. Syn. Troch.* p. 40 ; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 172 ; *Gundl. J. f. Orn.* 1878, p. 180 ; *id. An. Soc. Esp. Nat. Hist.* vii. p. 222 ; *Cory, B. West Ind.* p. 144.

*Agyrtia* ♂. *Chalybura viridis*, *Reich. Aufz. d. Col.* p. 10 ; *id. Troch. Enum.* p. 7, pl. 765. ff. 4771-72.

*Chalybura viridis*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 203 ; *id. Hist. Nat. Ois.-Mouches*, iv. p. 157 ; *Eudes-Desl. Ann. Mus. Caen*, i. p. 204.

*Polytmus viridis*, *Gray, Hand-l. B.* i. p. 125.

*Adult male.* Upper surface bronzy green ; under surface glittering grass-green ; tail steel-blue, narrowly tipped with white ; bill black. Total length 4 inches, wing 2.5, tail 1.45, bill 1.1.

*Adult female.* Middle tail-feathers bronze-green, under surface pale grey, lateral rectrices greenish steel-blue tipped with white and with the shafts with the webs adjoining towards the base whitish.

The *young male* is dull dark green beneath, the glittering feathers being first shown on the throat.

*Hab.* West Indies, Puerto Rico and St. Thomas.

a. ♂ ad. sk.	Puerto Rico.	H. Bryant [P.].
b. ♀ ad. sk.	Puerto Rico ( <i>H. Bryant</i> ).	Slater Coll.
c. ♂ ad. sk.	Puerto Rico ( <i>Bourcier</i> ).	Gould Coll.
d. ♂ ad. sk.	Puerto Rico, May ( <i>E. C. Taylor</i> ).	Gould Coll.
e. ♂ ad. sk.	Puerto Rico ( <i>G. Latimer</i> ).	Salvin-Godman Coll.
f. ♀ ad. sk.	Puerto Rico.	Smiths. Inst. [P.].
g. ♀ ad. sk.	St. Thomas ( <i>A. H. Ruse</i> ).	Slater Coll.

## 21. PINAROLÆMA.

Type.

Pinarolæma, *Gould, Ann. & Mag. N. H.* 1880, v. p. 489. P. buckleyi.*Range.* Bolivia.

## 1. Pinarolæma buckleyi.

Pinarolæma buckleyi, *Gould, Ann. & Mag. N. H.* 1880, v. p. 489;  
*id. Mon. Troch. Suppl.* pl. 8 (Aug. 1880).

*Adult?* Brown, with a purplish gloss on the back, upper tail-coverts brown; tail-feathers brown glossed with purple, and with a sub-terminal bar of steel-blue; under surface brown, apparently tinged with metallic olive-green; under tail-coverts whitish, washed with brown at the base; bill black. Total length about 5 inches, wing 2.95, tail 1.85, bill 1.2.

Only known from the type, an abraded specimen, from which the plumage of the freshly-moulted bird can only be conjectured, as has been done in Gould's plate. The serrated tomia of both maxilla and mandible show that this bird has no relationship with *Oreotrochilus* but rather with *Lampornis*, an alliance borne out by the colour of the tail.

*Hab.* Bolivia.

a. Ad.?  
Misqui, Bolivia (*Buckley*).  
Gould Coll.  
(Type of species.)

## 22. AVOCETTULA.

Type.

Avocettula, *Reich. Av. Syst.* pl. 39 (1849)... . . . . A. recurvirostris.  
Avocettinus, *Bp. Consp. Av.* i. p. 75 (1850) (*nee Rev.*  
*Zool.* 1854) . . . . . A. recurvirostris.  
Streblorhamphus, *Cab. & Heine, Mus. Hein.* iii.  
p. 76 (1860) . . . . . A. recurvirostris.

*Range.* Guiana.

## 1. Avocettula recurvirostris.

Trochilus recurvirostris, *Sw. Zool. Ill.* ii. pl. 105; *Less. Hist. Nat.*  
*Ois.-Mouches*, pp. xxxvi. 129, pl. 37; *Suppl. Ois.-Mouches.* p. 98;  
*Ind. Gén. Troch.* p. ix.

Mellisuga recurvirostris, *Steph. in Shaw's Gen. Zool.* xiv. p. 248.

Ornismya recurvirostris, *Less. Suppl. Ois.-Mouches*, p. 166, pl. 34.

Trochilus avocetta, *Less. Ind. Gén. Troch.* p. ix.

Ornismya avocetta, *Less. Suppl. Ois.-Mouches*, p. 145, pl. 24.

Campylopterus recurvirostris, *Sw. Class. B.* ii. p. 330.

Hylocharis avocetta, *Gray, Gen. B.* i. p. 114.

Avocettinus recurvirostris, *Bp. Consp. Av.* i. p. 75.

Avocettinus lessoni, *Bp. Consp. Av.* i. p. 75.

Avocettinus carolus, *Bp. Rev. Zool.* 1854, p. 256.

Avocettula recurvirostris, *Reich. Aufz. d. Col.* p. 6; *id. Troch. Enum.*  
p. 3, pl. 679. ff. 4487-9; *Bp. Rev. Zool.* 1854, p. 256; *Gould, Mon.*  
*Troch.* iii. pl. 201 (May 1856); *id. Intr. Troch.* p. 114; *Muls. & Ferr.*

*Class. Troch.* p. 52; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 262; *id. Ann. Soc. Linn. Lyon*, xxii. p. 214; *Elliot, Syn. Troch.* p. 162; *Salv. Ibis*, 1885, p. 433.

*Streblorhamphus recurvirostris*, *Cab. & Hein. Mus. Hein.* iii. p. 76.  
*Hylocharis recurvirostris*, *Gray, Hand-l. B.* i. p. 151.

*Adult male.* Upper surface dark shining grass-green, duller on the crown; throat and breast glittering green but not very bright; middle of the abdomen black; flanks and under tail-coverts washed with green; central rectrices dark bronzy green, lateral coppery purple, beneath fiery coppery red; bill black. Total length about 3.5 inches, wing 2.25, tail 1.1, bill 0.75.

*Adult female.* Under surface white, a median line black; the sides of the neck and flanks shining green; lateral rectrices blue-black tipped with white.

*Young male.* Like the female, but with the bases of the lateral rectrices beneath on the inner webs fiery coppery red, the glittering green of the throat begins to appear in the middle and thence to spread over the white portion on either side.

*Hab.* Guiana.

- |                                      |                              |                              |
|--------------------------------------|------------------------------|------------------------------|
| a. ♀ ad. sk.                         | Bartica Grove, Brit. Guiana, | Salvin-Godman Coll.          |
|                                      | Aug. ( <i>H. Whiteley</i> ). |                              |
| b, c. ♂ ad.; d. ♂ juv.; e. ♀ ad. sk. | Guiana.                      | Salvin-Godman & Gould Colls. |
| f. ♂ ad. st.                         |                              | Purchased.                   |

### 23. EULAMPIS.

- |  |                          |
|--|--------------------------|
| Eulampis, <i>Boie, Isis</i> , 1831, p. 547 .....                 | Type.                    |
| Anthracothorax $\gamma$ . <i>Sericotes, Reich. Aufz. d. Col.</i> | <i>E. jugularis</i> .    |
| p. II (1854) .....   | <i>E. holosericeus</i> . |

*Range.* Lesser Antilles, from the Virgin Islands to St. Vincent.

#### *Key to the Species.*

- |   |                               |
|---|-------------------------------|
| a. Wings shining green; throat rich shining vinous-red .....    | <i>jugularis</i> , p. 102.    |
| b. Wings dark purple-black; throat glittering grass-green ..... | <i>holosericeus</i> , p. 104. |

#### 1. *Eulampis jugularis*.

Red-breasted Humming-bird, *Edw. Gleanings*, ii. pl. 266, fig. 2; *Lath. Syn.* i. pt. 2, p. 753.

Le Grenat, *Buff. Hist. Nat. Ois.* vi. p. 48; *Aud. & Vieill. Ois. Dor.* i. p. 20, pl. 4.

Colibri violet, *Buff. Hist. Nat. Ois.* vi. p. 57.

Colibri violet de Cayenne, *Buff. Pl. Enl.* 600, fig. 2.

Colibri à gorge carmin, *Buff. Hist. Nat. Ois.* vi. p. 56.

Violet Humming-bird, *Lath. Syn.* i. pt. 2, p. 756.

Garnet-throated Humming-bird, *Lath. Syn.* i. pt. 2, p. 752, pl. 24.

*Polytmus cayennensis violaceus*, *Briss. Orn.* iii. p. 683, pl. 35, fig. 3.



- Trochilus jugularis*, *Linn. Syst. Nat.* i. p. 190; *Gm. Syst. Nat.* i. p. 489.  
*Trochilus auratus*, *Gm. Syst. Nat.* i. p. 487; *Less. Hist. Nat. Col.* p. 46, pl. 10; *Ind. Gén. Troch.* p. vii.  
*Trochilus bancrofti*, *Lath. Ind. Orn.* i. p. 317?  
*Trochilus venustissimus*, *Gm. Syst. Nat.* i. p. 490?  
*Trochilus cyanomelas*, *Gm. Syst. Nat.* i. p. 498?  
*Trochilus auratus*, var.  $\beta$ , *Gm. Syst. Nat.* i. p. 487.  
*Trochilus violaceus*, *Gm. Syst. Nat.* i. p. 488; *Vieill. N. Dict. d'Hist. N.* vii. p. 358; *id. Enc. Meth.* p. 552.  
*Certhia prasinoptera*, *Sparvm. Mus. Carls.* ii. pl. 81.  
*Trochilus granatinus*, *Vieill. N. Dict. d'Hist. N.* vii. p. 350.  
*Eulampis jugularis*, *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 9, pl. 796. ff. 4851-52; *Bp. Consp.* i. p. 72; *id. Rev. Zool.* 1854, p. 250; *Gould, Mon. Troch.* ii. pl. 82 (Sept. 1857); *id. Intr. Troch.* p. 67; *Cab. & Heine, Mus. He'n.* iii. p. 17; *Sci. Cat. Am. B.* p. 291; *id. P. Z. S.* 1871, p. 272; *E. C. Taylor, Ibis*, 1864, p. 169; *Muls. & Ferr. Class. Troch.* p. 45; *Elliot, Ibis*, 1872, p. 352; *id. Syn. Troch.* p. 43; *Semper, P. Z. S.* 1872, p. 651; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 131, iv. p. 200; *id. Ann. Soc. Linn. Lyon*, xxii. p. 210; *Laur. Pr. U. S. Nat. Mus.* i. pp. 60, 192, 358, 458; *Lister, Ibis*, 1880, p. 42; *Eudes-Desl. Ann. Mus. Caen*, i. p. 182; *Grisdale, Ibis*, 1882, p. 489; *Cory, Ibis*, 1886, p. 475; *id. B. West Indies*, p. 145.  
*Polytmus jugularis*, *Gray, Hand-l. B.* i. p. 130.  
*Eulampis jugularis eximius*, *Berl. Ibis*, 1887, p. 294.

*Adult male.* Upper surface velvety black, upper and under tail-coverts glittering bluish green; wings shining green, rather brighter on the coverts than on the quills; under surface from the chin to the chest rich shining vinous-red, abdomen black; tail greenish black; bill black. Total length about 5 inches, wing 3, tail 1.5, bill 1.

*Adult female.* Precisely like the male except that the bill is longer (1.2) and more arched.

*Hab.* West Indies, Windward Islands from Nevis to St. Vincent.

<i>a.</i> ♂ ad.; <i>b.</i> ♀ ad. sk.	Nevis, West Indies.	T. C. Cottle [P.].
<i>c-f.</i> Ad. sk.	Nevis.	Salvin-Godman & Gould Colls.
<i>g.</i> ♂ ad. sk.	St. Kitts, W. I., March ( <i>C. S. Wink</i> ). ( <i>C. B. Cory Coll.</i> )	Salvin-Godman Coll.
<i>h.</i> ♂ ad. sk.	Guadeloupe, W. I., Sept. ( <i>F. A. Ober</i> ).	Salvin-Godman Coll.
<i>i.</i> ♂ ad.; <i>j, k.</i> ♀ ad. sk.	Dominica, W. I. ( <i>F. A. Ober</i> ).	Salvin-Godman & Selater Colls.
<i>l.</i> ♀ ad. sk.	Dominica, Jan. ( <i>Ramage</i> ).	West India Expl. Comm.
<i>m-p.</i> ♂ ad. sk.	Laudat, Dominica, April ( <i>Ramage</i> ).	West India Expl. Comm.
<i>q, r.</i> Ad. sk.	Martinique ( <i>E. C. Taylor</i> ).	Sclater & Gould Colls.
<i>s.</i> Ad. sk.	Martinique, Nov. ( <i>W. B. Richardson</i> ). ( <i>C. B. Cory Coll.</i> )	Salvin-Godman Coll.
<i>t-r.</i> Ad. sk.	Sta. Lucia, W. I. ( <i>Semper</i> ).	Salvin-Godman & Gould Colls.

w. ♀ ad. sk.	Sta. Lucia, April ( <i>Ramage</i> ).	West India Expl. Comm.
x. Ad. sk.	St. Vincent ( <i>C. B. Cory</i> ).	Salvin-Godman Coll.
y. Ad. st.		Purchased.

## 2. *Eulampis holosericeus*.

- Black-bellied green Humming-bird, *Edw.* i. pl. 36.  
*Avis auricoma mexicana*, *Scha*, *Thes.* i. pl. 99. fig. 4.  
 Colibri vert et noir, *Buff. Hist. Nat. Ois.* vi. p. 23.  
 Polytmus mexicanus, *Briss. Orn.* iii. p. 676, pl. 35. fig. 2.  
 Trochilus holosericeus, *Linn. Syst. Nat.* i. p. 191; *Gm. Syst. Nat.* i. p. 491; *Lath. Ind. Orn.* i. p. 305; *Vieill. N. Dict. d'Hist. N.* vii. p. 357; *id. Enc. Méth.* p. 551; *Less. Hist. Nat. Col.* p. 76, pl. 20; *id. Ind. Gén. Troch.* p. xi.  
 Black-bellied Humming-bird, *Lath. Syn.* i. pt. 2, p. 754.  
 Le Vert et Noir, *Aud. et Vieill. Ois. Dor.* i. p. 22, pl. 6.  
*Eulampis holosericeus*, *Bp. Consp.* i. p. 72; *id. Rev. Zool.* 1854, p. 250; *Gould, Mon. Troch.* ii. pl. 83 (Sept. 1857); *id. Intr. Troch.* p. 68; *Sci. Cat. Am. B.* p. 291; *id. P. Z. S.* 1871, p. 272, 1874, p. 175; *E. C. Taylor, Ibis*, 1864, p. 170; *Muls. & Verr. Class. Troch.* p. 45; *Elliot, Ibis*, 1872, p. 35; *id. Syn. Troch.* p. 42; *Semper, P. Z. S.* 1872, p. 651; *Salv. Ibis*, 1873, p. 334; *id. Cat. Strickl. Coll.* p. 363; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 134, iv. p. 200; *id. Ann. Soc. Linn. Lyon*, xxii. p. 211; *Lawr. Pr. U. S. Nat. Mus.* i. pp. 60, 192, 234, 240, 272, 358, 458; *Lister, Ibis*, 1880, p. 42; *Grisdale, Ibis*, 1882, p. 489; *Cory, Ibis*, 1886, p. 472; *id. B. West Indies*, p. 146.  
 Anthracothorax γ. *Seicotes holosericeus*, *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 9, pl. 794. fig. 4847.  
 Anthracothorax γ. *Seicotes chlorolæmus*, *Reich. Aufz. d. Col.* p. 11.  
*Eulampis chlorolæmus*, *Bp. Rev. Zool.* 1854, p. 250 (*ex Gould, MS.*); *Gould, Mon. Troch.* ii. pl. 84 (Sept. 1857); *id. Intr. Troch.* p. 68; *A. & E. Newton, Ibis*, 1859, p. 138; *Sci. Cat. Am. B.* p. 291.  
*Lampornis holosericeus*, *Cab. & Heine, Mus. Hein.* iii. p. 17; *Gundl. J. f. Orn.* 1878, p. 181.  
*Lampornis chlorolæmus*, *Cab. & Heine, Mus. Hein.* iii. p. 17.  
*Eulampis longirostris*, *Gould, Intr. Troch.* p. 69.  
 Polytmus holosericeus et chlorolæmus, *Gray, Hand-l. B.* i. p. 130.  
*Seicotes holosericeus*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 185.  
*Seicotes longirostris*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 186.

*Adult male.* Upper surface dark shining golden green, upper and under tail-coverts glittering greenish blue; wings purple-black; tail dark steel-blue; under surface from the chin to the chest glittering grass-green, chest glittering blue; abdomen black, glossed especially on the flanks with green; bill black. Total length about 4.5 inches, wing 2.3, tail 1.4, bill 1.

*Adult female.* Precisely like the male.

*Eulampis chlorolæmus* of Gould was founded upon Nevis specimens, which are described as "having a deeper and less luminous green throat, and the blue patch on the breast dilated into a band of blue extending across the chest." With the series before me I do not see how the species is susceptible of any definite division. The types of *E. longirostris*, which are also before me, are in a bad state, and do not justify the supposition that they belong to a distinct species. The bill is rather longer than usual, but as the

bill of the female of *E. jugularis* is longer than that of the male, the variation in these specimens may be due to their being females. But this view is hardly borne out by dissected specimens.

*Hab.* West Indies, from St. Thomas to Barbadoes.

<i>a.</i> Ad. sk.	St. Thomas, Dec. ( <i>O. Salvin</i> ).	Salvin-Godman Coll.
<i>b-g.</i> Ad. sk.	St. Thomas ( <i>A. II. Riise</i> ).	Salvin-Godman, Gould, & Sclater Colls.
<i>h.</i> Ad. sk.	St. Thomas ( <i>A. II. Riise</i> ).	A. Newton, Esq. [P.].
<i>i.</i> ♂ ad. sk.	Castle Burke, St. Croix, June ( <i>A. N.</i> ).	A. Newton, Esq. [P.].
<i>j.</i> Ad. sk.	St. Croix, Jan. ( <i>C. S. Winch</i> ). ( <i>C. B. Cory Coll.</i> )	Salvin-Godman Coll.
<i>k.</i> ♂ ad. sk.	St. Croix, July ( <i>O. Salvin</i> ).	Salvin-Godman Coll.
<i>l, m.</i> ♂ ad. sk.	Virgin Gorda, Nov. ( <i>C. S.</i> <i>Winch</i> ). ( <i>C. B. Cory Coll.</i> )	Salvin-Godman Coll.
<i>n, o.</i> Ad. sk.	St. Kitts, March, Dec. ( <i>Arm-</i> <i>strong</i> ). ( <i>C. B. Cory Coll.</i> )	Salvin-Godman Coll.
<i>p-u.</i> Ad. sk.	Nevis.	Salvin-Godman & Gould Colls.
<i>v.</i> ♂ ad.; <i>w.</i> ♀ ad. sk.	Guadeloupe, Feb., Sept. ( <i>F. A. Ober</i> ).	Salvin-Godman & Sclater Colls.
<i>x.</i> Ad. sk.	Dominica ( <i>E. C. Taylor</i> ).	Sclater Coll.
<i>y.</i> ♂ ad.; <i>z.</i> ♀ ad. sk.	Dominica, April ( <i>Ramage</i> ).	West India Expl. Comm.
<i>a'.</i> Ad. sk.	Martinique.	Sclater Coll.
<i>b'.</i> Ad. sk.	Martinique, Nov. ( <i>W. B.</i> <i>Richardson</i> ). ( <i>C. B. Cory Coll.</i> )	Salvin-Godman Coll.
<i>c', d'.</i> Ad. sk.	Sta. Lucia ( <i>Senyver</i> ).	Salvin-Godman & Sclater Colls.
<i>e'.</i> ♂ ad. sk.	Sta. Lucia, April ( <i>Ramage</i> ).	West India Expl. Comm.
<i>f'.</i> Ad. sk.	Barbadoes ( <i>Briggs</i> ).	Sclater Coll.
<i>g'.</i> Ad. sk.	Barbadoes.	Gould Coll.
<i>h'.</i> Ad. sk.		Gould Coll.
		(Type of <i>E. longirostris</i> , Gould.)
<i>i-n'.</i> Ad. sk.	[Nevis.]	Gould Coll.
<i>o'.</i> Ad. st.	Nevis.	W. Cottle [P.].
		(Type of <i>E. chlorolæmus</i> , Gould.)
<i>p'.</i> Ad. st.		Purchased.
<i>q', r'.</i> Skeletons.		Purchased.

## 24. PETASOPHORA.

	Type.
Colibri, <i>Spir.</i> , <i>Av. Bras.</i> i. p. 80 (1824) . . . . .	<i>P. serrirostris</i> .
Petasophora, <i>G. R. Gray</i> , <i>List Gen. B.</i> p. 13 (1840) . .	<i>P. serrirostris</i> .
Trochilus ( <i>Coligena</i> ), <i>Tsch. Faun. Per.</i> p. 39 (1844) . .	<i>P. iolata</i> .
Trochilus ( <i>Lophornis</i> ), <i>Tsch. Faun. Per.</i> p. 39 . . . . .	<i>P. serrirostris</i> .
Petasophora $\gamma$ . <i>Praxilia</i> , <i>Reich. Aufz. d. Col.</i> p. 13 (1854) . . . . .	<i>P. iolata</i> .
Petasophora $\beta$ . <i>Telesiella</i> , <i>Reich. Aufz. d. Col.</i> p. 13 (1854) . . . . .	<i>P. delphinae</i> .
<i>Telesilla</i> , <i>Cub. &amp; Heine</i> , <i>Mus. Hein.</i> iii. p. 27 (1860) . .	<i>P. delphinae</i> .

*Range.* Southern Mexico, Central America, and South America generally to Bolivia and South Brazil.

## Key to the Species.

- a. General plumage shining green.  
 a'. Under tail-coverts white; ear-plumes glittering purple ..... *serrirostris*, p. 106.  
 b'. Under tail-coverts dusky, washed with green; ear-plumes glittering blue.  
 a''. Chin glittering blue.  
 a'''. Middle of the throat glittering green.  
 a<sup>t</sup>. Forehead dull green..... *iolata*, p. 107.  
 b'. Forehead blue ..... *germana*, p. 108.  
 b'''. Middle of the throat glittering reddish bronze ..... *coruscans*, p. 109.  
 b''. Chin glittering green like the throat.  
 c'''. Abdomen blue ..... *thalassina*, p. 109.  
 d'''. Abdomen green ..... *cyanotis*, p. 110.  
 b. General plumage brown..... *delphinea*, p. 111.

1. *Petasophora serrirostris*.

- Trochilus serrirostris*, Vieill. *N. Dict. d'Hist. N.* vii. p. 359; *id. Enc. Méth.* p. 561; *Less. Hist. Nat. Ois.-Mouches, Suppl.* p. 96.  
*Trochilus petasophora*, Wied, *Reise*, ii. p. 191; *Beitr.* iv. p. 76; *Temm. Pl. Col.* 203. fig. 3; *Less. Ind. Gén. Troch.* p. viii.  
*Colibri crispus*, Spix, *Ar. Bras.* i. 80, pl. 81.  
*Grypus vieilloti*, Steph. in *Shaw's Gen. Zool.* xiv. p. 256.  
*Ornismya petasophora*, Less. *Hist. Nat. Ois.-Mouches*, pp. xxxviii, 37, pl. i.  
*Trochilus* (*Lophornis*) *petasophorus*, Tsch. *Fauna Per.* p. 245.  
*Petasophora serrirostris*, Gould, *P. Z. S.* 1847, p. 8; *id. Mon. Troch.* iv. pl. 223 (May 1853); *id. Intr. Troch.* p. 124; *Bp. Consp.* i. p. 69; *id. Rev. Zool.* 1854, p. 250; *Reich. Aufz. d. Col.* p. 13; *Cub. & Heine, Mus. Hein.* iii. p. 25; *Scl. Cat. Am. B.* p. 306; *Muls. & Ferr. Class. Troch.* p. 48; *Pelz. Orn. Bras.* p. 28; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 105; *Elliot, Ibis*, 1876, p. 406, 1877, p. 137; *id. Syn. II. Birds*, p. 52; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 153, iv. p. 202; *id. Ann. Soc. Linn. Lyon*, xxii. p. 211; *Scl. & Salv. P. Z. S.* 1879, p. 629; *Salv. Cat. Strickl. Coll.* p. 366; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 366; *Scl. & Huds. Arg. Orn.* ii. p. 3; *Allen, Bull. Am. Mus. N. H.* ii. p. 258.  
*Petasophora gouldi*, *Bp. Consp.* i. p. 69.  
*Petasophora chalcotis*, Licht. *MS., Reich. Aufz. d. Col.* p. 13.  
*Petasophora crispa*, *Burm. Syst. Ueb.* ii. p. 335; *id. J. f. Orn.* 1800, p. 244; *id. La-Plata Reise*, ii. p. 447.  
*Polytmus serrirostris*, Gray, *Hand-l. B.* i. p. 127.

*Adult male.* Upper surface pale grass-green; under surface shining green, the throat glittering, each feather with a dark centre and a shining edge; ear-plumes glittering purple; under tail-coverts white; central rectrices bluish green, lateral the same with a wide submarginal band; bill black. Total length about 5 inches, wing 2.8; tail, central rectrices 1.6, lateral 1.7; bill 0.9.

*Female.* Similar to the male; the outermost pair of rectrices whitish towards the end of the outer web.

*Young birds* have the feathers widely margined with buff; the sides of the throat whitish. The plumage of the adult first appears on the throat and ear-plumes.

*Hab.* Eastern, Central, and Southern Brazil; Bolivia.

a. ♀ ad. sk.	Bahia, Brazil.	Gould Coll.
b. ♀ ad. sk.	Brazil ( <i>Rogers</i> ).	Gould Coll.
c-g. ♂ ad.; h. ♂	Brazil (Rio make).	Salvin-Godman &
juv. sk.		Gould Colls.
i. ♂ ad. sk.	Goyaz, Brazil, Aug. ( <i>Nat-</i>	Salvin-Godman Coll.
	<i>terer</i> ).	
j, k. ♂ juv.; l.	Brazil.	Gould Coll.
♀ ad. sk.		
m-g. ♂ ad.; r-v.	Chapada, Matto Grosso, May	Salvin-Godman Coll.
♀ ad. sk.	to Sept. ( <i>H. H. Smith</i> ).	
w. ♂ ad.; v. ♀	Coroico, Bolivia ( <i>D. Forbes</i> ).	Gould Coll.
ad. sk.		
y. Ad. st.		Purchased.

## 2. *Petasophora iolata*.

*Rhamphodon anais*, *Less. Hist. Nat. Troch.* p. 146, pl. 55 (*see Ornismya anais*, *Less. Hist. Nat. Ois.-Mouches, Suppl.* p. 104, pl. 3).

*Petasophora anais*, *Gould, P. Z. S.* 1847, p. 8; *id. Mon. Troch.* iv. pl. 224 (May 1853); *id. Intr. Troch.* p. 124; *Bp. Rev. Zool.* 1854, p. 250; *Cab. & Heine, Mus. Hein.* iii. p. 26; *Sel. Cat. Am. B.* p. 306; *Muls. & Ferr. Class. Troch.* p. 49; *Laur. Ann. Lyc. N. Y.* ix. p. 237; *Sel. & Salv. P. Z. S.* 1870, p. 782, 1879, pp. 529, 629; *Wyatt, Ibis*, 1871, p. 378; *Tacz. P. Z. S.* 1874, p. 541, 1879, p. 237, 1880, p. 204; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 144, iv. p. 201; *id. Ann. Soc. Linn. Lyon*, xxii. p. 211; *Elliot, Syn. Troch.* p. 50; *id. Ibis*, 1876, p. 403; *Salv. & Godm. Ibis*, 1880, p. 173; *Eudes-Desl. Ann. Mus. Caen*, i. p. 257; *Tacz. Orn. Pér.* i. p. 367; *Berl. & Tacz. P. Z. S.* 1884, p. 303, 1885, p. 104.

*Petasophora iolata*, *Gould, P. Z. S.* 1847, p. 9; *id. Mon. Troch.* iv. pl. 225 (May 1853); *id. Intr. Troch.* p. 124; *id. P. Z. S.* 1870, p. 803; *Sel. P. Z. S.* 1858, p. 459, 1859, p. 145, 1860, pp. 81, 94; *id. Cat. Am. B.* p. 306; *Cab. & Heine, Mus. Hein.* iii. p. 26; *Muls. & Ferr. Class. Troch.* p. 48; *Sel. & Salv. P. Z. S.* 1867, p. 988, 1868, p. 569; *Tacz. P. Z. S.* 1874, p. 541; *Eudes-Desl. Ann. Mus. Caen*, i. p. 259; *Berl. J. f. Orn.* 1887, p. 318.

*Colibri iolata*, *Bp. Consp.* i. p. 69.

*Colibri anais*, *Bp. Consp.* i. p. 69.

*Petasophora* γ. *Praxilla iolata*, *Reich. Aufz. d. Co.* p. 13

*Petasophora* γ. *Praxilla anais*, *Reich. Aufz. d. Col.* p. 13

*Polytmus anais and iolata*, *Gray, Hand-l. B.* i. p. 127

*Adult male.* Upper surface shining grass-green; under surface glittering green, feathers of the throat with dark centres and glittering borders; chin, cheeks, and elongated ear-plumes and middle of the abdomen rich shining blue; under tail-coverts pale green, edged with dusky white; central rectrices shining olive-green, lateral steel-blue, all with a subterminal dark band; bill black. Total length 5.4 inches, wing 3.2; tail, middle rectrices 1.75, lateral 2.15; bill 1.2.

*Adult female.* Similar to the male.

*Young birds* have the feathers both above and below conspicuously edged with fulvous; the blue auricular plumes and the blue throat are assumed at a very early age, the glittering green feathers at a later period.

The original description of *Ornismya anais*, Less., seems to have been bestowed upon the Mexican *P. thalassina*, with which the South-American *P. iolata* was afterwards confused by Lesson. The latter has usually been called *P. anais*, but as this seems inadmissible the name *P. anais* had best be dropped altogether in favour of *P. iolata*.

*Hab.* Andes of South America from Venezuela to Bolivia.

<i>a.</i> Ad. sk.	Merida, Venezuela ( <i>Goering</i> ).	Salvin-Godman Coll.
<i>b. c.</i> Juv. sk.	Valley of Aragua, Venezuela.	E. Dyson [C.].
<i>d. e.</i> ♂ ad. sk.	San Sebastian, Sierra Nevada de Sta. Marta, Colombia, June, July ( <i>F. Simons</i> ).	Salvin-Godman Coll.
<i>f.</i> Ad. sk.	Sierra Nevada de Sta Marta, July ( <i>F. Simons</i> ).	Salvin-Godman Coll.
<i>g.</i> Ad. sk.	Medellin, Colombia ( <i>T. K.</i> <i>Salmon</i> ).	Salvin-Godman Coll.
<i>h-n.</i> ♂ ad.; <i>o-q.</i> Juv. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>r.</i> Ad.; <i>s.</i> Juv. sk.	Baños, Ecuador ( <i>Buckley</i> ).	Gould Coll.
<i>t, u.</i> Ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman & Gould Colls.
<i>v, w.</i> Ad.; <i>x.</i> Juv. sk.	Ecuador.	Salvin-Godman Coll.
<i>y, z.</i> ♂ ad.; <i>a', b'.</i> ♀ ad. sk.	Quito, Ecuador.	Gould Coll.
<i>c', d'.</i> Ad. sk.	Ecuador ( <i>Fraser</i> ).	Gould & Selater Colls.
<i>e'.</i> ♂ ad. sk.	Tinta, Peru, June ( <i>H.</i> <i>Whitely</i> ).	Salvin-Godman Coll.
<i>f'.</i> Ad. sk.	Tilotilo, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>g'-i'.</i> Ad. sk.	Yungas, Bolivia ( <i>Buckley</i> ).	Gould Coll.
<i>j'.</i> Ad. sk.	Bolivia ( <i>D. Forbes</i> ).	Sclater Coll.
<i>k', l'.</i> Ad. st.		Purchased.

### 3. *Petasophora germana.*

*Petasophora anais*, *Cab. in Schomb. Reise Guiana*, iii. p. 707 ?

*Petasophora germana*, *Salv. & Godm. Ibis*, 1884, p. 451; *Salv. Ibis*, 1885, p. 434; *Sharpe in Gould's Suppl. Troch.* pl. 11 (Mar. 1887).

*Adult male.* Similar to that of *P. iolata*, but with the throat of a darker bluer tint, the forehead also is blue.

*Adult female.* Similar to the male.

*Hab.* Guiana, Roraima Mts., at an altitude of about 5000 to 6000 feet.

<i>a. ♂ ad.; b. ♀ ad.</i> sk.	Roraima, Brit. Guiana. Aug. ( <i>H. Whitely</i> ).	Salvin-Godman Coll (Types of species).
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4. *Petasophora coruscans*.

*Trochilus* (*Petasophora*) *coruscans*, *Gould, P. Z. S.* 1846, p. 44.

*Petasophora coruscans*, *Gould, P. Z. S.* 1847, p. 9; *id. Mon. Troch.* iv. pl. 226 (May 1853); *id. Intr. Troch.* p. 125; *Bp. Rev. Zool.* 1854, p. 251; *Muls. & Ferr. Class. Troch.* p. 49; *Elliot, Ibis*, 1876, p. 405; *id. Syn. Troch.* p. 51; *Eudes-Desl. Ann. Mus. Caen*, i. p. 261; *Berl. J. f. Orn.* 1887, p. 318.

*Petasophora*  $\gamma$ . *Praxilla coruscans*, *Reich. Aufz. d. Col.* p. 13.

*Colibri coruscans*, *Bp. Consp.* i. p. 69.

*Adult male*. Similar to that of *P. isolata*, but with the middle of the throat glittering reddish bronze, the middle of the abdomen rich dark blue, the under tail-coverts pale greenish widely bordered with rufous.

An obscure species if really distinct from *P. isolata*. Mr. Elliot possessed a second specimen precisely like the type, which he found in a large trade collection sent from Bogota. He also obtained another specimen of *Petasophora* with a fiery patch on the throat, but differing from *P. coruscans*. He described it as *P. rubrigularis* as follows:—

“Upper and under surface shining grass-green, with a faint tinge of blue in the centre of the abdomen. Line under the eye and ear-coverts deep blue; chin greenish blue; throat metallic pink. Under tail-coverts bright buff. Wings purplish brown. Tail light bronze-green, with a subterminal blackish-brown bar. Bill and feet black. Total length  $4\frac{1}{8}$  in.; wing  $2\frac{5}{8}$  in.; tail 2 in.; culmen  $\frac{3}{4}$  in.”

*Hab.* Unknown; supposed to be Colombia.

a. ♂ ad.?

—?

Gould Coll.

(Type of species.)

5. *Petasophora thalassina*.

*Trochilus thalassinus*, *Sw. Phil. Mag.* new ser. i. p. 441.

*Ornismya anais*, *Less. Hist. Nat. Ois.-Mouches, Suppl.* p. 104, pl. 3 (orig. descr. of *O. anais*); *Ind. Gén. Troch.* p. ix (partim).

*Rhamphodon anais*, *Less. Hist. Nat. Troch.* p. 148, pl. 56.

*Petasophora thalassina*, *Gould, P. Z. S.* 1847, p. 8; *Mon. Troch.* iv. pl. 227 (May 1853); *id. Intr. Troch.* p. 125; *Bp. Rev. Zool.* 1854, p. 250; *Scl. P. Z. S.* 1858, p. 297, 1859, pp. 367, 386; *id. Cat. Am. B.* p. 306; *id. P. Z. S.* 1864, p. 177; *Scl. & Salv. Ibis*, 1859, p. 127; *Salv. Ibis*, 1859, p. 468, 1860, pp. 195, 260, 263; *Muls. & Ferr. Class. Troch.* p. 48; *Cab. & Heine, Mus. Hein.* iii. p. 27; *Laur. Pr. Bost. Soc. N. H.* xiv. p. 284; *id. Mem. Bost. Soc. N. H.* ii. p. 292; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 148, iv. p. 102; *id. Ann. Soc. Linn. Lyon*, xxii. p. 211; *Elliot, Ibis*, 1876, p. 404; *id. Syn. Troch.* p. 51; *Ferrari-Perez, Pr. U.S. Nat. Mus.* ix. p. 157.

*Colibri thalassina*, *Bp. Consp.* i. p. 69.

*Petasophora*  $\gamma$ . *Praxilla thalassina*, *Reich. Aufz. d. Col.* p. 13.

*Polytmus thalassinus*, *Gray, Hand-l. B.* i. p. 127.

*Adult male*. Upper and under surface dark shining grass-green; throat glittering green, the centre of each feather darker; middle of the abdomen rich blue; under tail-coverts greenish with buff

margins; a line under the eye from the base of the bill and the ear-plumes rich glittering blue; central rectrices bluish green, the lateral light steel-blue, all with a dark subterminal band; bill black. Total length about 4.5 inches, wing 2.7, tail 1.7, bill 1.

*Adult female.* Similar to the male.

The *young* has dull green feathers, widely edged with buff on the upper and grey on the under surface; the bright feathers of the adult appear first on the throat and ear-plumes.

*Hab.* Highlands of Southern Mexico and Guatemala.

a. Ad. sk.	Mexico ( <i>Floresi</i> ).	Gould Coll.
b. Ad. sk.	Mexico ( <i>Boucard</i> ).	Gould Coll.
c, d. Ad.; e, f.	Mexico.	Gould Coll.
Juv. sk.		
g. Ad. sk.	Valley of Mexico.	Salvin-Godman Coll.
h-j. ♂ ad.; k-m.	Ajusco, Valley of Mexico, Sept.	Salvin-Godman Coll.
♀ ad. sk.	( <i>W. B. Richardson</i> ).	
n. ♂ juv. sk.	Hacienda Eslava, Val. of Mexico, Feb. ( <i>F. Ferrari-Perez</i> ).	Salvin-Godman Coll.
o. ♂ ad. sk.	Tetelco, Vall. of Mexico, Aug. ( <i>F. Ferrari-Perez</i> ).	Salvin-Godman Coll.
p. ♂ juv. sk.	Real del Monte, Mexico, Oct. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
q. ♂ ad. sk.	Montaña de Orizaba, Mexico, May ( <i>F. Ferrari-Perez</i> ).	Salvin-Godman Coll.
r. ♂ ad. sk.	Totontepec, Oaxaca, Mexico, Feb. ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
s. Ad. sk.	Oaxaca ( <i>Fenochio</i> ).	Salvin-Godman Coll.
t. Juv. sk.	Jalapa, Mexico ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
u. Ad. sk.	Quezaltenango, Guatemala, Aug. ( <i>O. S.</i> ).	Salvin-Godman Coll.
v-y. ♂ ad.; z.	San Martin, Quezaltenango, Oct. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
d'. ♀ ad. sk.		
b'. ♂ ad. sk.	Cuipache, Quezaltenango, Sept. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
c'. ♂ ad. sk.	Mts. of Chilaseco, Guatemala, Jan. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
d'. ♂ ad.; e'. ♀ ad. sk.	Dueñas, Guatemala, Oct. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
f'-i'. ♂ ad. sk.	Volcan de Fuego, Guatemala, July, Sept., Nov. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman & Sclater Colls.

### 6. *Petasophora cyanotis*.

*Onismyia anais*, *Less. Hist. Nat. Troch.* p. 151, pl. 57.

*Trochilus cyanotus*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, vi. p. 41 (1843); *id. Rev. Zool.* 1843, p. 101.

*Petasophora cyanotus*, *Gould, P. Z. S.* 1847, p. 8; *id. Mon. Troch.* iv. pl. 228 (May 1853).

*Colibri cyanotis*, *Bp. Consp. i.* p. 69.

*Petasophora* γ. *Praxilla cyanotus*, *Reich. Aufz. d. Col.* p. 13.

*Petasophora cyanotis*, *Bp. Rev. Zool.* 1854, p. 251; *Cab. & Heine, Mus. Hein.* iii. p. 26; *Scl. P. Z. S.* 1859, p. 145; *id. Cat. Am. B.* p. 306; *Gould, Intr. Troch.* p. 125; *id. P. Z. S.* 1870, p. 803; *Cab. J. f. Orn.* 1863, p. 162; *Muls. & Verr. Class. Troch.* p. 49; *Scl. &*



*Salv. P. Z. S.* 1868, p. 169, 1870, p. 782, 1879, pp. 530, 629; *Frantz. J. f. Orn.* 1869, p. 316; *Salv. P. Z. S.* 1870, p. 210; *Wyatt, Ibis*, 1871, p. 377; *Whitely, P. Z. S.* 1873, p. 784; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 150, pl. 41, iv. p. 202; *id. Ann. Soc. Linn. Lyon*, xxii. p. 211; *Elliot, Ibis*, 1876, p. 404; *id. Syn. II. Birds*, p. 51; *Boucard, P. Z. S.* 1878, p. 69; *Tacz. P. Z. S.* 1879, p. 251; *id. Orn. Pér.* i. p. 369; *Salv. & Godm. Ibis*, 1880, p. 173; *Endes-Desl. Ann. Mus. Caen*, i. p. 264; *Nutting, Pr. U. S. Nat. Mus.* v. p. 500; *Berl. & Tacz. P. Z. S.* 1884, p. 303; *Berl. J. f. Orn.* 1887, p. 318.  
*Petasophora cabanidis*, *Heine, J. f. Orn.* 1863, p. 182.  
*Petasophora cabanisi*, *Laur. Ann. Lyc. N. Y.* ix. p. 126.  
*Polytmus cyanotus*, *Gray, Hand-l. B.* i. p. 127.

*Adult male.* Very like that of *P. thalassina*, but with the whole of the abdomen shining green, and not blue in the middle as in the allied species.

Central American specimens (*P. cabanidis*, Heine) are a little darker on the abdomen, and the bright feathers of the throat appear to extend further over the chest than in South-American examples.

*Hab.* Mountains of Costa Rica and Panama, and the Andes of South America from Venezuela and Colombia to Bolivia.

<i>a.</i> ♂ ad. sk.	Orosi, Costa Rica ( <i>Kramer</i> ).	Salvin-Godman Coll.
<i>b, c.</i> ♂ ad.; <i>d.</i> ♀ ad. sk.	Irazu, Costa Rica ( <i>Rogers</i> ).	Salvin-Godman Coll.
<i>e.</i> ♀ ad. sk.	Costa Rica ( <i>Carniol</i> ).	Salvin-Godman Coll.
<i>f, g.</i> ♂ ad.; <i>h.</i> ♀ ad. sk.	Costa Rica ( <i>Endres</i> ).	Gould Coll.
<i>i.</i> Ad. sk.	Costa Rica.	Gould Coll.
<i>k-m.</i> ♂ ad. sk.	Volcan de Chiriqui ( <i>Arcé</i> ).	Salvin-Godman & Selater Colls.
<i>n.</i> ♂ ad. sk.	Chitra, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>o, p.</i> ♂ ad.; <i>q.</i> ♀ ad. sk.	Calovevera, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>r.</i> ♂ ad. sk.	Minca, Sierra Nevada de Sta. Marta, Colombia, Jan. 25 ( <i>P. Simons</i> ).	Salvin-Godman Coll.
<i>s.</i> ♂ ad. sk.	Sau Sebastian, Sierra de Sta. Marta, July 25 ( <i>P. Simons</i> ).	Salvin-Godman Coll.
<i>t-y.</i> ♂ ad.; <i>z, a'</i> ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>b'</i> ♂ ad. sk.	Merida, Venezuela ( <i>Göering</i> ).	Salvin-Godman Coll.
<i>c'</i> ♂ ad. sk.	Venezuela.	Gould Coll.
<i>d', e'</i> ♀ ad. sk.	Valley of Aragua, Venezuela.	Dyson [C.].
<i>f', g'</i> ♂ ad.; <i>h', i'</i> ♀ ad. sk.	Baños, Ecuador ( <i>Buckley</i> ).	Gould Coll.
<i>j'</i> ♂ ad. sk.	Huampilla, Peru, April ( <i>II. Whitely</i> ).	Salvin-Godman Coll.
<i>k'</i> ♀ ad. sk.	Tilotilo, Yungas, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>l'</i> ♂ ad.; <i>m.</i> ♀ ad. sk.	Yungas, Bolivia ( <i>Buckley</i> ).	Gould Coll.

## 7. *Petasophora delphinæ*.

*Ornismya delphinæ*, *Less. Rev. Zool.* 1830, p. 41; *id. Ill. Zool.* pl. 64.  
*Petasophora delphinæ*, *Gould, P. Z. S.* 1847, p. 9; *id. Mon. Troch.* iv.

pl. 229 (May 1853); *id. Intr. Troch.* p. 125; *id. P. Z. S.* 1870, p. 803; *Bp. Rev. Zool.* 1854, p. 251; *Scl. Cat. Am. B.* p. 306; *Salv. Ibis*, 1860, pp. 194, 195, 261, 276; *id. P. Z. S.* 1870, p. 210; *id. Ibis*, 1872, p. 320, 1885, p. 474; *Muls. & Ferr. Class. Troch.* p. 49; *Scl. & Salv. P. Z. S.* 1870, p. 837; *Whately, P. Z. S.* 1873, p. 784; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 157, iv. p. 202; *id. Ann. Soc. Linn. Lyon*, xxii. p. 211; *Elliot, Ibis*, 1876, p. 406; *id. Syn. Troch.* p. 52; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 268; *Tacz. P. Z. S.* 1882, p. 37; *id. Orn. Pér.* i. p. 371; *Berl. J. f. O.* 1884, p. 309, 1887, p. 318.

*Colibri delphinae*, *Bp. Consp.* i. p. 69.

*Petasophora*  $\beta$ . *Telesilla delphinae*, *Reich. Aufz. d. Col.* p. 13.

*Telesilla delphinae*, *Cab. & Heine, Mus. Hein.* iii. p. 27.

*Polytmus delphinae*, *Léot. Ois. Trin.* p. 134 (1866).

*Polytmus delphinae*, *Gray, Hand-l. B.* i. p. 127.

*Adult male.* Upper surface brown, upper tail-coverts widely margined with rufous; lores pale buff; a stripe below the eye and earplumes rich blue; under surface dusky brown, paler on the throat, in the middle of which is an elongated patch of green feathers, followed by a few blue ones towards the chest; under tail-coverts dusky, widely margined with rufous; tail greenish brown at the base, purple-brown towards the tip; bill black. Total length 4.5 inches, wing 2.6, tail 1.5, bill 0.8.

*Adult female.* Similar to the male.

The upper surface of the young is thickly bordered with rufous, and the adult characters on the throat and ears are assumed at an early age.

*Hab.* Guatemala southwards to Colombia, Ecuador, and Peru; also Venezuela, Trinidad, and Guiana.

<i>a-c.</i> ♂ ad.; <i>d-f.</i> ♀ ad. sk.	Coban, Guatemala, Nov. (O. S.).	Salvin-Godman, Sclater, & Gould Colls.
<i>ij.</i> Juv. sk.	Guatemala ( <i>Skinner</i> ).	Gould Coll.
<i>h-j.</i> ♂ ad. sk.	Chontales, Nicaragua ( <i>T. Belt</i> ).	Salvin-Godman Coll.
<i>k.</i> ♂ ad. sk.	Costa Rica ( <i>Carmirol</i> ).	Salvin-Godman Coll.
<i>l.</i> ♀ ad. sk.	Calovevora, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>m.</i> ♂ ad.; <i>n.</i> ♀ ad. sk.	Minca, Sierra Nevada de Sta. Marta, Colombia, Jan. & Feb. ( <i>F. Simons</i> ).	Salvin-Godman Coll.
<i>o-p.</i> Ad.; <i>s.</i> Juv. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>t, u.</i> Ad. sk.	Quito, Ecuador ( <i>Jameson</i> ).	Gould Coll.
<i>v.</i> Ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>w, x.</i> Ad. sk.	Ecuador.	Gould Coll.
<i>y.</i> Ad. sk.	Peru ( <i>Warszewicz</i> ).	Gould Coll.
<i>z.</i> Ad. sk.	Caracas, Venezuela.	E. Dyson [C.].
<i>a'</i> . Ad. sk.	Venezuela ( <i>Spence</i> ).	Sclater Coll.
<i>b', c'</i> . Ad. sk.	(Trinidad make.)	Salvin-Godman & Gould Colls.
<i>d', e'</i> . ♂ ad.; <i>f'</i> . ♀ ad. sk.	Merumé Mts., Brit. Guiana, June & July ( <i>H. Whately</i> ).	Salvin-Godman Coll.
<i>g'</i> . ♀ ad. sk.	Roraima, Brit. Guiana, June ( <i>H. W.</i> ).	Salvin-Godman Coll.

## 25. CHRYSOLAMPIS.

Type.

Chrysolampis, *Boic, Isis*, 1831, p. 546 . . . . . C. moschitus.*Range.* South America from Colombia to Bahia, Trinidad and Guiana.

## 1. Chrysolampis moschitus\*.

Ruby-crested Humming Bird, *Edw. Glean.* p. 344; *Lath. Syn.* i. 2, p. 780.Rubis-topaze, *Buff. Nat. Hist. Ois.* vi. p. 19.Oiseau Mouche à gorge topaze du Brésil, *D'Aub. Pl. Enl.* 227. fig. 2.Oiseau Mouche à gorge topaze du Cayenne, *D'Aub. Pl. Enl.* 640. fig. 1.Mellisuga americana gutture topazino, *Briss. Orn.* iii. p. 697.Mellisuga brasiliensis gutture topazino, *Briss. Orn.* iii. p. 699.Mellisuga cayennensis, *Briss. Orn.* iii. p. 709, pl. 36. fig. 4.Trochilus mo-chitus, *Linn. Syst. Nat.* i. p. 192; *Gm. Syst. Nat.* i. p. 494; *Viell. N. Dict. d'Hist. N.* vii. p. 373; *id. Enc. Méth.*p. 570; *Less. Ind. Gén. Troch.* p. xxxvi; *id. Wied. Beitr.* iv.p. 56; *Sw. B. Braz.* pl. 30; *Cab. in. Schomb. Guiana*, iii. p. 705;*Gray, Hand-l. B.* i. p. 147.Trochilus pegasus, *Linn. Syst. Nat.* i. p. 192; *Gm. Syst. Nat.* i. p. 495.Trochilus elatus, *Linn. Syst. Nat.* i. p. 193; *Gm. Syst. Nat.* i. p. 499.Grey-bellied Humming Bird, *Lath. Syn.* i. 2, p. 778.Ruby-necked Humming Bird, *Lath. Syn.* i. 2, p. 779.Trochilus carbunculus, *Gm. Syst. Nat.* i. p. 493.Trochilus guianensis, *Gm. Syst. Nat.* i. p. 498; *Viell. N. Dict.**d'Hist. N.* vii. p. 375; *id. Enc. Méth.* p. 572.L'Escarboncle, *Aud. Ois. Dor.* i. p. 122, pl. 54.Le Rubis-topaze, *Aud. Ois. Dor.* i. p. 74, pls. 29, 30.Le Rubis-topaze femelle, *Aud. Ois. Dor.* i. p. 124, pls. 55, 56.Trochilus hypophæus, *Shaw, Gen. Zool.* viii. p. 333?Mellisuga moschita, *Steph. in Shaw's Gen. Zool.* xiv. p. 253; *Gray,**Gen. B.* i. p. 113; *Léotaud, Ois. Trin.* p. 145 (1866).Ornismya moschita, *Less. Hist. Nat. Ois.-Mouches*, pp. xxviii, 166.

pls. 52, 53, 54.

Chrysolampis moschitus, *Boic, Isis*, 1831, p. 546; *Jard. Ann. & Mag.**N. H.* xx. p. 373; *Bp. Consp. Av.* i. p. 82; *id. Rev. Zool.* 1854,p. 256; *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 5, pl. 723.ff. 4646-9; *Des Murs in Cast. Voy.* i. p. 40; *Gould, Mon. Troch.*iv. pl. 204 (Sept. 1856); *id. Intr. Troch.* p. 115; *Burm. Syst. Ueb.*ii. p. 322; *Cab. & Heine, Mus. Hein.* iii. p. 21; *Cass. Pr. Ac.**Phil.* 1860, p. 194; *Sci. Cat. Am. B.* p. 303; *E. C. Taylor, Ibis,*1863, p. 92; *Heine, J. f. Orn.* 1863, p. 179; *Pelz. Orn. Bras.*p. 32; *Sci. & Salv. P. Z. S.* 1868, p. 629, 1870, p. 782; *Finsch,*p. Z. S. 1870, p. 562; *Wyatt, Ibis*, 1871, p. 378; *Reinh. Vidensk.**Medd. Nat. For. Kjöb.* 1870, p. 104; *Muls. Hist. Nat. Ois.-Mouches,*ii. p. 55, iv. p. 210; *id. Ann. Soc. Linn. Lyon*, xxii. p. 214; *Elliot,**Syn. Troch.* p. 176; *Forbes, Ibis*, 1881, p. 348; *Salv. Cat. Strickl.**Coll.* p. 365; *id. Ibis*, 1885, p. 434; *Berl. J. f. Orn.* 1884, p. 310,

1887, p. 319.

Chrysolampis mosquita, *Muls. & Ferr. Class. Troch.* p. 57.Chrysolampis reichenbachi, *Cab. & Heine, Mus. Hein.* iii. p. 21.

\* I do not know the bird referred to as:—

CHRYSOLAMPIS GIGLIOLII, *Oust. Le Naturaliste*, 1885, p. 3; *Berl. J. f. Orn.* 1887, p. 7.

*Adult male.* Upper surface rich dark brown, darker on the anterior part of the back; crown, nape, and back of the neck glittering ruby-red; throat and breast glittering topaz-orange; abdomen dusky brown; under tail-coverts and tail chestnut-red, the latter tipped with black; bill black. Total length about 3.5 inches, wing 2.25, tail 1.3, bill 0.75.

*Adult female.* Upper surface dull green, tinted with bronze on the back of the neck; sides of the head and under surface dusky white, darker on the breast; under tail-coverts nearly white; tail purple-black, the central rectrices bronzy green, the lateral tipped with white.

*Young male* like the female, the glittering feathers of the adult first appearing in the middle of the throat and afterwards on the crown.

*Hab.* Tropical America from Bahia to Guiana, the Amazon Valley, Trinidad, and Colombia.

<i>a-c.</i> ♂ ad.; <i>d-g.</i> ♂ juv.; <i>h.</i> ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>i.</i> ♂ ad.; <i>j.</i> ♂ juv. sk.	Venezuela.	Sclater Coll.
<i>k.</i> Juv. sk.	Venezuela.	E. Dyson [C.].
<i>l, m.</i> ♂ juv.; <i>n.</i> ♀ ad. sk.	(Trinidad make.)	Gould Coll.
<i>o.</i> ♂ ad. sk.	Georgetown, Demerara.	Salvin-Godman Coll.
<i>p.</i> ♂ ad.; <i>q.</i> ♂ juv.; <i>r.</i> ♀ ad. sk.	(Cayenne make.)	Salvin-Godman, Sclater, & Gould Colls.
<i>s, t.</i> ♂ juv.; <i>u.</i> ♀ juv. sk.	Para.	R. Graham [P.].
<i>v, w.</i> ♂ ad. sk.	Pernambuco ( <i>W. A. Forbes</i> ).	Salvin-Godman Coll.
<i>x-z.</i> ♂ ad.; <i>a'</i> ♀ juv. sk.	Bahia, Brazil.	Gould Coll.
<i>b', c'.</i> ♀ ad. sk.	Bahia ( <i>Wucherer</i> ).	Salvin-Godman Coll.

#### SECTION B. TROCHILI INTERMEDII.

Sheath of the maxilla indistinctly and feebly serrate near the end of the tomia. (For Sec. A, see p. 29; Sec. C, p. 255.)

#### *Key to the Genera.*

- a.* Culmen closely feathered at the base; nasal covers completely hidden.
- a'*. Size large; wings shining steel-blue . . . 26. PTEROPHANES, p. 117.
- b'*. Size moderate or small; wings normal, not shining, greenish-purple or brownish-black.
- a''*. Bill long, nearly straight; tail moderately forked.
- a'''*. Sexes dissimilar.
- a<sup>4</sup>*. Rectrices narrow; crown glittering pale green; throat glittering

- ruby-red; the lateral feathers elongated.
- a*<sup>5</sup>. Rectrices narrower; tail more deeply forked; under surface glittering blue; bill slightly curved . . . . . 27. HELIOMASTER, p. 119.
- b*<sup>5</sup>. Rectrices wider; tail less forked; under surface dark shining green, with a median white line . . . . . 28. LEPIDOLARYNX, [p. 120.
- b*<sup>4</sup>. Rectrices much wider; bill slightly upturned; a small glittering gular patch.
- c*<sup>5</sup>. Lower back, abdomen, and tail cinnamon; tail more forked; crown very bright, glittering green, red and blue. 29. DIPHLOGÆNA, p. 121.
- d*<sup>5</sup>. Lower back and abdomen glittering, of varied hues; tail shiny and less forked; crown black, a glittering frontal patch . . . . . 30. HELLANTHEA, p. 123.
- b*<sup>'''</sup>. Sexes similar.
- c*<sup>4</sup>. Tail short; a transverse pectoral band, white or cinnamon.
- e*<sup>5</sup>. Lateral rectrices white at the base; no gular spot . . . . . 31. BOURCIERIA, p. 128.
- f*<sup>5</sup>. Rectrices wholly dark, without white bases; a purple gular spot . . . . . 32. EUDOSIA, p. 132.
- d*<sup>4</sup>. Tail longer, more forked, and of uniform colour; throat plain, or with a white patch on either side of the neck . . . . . 33. LAMPROPYGIA, p. 132.
- b*<sup>'</sup>. Bill short, nearly straight, or slightly decurved.
- c*<sup>'''</sup>. Tail very long, and deeply and regularly forked.
- e*<sup>4</sup>. Rectrices wide.
- g*<sup>5</sup>. Bill short and straight.
- a*<sup>6</sup>. Rectrices very brilliant glittering blue or green. . . . . 34. CYANOLESBIA, p. 136.
- b*<sup>6</sup>. Rectrices very wide, deep vinous-crimson . . . . . 35. ZODALIA, p. 141.
- h*<sup>5</sup>. Bill longer, slightly decurved.
- c*<sup>6</sup>. Rectrices glittering golden red, with black tips. . . . . 36. SAPPHO, p. 142.
- d*<sup>6</sup>. Rectrices dark steel-blue . . 37. NEOLESBIA, p. 145.
- f*<sup>4</sup>. Rectrices narrow . . . . . 38. LESBIA, p. 146.
- d*<sup>'''</sup>. Tail short, rounded, or slightly forked.
- g*<sup>4</sup>. Rectrices wide, of bright shining metallic hues; crown not glittering . . . . . 39. METALLURA, p. 150.
- h*<sup>4</sup>. Rectrices narrower, not especially bright; crown glittering ruby-red . . . . . 40. EUSTEPHANUS, p. 156.

- b. Culmen feathered to the base, but the nasal covers slightly exposed; bill nearly straight.
- c'. Tail rounded or forked, but none of the rectrices tipped with white.
- c''. Tail rounded; crown glittering blue; under surface glittering, but no pale pectoral band; sexes similar . . . . . 41. PANTERPE, p. 158.
- d''. Tail deeply or slightly forked; a small glittering frontal spot; sexes dissimilar.
- e'''. Tail slightly forked; a wide pale pectoral band . . . . . 42. HELIANGELUS, p. 159.
- f'''. Tail deeply forked; no pectoral band . . . . . 43. HELIOTRYPHA, p. 164.
- d'. Tail even or more or less rounded; central or lateral rectrices tipped with white.
- e''. Tail even, median and submedian rectrices conspicuously tipped with white: sexes dissimilar . . . . . 44. UROSTICTE, p. 167.
- f'''. Tail rounded, lateral rectrices tipped with white; throat more or less spotted; a long postocular stripe; sexes similar . . . . . 45. ADELOMYIA, p. 169.
- g''. Tail rounded, lateral rectrices tipped with white; under surface plain; crown white, passing into brownish red towards the nape; no postocular stripe: sexes dissimilar . . . . . 46. ANTHOCEPHALA,
- h''. Tail much rounded, lateral rectrices broadly tipped with white; throat spotted . . . . . [p. 172.
47. PHLOGOPHILUS, p. 173.
- c. Culmen feathered to the base, but the anterior portion of the nasal covers distinctly exposed; bill slightly curved.
- e'. Tail rather long, rounded; rectrices narrow, the lateral ones usually edged or tipped with white.
- é'. Under surface pale glittering golden green; rectrices green, sometimes tipped and edged outwardly with white, sometimes plain . . . . . 48. POLYTMUS, p. 174.
- j''. Under surface pale cinnamon; lateral rectrices tipped with white . . . . . 49. DOLEROMYIA, p. 177.
- f'. Tail short and rounded, even or slightly forked.
- k''. Throat sometimes white or dull white; crown sometimes glittering blue; lateral rectrices sometimes tipped with white, base sometimes white.
- g'''. Tail much rounded, lateral rectrices tipped with white; throat white; chin green . . . . . 50. LEUCOCHLORIS, p. 178.
- h'''. Tail nearly even; crown dull or glittering green (except *A. cæru-*

- liceptis*); throat white, dull white, glittering green or blue: tail uniform.
- i*<sup>4</sup>. Sexes nearly alike . . . . . 51. AGYRTRIA, p. 178.
- j*<sup>4</sup>. Sexes dissimilar . . . . . 52. ARIANA, p. 193.
- i*<sup>5</sup>. Tail uniform, slightly forked; crown glittering blue, purple, green, or dull green . . . . . 53. CYANOMYIA, p. 194.
- j*<sup>5</sup>. Tail slightly forked, lateral rectrices white at the base; crown dull green like the back . . . . . 54. LEUCIPPUS, p. 200.
- l*<sup>1</sup>. Throat never white, no glittering blue colours or any glittering feathers on the upper surface; lateral rectrices never tipped with white or with white bases . . . . . 55. AMAZILIA, p. 203.
- d*. Culmen bare nearly to the base; nasal covers fully exposed.
- g*<sup>1</sup>. Bill long and straight; tail short, rounded, the lateral rectrices tipped with white . . . . . 56. FLORICOLA, p. 228.
- h*<sup>1</sup>. Bill much shorter and slightly decurved: tail moderate, rounded or slightly forked.
- m*<sup>1</sup>. Tail forked, the lateral rectrices longest, rectrices narrow . . . . . 57. CYANOPHATA, p. 233.
- n*<sup>1</sup>. Tail rounded, the lateral rectrices shorter than the next pair.
- k*<sup>2</sup>. Throat glittering green: abdomen glittering blue: smaller; bill shorter . . . . . 58. DAMOPHILA, p. 235.
- l*<sup>2</sup>. Throat shining green washed with blue: larger; bill longer . . . . . 59. POLYERATA, p. 237.
- o*<sup>1</sup>. Tail nearly even or slightly forked, steel-blue, golden-copper, or greenish gold, with brighter central rectrices; with or without a long postocular stripe.
- m*<sup>2</sup>. Tail steel-blue, slightly forked; no postocular stripe . . . . . 60. EUCEPHALA, p. 239.
- n*<sup>2</sup>. Tail steel-blue, nearly even: no postocular stripe . . . . . 61. HYLOCHARIS, p. 245.
- o*<sup>2</sup>. Tail nearly even, rich golden-copper or greenish gold: no postocular stripe . . . . . 62. CHRYSURONIA, p. 248.
- p*<sup>2</sup>. Tail nearly even, purple-black, median rectrices coppery; a long postocular stripe . . . . . 63. HELIOPEDICA, p. 252.

## 26. PTEROPHANES.

Type.

- Pterophanes, *Gould, Mon. Troch.* iii, sub pl. 178  
(June 1849) . . . . . *P. temmincki*.
- Diphlogena (Lepidoria), *Muls. & Ferr. Classif. Troch.*  
p. 61 (1865).

*Range.* Andes from Colombia to Bolivia.

1. *Pterophanes temminckii*.

*Ornismya temminckii*, *Bois. Rev. Zool.* 1839, p. 354; *id. Mag. Zool.* 1840, *Ois.* pl. 14; *Lodd. P. Z. S.* 1843, p. 122.

*Trochilus cyanopterus*, "*Lodd.*," *Fraser, P. Z. S.* 1840, p. 17.

*Pterophanes temminckii*, *Gould, Mon. Troch.* iii. pl. 178 (June 1849); *id. Intr. Troch.* p. 105; *Bp. Consp.* i. p. 70; *id. Rev. Zool.* 1854, p. 251; *Reich. Aufz. d. Col.* p. 14; *Cab. & Heine, Mus. Hein.* iii. p. 80; *Sci. Cat. Am. B.* p. 301; *Whitely, P. Z. S.* 1873, p. 190; *Tacz. P. Z. S.* 1874, p. 543, 1880, p. 204; *id. Orn. Pér.* i. p. 338; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 299, pl. 59, iv. p. 211; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216; *Elliot, Syn. II. Birds*, p. 66; *Tacz. & Berl. P. Z. S.* 1885, p. 103; *Berl. J. f. Orn.* 1887, p. 324.

*Diphlogæna (Lepidoria) temminckii*, *Muls. & Verr. Classif. Troch.* p. 61.

*Trochilus temmincki*, *Gray, Hand-l. B.* i. p. 138.

*Adult male.* Plumage generally dark shining grass-green, a little more golden on the upper surface, bluer on the under: wings above and below, both coverts and quills shining steel-blue, the latter tipped with black; tail dark shiny olive-green; bill black. Total length about 6·5 inches, wing 4·2; tail, central rectrices 1·95, lateral 2·75; bill 1·5.

*Female.* Upper surface shining grass-green, dusky on the crown; under surface rufous, flanks and under tail-coverts shining green; wings purple-black, the coverts shining steel-blue, shading into green on the shoulders; tail—four central feathers shining green, the next two on either side black, washed with green along the shaft; outermost pair black, with a white longitudinal stripe on the outer web including the shaft, and passing on to the inner web at the base and tip.

*Young males* have the under surface dusky, which is gradually replaced by shining green: the wings are at first like those of the female, the steel-blue of the primaries is gradually assumed.

*Hab.* Andes of South America from Colombia to Bolivia.

<i>a-c.</i> ♂ ad.; <i>d.</i> ♂ juv.; <i>e.</i> ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>f.</i> ♂ ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>g.</i> ♂ ad.; <i>h.</i> ♀ ad. sk.	Lloa, Ecuador ( <i>Fraser</i> ).	Sclater Coll.
<i>i-m.</i> ♂ ad.; <i>n-r.</i> ♂ juv.; <i>s.</i> ♀ ad. sk.	Ecuador.	Salvin-Godman & Gould Colls.
<i>t.</i> ♂ ad.; <i>u.</i> ♀ ad. sk.	Cillutincara, Yungas, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>v-x.</i> ♂ ad.; <i>y.</i> ♂ juv.; <i>z.</i> ♀ ad. sk.	Yungas, Bolivia ( <i>Buckley</i> ).	Gould Coll.
<i>a'</i> . ♂ ad. st.		Purchased.
<i>b'</i> . ♀ ad. st.	Colombia.	Purchased.



## 27. HELIOMASTER.

Type.

Heliomaster, *Bp. Compt. Rend.* xxx. p. 382 (1850);*Elliot, Syn. Troch.* p. 85 ..... II. furcifer.Calliphlox  $\delta$ . Calliperidia, *Reich. Aufz. d. Col.* p. 12.*Range.* Southern Brazil, Paraguay, Argentine Republic.

## 1. Heliomaster furcifer.

Pica flores cola de tixera, *Azara, Apunt.* ii. p. 498, no. 299 (1805).Trochilus furcifer, *Shaw, Gen. Zool.* viii. p. 280.Trochilus caudacutus, *Vieill. N. Dict. d'Hist. N.* vii. p. 347; *id. Enc. Méth.* p. 549.Ornismya angelæ, *Less. Ill. Orn.* pls. 45, 46; *d'Orb. & Lafr. Syn. Av.* ii. p. 28.Trochilus regis, *Schreib. Naturf. Wien*, 1832, *Isis*, 1833, p. 533; *id. Collect. ad Faun. Bras.* i. pl. i. fig. 1; *Pelz. Orn. Bras.* p. 30; *Gray, Hand-l. B.* i. p. 138.Heliomaster angelæ, *Bp. Consp. Av.* i. p. 70; *Gould, Mon. Troch.* iv. pl. 263 (May 1853); *Burm. J. f. Orn.* 1860, p. 244, 1865, p. 229; *id. P. Z. S.* 1865, p. 466; *id. La-Plata Reise*, ii. p. 448.Calliphlox  $\delta$ . Calliperidia angelæ, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 842. ff. 4986-89.Ornithomyia angelæ, *Bp. Rev. Zool.* 1854, p. 251.Campylopterus inornatus, *Burm. J. f. Orn.* 1860, p. 244; *id. La-Plata Reise*, ii. p. 447.Calliperidia angelæ, *Gould, Intr. Troch.* p. 141; *Muls. & Verr. Class. Troch.* i. p. 50; *Elliot, Ibis*, 1877, p. 137.Trochilus angelæ, *Burm. J. f. Orn.* 1866, p. 89.Calliperidia furcifer, *Scl. & Salv. Nom. Av. Neotr.* p. 90; *Durnford, Ibis*, 1877, p. 184; *Scl. & Huds. Arg. Orn.* ii. p. 5.Calliperidia regis, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 278, pl. 58; *id. Ann. Soc. Linn. Lyon*, xxii. p. 215.Heliomaster furcifer, *Elliot, Syn. Troch.* p. 86; *E. W. White, P. Z. S.* 1882, p. 616.

*Adult male.* Upper surface shining bronze-green, glittering on the middle of the back and crown; under surface glittering blue; the middle of the throat glittering rosy-red; flanks, under tail-coverts, and tail greener blue, a large white flank-spot; bill black. Total length about 5 inches, wing 2; tail, central rectrices 1, lateral 1.6; bill 1.35.

*Female.* Upper surface uniform bronzy grass-green; under surface greyish white; throat-feathers with blackish discs, a white line on each side from the gape; lateral rectrices with a dark subterminal band and white tips.

*Hab* Southern Brazil, Paraguay, and the Argentine Republic.

- a.  $\sigma$  ad. : b.  $\text{f}$  ad. Chapada, Matto Grosso, Brazil, Salvin-Godman Coll.  
sk. July (II. H. Smith).  
c.  $\sigma$  juv. sk. Matto Grosso, Brazil, July Salvin-Godman Coll.  
(Natterer).  
d.  $\sigma$  ad. sk. Continho, Brazil, July Salvin-Godman Coll.  
(Natterer).

e. ♂ ad.; f. ♀ ad. sk.	Pachaco, Buenos Ayres. Nov.	II. Durnford [C.].
g. ♀ ad. sk.	Punta Lara, Buenos Ayres, Feb.	II. Durnford [C.].
h. ♂ ad. sk.	Buenos Ayres.	II. Durnford [C.].
i. ♂ ad.; j. ♂ juv.; k. ♀ ad. sk.	Buenos Ayres ( <i>Burmeister</i> ).	Slater Coll.
l, m. ♂ juv.; n. ♀ ad. sk.	Buenos Ayres.	Prof. Burmeister [P.].
o, p. ♂ ad. st.		Purchased.

## 28. LEPIDOLARYNX.

Type.

- Selasphorus ♂. *Lepidolarynx*, *Reich. Aufz. d. Col.* p. 13  
(1854) ..... *L. mesoleucus*.  
*Lepidolarynx*, *Gould, Intr. Troch.* p. 140 (1861).

*Range.* South-eastern Brazil.

1. *Lepidolarynx mesoleucus*.

- Trochilus mesoleucus*, *Temm. Pl. Col.* 317. f. 1; *Less. Ind. Gén. Troch.*  
p. xix; *Gray, Hand-l. B.* i. p. 137.  
*Ornismya mesoleuca*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxiv, 110,  
pls. 19, 20; *Suppl.* p. 98.  
*Ornismya temminckii*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxvi, 83,  
pl. 20.  
*Heliomaster mesoleucus*, *Bp. Consp. Av.* i. p. 70; *Gould, P. Z. S.*  
1853, p. 100; *id. Mon. Troch.* iv. pl. 262 (May 1853); *Reinh.*  
*Medd. Nat. For. Kjöb.* 1870, p. 106.  
*Trochilus squamosus*, *Temm. Pl. Col.* 203. fig. 1.  
*Selasphorus* ♂. *Lepidolarynx mesoleucus*, *Reich. Aufz. d. Col.* p. 13.  
*Ornithomyia mesoleuca*, *Bp. Rev. Zool.* 1854, p. 251.  
*Calothorax mesoleucus*, *Burm. Syst. Feb.* ii. p. 339.  
*Heliomaster squamosus*, *Cub. & Heine, Mus. Hein.* iii. p. 53; *Pelz.*  
*Orn. Bras.* p. 31.  
*Lepidolarynx mesoleucus*, *Gould, Intr. Troch.* p. 140; *Muls. Hist.*  
*Nat. Ois.-Mouches*, ii. p. 283; *id. Ann. Soc. Linn. Lyon*, xxii.  
p. 215; *Elliot, Syn. Troch.* p. 85.  
*Calliperidia (Lepidolarynx) mesoleucus*, *Muls. & Ferr. Class. Troch.*  
p. 50.

*Adult male.* Upper surface dark shining grass-green: an irregular white patch on the lower back; whole crown glittering bluish green; throat glittering rosy-red, the lateral feathers elongated, a stripe on either side from the gape white; abdomen dark shining green, a median stripe and a patch on each flank white; under tail-coverts dark green, broadly edged with white; tail dark green, the lateral rectrices darker than the central; bill black. Total length about 4.4 inches, wing 2.25; tail, central rectrices 1.2, lateral 1.6; bill 1.3.

*Female.* Upper surface paler, the crown uniform with the back; throat black, most of the feathers with a white edge but with them a few glittering rosy-red feathers; rectrices uniform dark green, the lateral with a subterminal dark band and a white tip.

*Young males* sometimes have the throat nearly white owing to the great width of the white edges of the feathers.

*Hab.* Eastern and Southern Brazil.

<i>a-d.</i> ♂ ad.; <i>e, f.</i> ♂ juv. :	Brazil (Bahia make).	Salvin-Godman & Gould Colls.
<i>g, h.</i> ♀ ad. sk.		
<i>i.</i> ♂ ad.; <i>j.</i> ♀ ad. sk.	Brazil (Rio make).	Gould Coll.
<i>k.</i> ♂ ad. sk.	Brazil.	Salvin-Godman Coll.

## 29. DIPHLOGÆNA.

Diphlogæna, *Gould, Mon. Troch.* iv. pl. 247 (Oct. 1854) . . . . . Type. D. iris.

*Range.* Andes from Ecuador to Bolivia.

### *Key to the Species.*

- a.* Crown with a median stripe of brilliant glittering blue.
- a'.* Lower back and abdomen chestnut. . . . . *iris*, p. 121.
- b'.* Lower back and abdomen golden green . . . . . *hesperus*, p. 122.
- b.* Crown brilliant golden, shading into bluish green on the front, but with no median blue stripe . . . . . *aurora*, p. 122.

### 1. *Diphlogæna iris.*

*Helianthea iris*, *Gould, P. Z. S.* 1853, p. 61; *Bp. Rev. Zool.* 1854, p. 251.

*Helianthea γ.* *Hypochrysea iris*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 735. ff. 4685-86.

*Diphlogæna iris*, *Gould, Mon. Troch.* iv. pl. 247 (Oct. 1854); *id. Intr. Troch.* p. 133; *Muls. & Verr. Class. Troch.* i. p. 61; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 302; *id. Ann. Soc. Linn. Lyon*, i. p. 216; *Elliot, Syn. Troch.* p. 69; *Scl. & Salv. P. Z. S.* 1879, p. 629; *Tacz. P. Z. S.* 1882, p. 38; *id. Orn. Pér.* i. p. 384.

*Trochilus iris*, *Gray, Hand-l. B.* i. p. 138.

*Diphlogæna iris buckleyi*, *Berl. Ibis*, 1887, p. 295.

*Adult male.* Upper back dark shining green, becoming black towards the nape; lower back chestnut; crown glittering fiery copper, rather more golden on the forehead; a median stripe expanding towards the back of the crown rich lustrous violet-blue; lores and throat as far as the breast glittering green; a spot in the middle of the throat lustrous lilac; abdomen and under tail-coverts chestnut; tail chestnut, the central feathers tipped with bronze; outer primary purple-brown, edged with chestnut; inner primaries and secondaries chestnut, edged with purple-brown; bill black. Total length about 5.5 inches, wing 3.2; tail, central rectrices 1.5, lateral 2.2; bill 1.4.

*Female.* Crown glittering golden green, becoming coppery posteriorly, and the blue median stripe appears to be absent or paler; the throat is glittering green, but without the lilac spot.

*Young birds* have the crown dark dusky chestnut without glittering feathers; the throat is chestnut, each feather with a discal green spot.

*D. iris buckleyi*, of Ecuador, is stated to have the front and sides of the pileum of a more golden or a greenish-golden hue than is the case in *D. iris*, which is there of a more crimson lustre. These differences are not borne out by the specimens before me, which vary without reference to locality. A good deal of the apparent difference is due to the way the skins are made up, thus altering the angle at which the light is reflected from the feathers.

*Hab.* Ecuador, Peru, and Bolivia, on the eastern slope of the Andes at an elevation of 6000 to 8000 feet.

- a, b.* ♂ ad. : *c.* Yerba Buena, Ecuador (*Buckley*). Salvin-Godman Coll.  
 ♀ ad. sk.  
*d.* Juv. sk. Maraviña, Ecuador (*Buckley*). Salvin-Godman Coll.  
*e.* ♀ sk. Ecuador. Gould Coll. (One of the types of *D. hesperus*!)  
*f-i.* ♂ ad. : *j.* ♂ Between Illimani and Sorata, Gould Coll. (Types of the species.)  
 juv. : *k.* ♀ ad. sk. Bolivia (*Warszewicz*).

## 2. *Diphlogæna hesperus*.

*Diphlogæna hesperus*, *Gould, Ann. & Mag. N. H.* 1865, xv. p. 129; *Muls. & Ferr. Class. Troch.* p. 61; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 302, pl. 62; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216; *Elliot, Syn. Troch.* p. 70; *Berl. & Tacz. P. Z. S.* 1884, p. 303; *Sharpe in Gould's Suppl. Troch.* pl. 16 (April 1885).

*Adult male.* Similar to that of *D. iris*, but with the lower back and abdomen shining dark golden green, the crown of more fiery-red coppery lustre.

*Females* and *young birds* also differ from those of the allied species in having the lower back and abdomen tinged with green.

Gould's type of his female of *D. hesperus* is a female of *D. iris*.

*Hab.* Ecuador, eastern slopes of the Andes at an elevation of 9000 to 11,000 feet.

- a-e.* ♂ ad. sk. Ecuador. Gould Coll. (Types of the species.)  
*f, g.* ♂ ad. : *h.* ♂ Maraviña, Ecuador (*Buckley*). Salvin-Godman Coll.  
 juv. : *i.* ♀ juv. sk.  
*j, k.* ♂ ad. sk. Ceche, Ecuador, April, May Selater Coll. (*Stolzmann*).

## 3. *Diphlogæna aurora*.

*Helianthea aurora*, *Gould, P. Z. S.* 1853, p. 61; *Bp. Rev. Zool.* 1854, p. 251; *Cab. & Heine, Mus. Hein.* iii. p. 80.

*Helianthea* γ. *Hypochrysea aurora*, *Reich. Aufz. d. Col.* p. 9.

*Cœligena* δ. *Leadbeatera warszewizii*, *Reich. Aufz. d. Col.* p. 7.

*Cœligena warszewizii*. *Reich. Aufz. d. Col.* p. 23; *id. Troch. Enum.* p. 4, pl. 690. f. 4526.

*Diphlogæna aurora*, *Gould, Mon. Troch.* iv. pl. 248 (Sept. 1861): *id. Intr. Troch.* p. 134; *Muls. & Ferr. Class. Troch.* p. 61; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 216; *Scl. & Salv. P. Z. S.* 1879, p. 630; *Sharpe in Gould's Suppl. Troch.* pl. 17 (April 1885).

*Diphlogæna warszewiezi*, *Tacz. P. Z. S.* 1880, p. 204; *id. Orn. Pér.* i. p. 383.

*Adult male.* Body above and below and the tail chestnut; nape black: crown and anterior part of the throat glittering green, becoming more blue towards the base of the bill and more golden towards the nape, where occasionally one or two deep-blue feathers may be seen; lower neck shining grass-green, duller than the throat; outermost quill purple-brown edged with chestnut, the inner quills chestnut edged with purple-brown. Total length about 5.5 inches, wing 3.2; tail, central rectrices 1.4, lateral 2; bill 1.4.

*Female.* Like the male, but with the crown and throat less brilliant and the former of a more uniform glittering green.

Taczanowski uses Reichenbach's name *C. warszewiezi* for this species, which cannot, I think, be justified. Gould's paper in which his *H. aurora* was described was read before the Zoological Society on 22nd March, 1853, and was noticed in the 'Athenæum' for that year. Reichenbach's 'Anfählung der Colibris' was certainly not published before March 1854, and in it Gould's name is mentioned as *Helianthea* γ. *Hypochrysea aurora*, which seems conclusive as to its priority.

*Hab.* Peru and Bolivia: on the eastern slopes of the Andes at an elevation of between 9000 and 10,000 feet.

<i>a, b.</i> ♂ ad. sk.	Cutervo, Peru, Jan. ( <i>Stolzmann</i> ).	Salvin-Godman & Selater Colls.
<i>c, d.</i> ♂ ad.; <i>e.</i> ♂ juv. sk.	Between Illimani and Sorata, Bolivia ( <i>Warszewicz</i> ).	Gould Coll. (Types of the species.)

### 30. HELIANTHEA.

<i>Helianthea</i> , <i>Gould, P. Z. S.</i> 1848, p. 11	Type.
<i>Helianthea</i> γ. <i>Hypochrysia</i> , <i>Reich. Aufz. d. Col.</i> p. 9 (partim) (1854)	II. <i>typica</i> .
<i>Diphlogæna</i> ( <i>Helianthea</i> ), <i>Muls. &amp; Ferr. Classif. Troch.</i> p. 61 (1865).	
<i>Calligenia</i> , <i>Muls. Hist. Nat. Ois.-Mouches</i> , ii. p. 305 (1876)	II. <i>lutetiæ</i> .

*Range.* Andes from Venezuela and Colombia to Bolivia.

#### *Key to the Species.*

- a.* Abdomen lustrous.
- a'*. Rump glittering greenish plumbeous; abdomen glittering silvery-rose . . . . . *typica*, p. 124.
- b'*. Rump and abdomen glittering golden orange.
- a''*. Tail olive-green: secondaries purple-brown. *bonapartii*, p. 124.
- b''*. Tail and secondaries chestnut . . . . . *cos*, p. 125.

- b. Abdomen uniform shining grass-green; secondaries buff ..... *lutetiae*, p. 126.  
 e. Lower abdomen cinnamon.  
 c'. A white pectoral band ..... *violifera*, p. 126.  
 d'. Breast shining green.  
 c''. Tail cinnamon, narrowly edged with bronzy green ..... *osculans*, p. 127.  
 d''. Tail widely edged with bronzy green .... *dichoura*, p. 128.

### 1. *Helianthea typica*.

- Ornismya helianthea*, *Less. Rev. Zool.* 1838, p. 314.  
*Trochilus helianthea*, *Gould, P. Z. S.* 1848, p. 11.  
*Helianthea typica*, *Bp. Consp.* i. p. 74; *id. Rev. Zool.* 1854, p. 251; *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 732, ff. 4677-79; *Gould, Mon. Troch.* iv. pl. 235 (Oct. 1854); *id. Intr. Troch.* p. 130; *Cab. & Heine, Mus. Hein.* iii. p. 79; *Sci. Cat. Am. B.* p. 308; *Elliot, Ibis*, 1874, p. 332; *id. Syn. Troch.* p. 71; *Sci. & Salv. P. Z. S.* 1879, p. 530; *Salv. Cat. Strickl. Coll.* p. 366.  
*Diphlogæna (Helianthea) helianthea*, *Muls. & Ferr. Class. Troch.* p. 61.  
*Trochilus heliantheus*, *Gray, Hand-l. B.* i. p. 138.  
*Helianthea porphyrogaster*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 293, iv. p. 211; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216.  
*Hypochrysis helianthea*, *Berl. J. f. Orn.* 1887, p. 323.

*Adult male.* Upper surface nearly black, with a tinge of green on the middle of the back and wing-coverts; upper tail-coverts glittering greenish plumbeous; head and neck deep black; forehead glittering green, a crescent-shaped glittering violet gular spot; abdomen glittering silvery rose; under tail-coverts dark purple; tail dark greenish purple; bill black. Total length about 4.8 inches, wing 2.85; tail, central rectrices 1.25, lateral 1.75; bill 1.5.

*Female.* Upper surface shining grass-green, the rump like that of the male but with a rosy tint; under surface cinnamon, the sides of the breast green; abdomen scantily marked with dark glittering rosy spots; under tail-coverts dusky green, edged with cinnamon; tail dark olive-green.

*Hab.* Colombia.

- |                  |                         |                  |
|------------------|-------------------------|------------------|
| a-g. ♂ ad.; h-m. | Colombia (Bogota make). | Salvin-Godman,   |
| ♂ juv.: n-g.     |                         | Gould, & Selater |
| ♀ ad. sk.        |                         | Colls.           |
| r. ♂ ad. st.     | Colombia.               | Purchased.       |
| s, t. Ad. st.    |                         | Purchased.       |

### 2. *Helianthea bonapartii*.

- Ornismya bonapartii*, *Boiss. Rev. Zool.* 1840, p. 6; *Bourc. Ann. Soc. d'Agr. Lyons*, 1842, p. 307, pl. 14; *Lodd. P. Z. S.* 1843, p. 122.  
*Trochilus aurogaster*, *Fraser, P. Z. S.* 1840, p. 16.  
*Helianthea bonapartii*, *Bp. Consp.* i. p. 74; *id. Rev. Zool.* 1854, p. 251; *Gould, Mon. Troch.* iv. pl. 236 (Oct. 1854); *id. Intr. Troch.* p. 130; *Cab. & Heine, Mus. Hein.* iii. p. 80; *Sci. Cat. Am. B.* p. 308; *Elliot, Ibis*, 1874, p. 332; *id. Syn. Troch.* p. 72; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 295, iv. p. 211; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216; *Salv. Cat. Strickl. Coll.* p. 367.

*Helianthea*  $\gamma$ . *Hypochrysea bonapartii*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 734. ff. 4683-84.

*Diphlogæna* (*Helianthea*) *bonapartii*, *Muls. & Ferr. Class. Troch.* p. 61.

*Trochilus bonapartii*, *Gray, Hand-l. B.* i. p. 138.

*Hypochrysea bonapartei*, *Berl. J. f. Orn.* 1887, p. 323.

*Adult male.* Upper surface dark shining grass-green; crown and nape black; forehead glittering grass-green; rump and upper tail-coverts glittering golden-orange; under surface glittering green as far as the breast, a glittering violet gular spot; abdomen glittering golden-orange; under tail-coverts and tail bronzy green; bill black. Total length about 4.8 inches, wing 3; tail, central rectrices 4.1, lateral 1.75; bill 1.5.

*Female.* Under surface cinnamon; the breast washed with bright green, the abdomen with golden-orange; under tail-coverts cinnamon; lateral rectrices tipped with dingy white.

*Young males* are grass-green on the crown and assume the bright forehead after the violet gular spot is developed; the under tail-coverts are bronzy green edged with cinnamon, and the lateral rectrices are narrowly tipped with dusky white.

*Hab.* Colombia.

<i>a-f.</i> ♂ ad.; <i>g-l.</i>	Colombia (Bogota make).	Salvin-Godman & Sclater Colls.
♀ ad.; <i>m.</i>		
Juv. sk.		
<i>n, o.</i> ♂ ad. st.	Colombia.	Purchased.
<i>p.</i> ♀ ad. st.	Colombia.	Purchased.

### 3. *Helianthea eos.*

*Helianthea eos*, *Gould, P. Z. S.* 1848, p. 11; *id. Mon. Troch.* iv. pl. 237 (Sept. 1855); *id. Intr. Troch.* p. 131; *Bp. Consp.* i. p. 75; *id. Rev. Zool.* 1854, p. 251; *Cab. & Heine, Mus. Hein.* iii. p. 79; *Sci. & Salv. P. Z. S.* 1875, p. 235; *Elliot, Ibis*, 1874, p. 333; *id. Syn. Troch.* p. 72.

*Calligenia eos*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 311, iv. p. 212; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216.

*Helianthea*  $\gamma$ . *Hypochrysea eos*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 733. ff. 4680-82.

*Adult male.* Very like that of *H. bonapartii* in general appearance, the head, upper back, and under surface being similarly adorned; the rump and upper tail-coverts are hardly so bright, the breast a little more golden; the secondaries are cinnamon, with a very narrow dark tip, the outermost primary is edged with cinnamon; the tail, too, is cinnamon tipped with bronzy green, and the under tail-coverts are pure cinnamon; bill black. Total length about 5 inches, wing 1.9; tail, central rectrices 1.4, lateral 1.7; bill 1.5.

*Female.* Differs from that of *H. bonapartii* in the same way that the male does as regards the colour of the secondaries and tail.

*Hab.* Venezuela, in the highlands near Merida, &c.

<i>a-d.</i> ♂ ad.; <i>e, f.</i>	Paramo de los Conejos, Merida,	Gould Coll.
♀ ad. sk.	Venezuela ( <i>Funk &amp; Schlim</i> ).	(Types of the species.)

<i>g.</i> ♂ ad. sk.	Sierra Nevada of Merida ( <i>Goering</i> ).	Salvin-Godman Coll.
<i>h.</i> ♂ ad. sk.	Venezuela ( <i>Goering</i> ).	Gould Coll.
<i>i-k.</i> ♂ ad. sk.	Venezuela.	Salvin-Godman & Gould Colls.

4. *Helianthea lutetiæ*.

*Trochilus lutetiæ*, *Delattre & Muls. Rev. Zool.* 1846, p. 307; *Gray, Hand-l. B.* i. p. 138.

*Helianthea lutetiæ*, *Bp. Consp.* i. p. 74; *id. Rev. Zool.* 1854, p. 251; *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 736. ff. 4687-88; *Gould, Mon. Troch.* iv. pl. 238 (May 1857); *id. Intr. Troch.* p. 131; *id. P. Z. S.* 1870, p. 803; *Jameson & Fraser, Ibis*, 1859, p. 400; *Sci. P. Z. S.* 1860, p. 81; *id. Cat. An. B.* p. 305; *Cab. & Heine, Mus. Hein.* iii. p. 79; *Elliot, Ibis*, 1874, p. 333; *id. Syn. Troch.* p. 73; *Tacz. & Berl. P. Z. S.* 1885, p. 105.

*Diphlogæna lutetiæ*, *Muls. & Ferr. Class. Troch.* p. 61.

*Calligenia lutetiæ*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 306, iv. p. 212; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216.

*Adult male.* Upper surface black, the wing-coverts glossed with green, a glittering grass-green frontal spot: under surface shining grass-green, with a glittering violet gular spot; secondaries buff, tipped with purple-black, outermost primary edged with dull white: tail uniform bronzy-black; bill black. Total length about 5.5 inches, wing 3.2; tail, central rectrices 1.4, lateral 1.9; bill 1.6.

*Female.* Upper surface uniform dark shining grass-green; under surface cinnamon, the breast, flanks, and abdomen thickly spotted with shining green: under tail-coverts green, edged with cinnamon; secondaries like those of the male, buff tipped with purple-black.

*Young males* resemble the female; the violet gular spot is assumed before the frontal spot.

*Hab.* Ecuador.

<i>a-c.</i> ♂ ad.; <i>f-i.</i>	Ecuador ( <i>Jameson</i> ).	Gould Coll.
♂ juv.; <i>j-l.</i>		
♀ ad. sk.		
<i>m.</i> ♂ ad.; <i>n.</i> ♂	Ecuador.	Salvin-Godman Coll.
juv.; <i>o.</i> ♀ ad.		
sk.		
<i>p.</i> ♀ ad. sk.	Lloa, Ecuador ( <i>Fraser</i> ).	Selater Coll.
<i>q.</i> ♂ ad. sk.	Ecuador ( <i>Fraser</i> ).	Selater Coll.
<i>r.</i> ♂ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.

5. *Helianthea violifera*.

*Trochilus* — violifer, *Gould, P. Z. S.* 1846, p. 87.

*Helianthea violifera*, *Bp. Consp.* i. p. 75; *id. Rev. Zool.* 1854, p. 251; *Reich. Aufz. d. Col.* p. 9; *Gould, Mon. Troch.* iv. pl. 239 (Sept. 1855); *id. Intr. Troch.* p. 131; *Cab. & Heine, Mus. Hein.* iii. p. 80; *Elliot, Ibis*, 1874, p. 333; *id. Syn. Troch.* p. 73; *Sci. & Sate. P. Z. S.* 1879, p. 629.

*Diphlogæna violifera*, *Muls. & Ferr. Class. Troch.* p. 61.

*Calligenia violifera*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 313, iv. p. 213; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216.



*Adult male.* Upper surface bronzy green, almost black on the crown; upper tail-coverts cinnamon; under surface shining grass-green, darker on the throat, lighter on the breast, a violet gular spot; feathers of the middle of the breast edged with white, forming an indistinct pectoral band; lower abdomen and under tail-coverts cinnamon; tail cinnamon, narrowly tipped with bronzy green; outermost primary edged with cinnamon; bill black. Total length about 5·3 inches, wing 3·25; tail, central rectrices 1·8, lateral 2·1; bill 1·6.

*Female.* Crown greener than in the male; the under surface cinnamon; each feather of the breast with a shining grass-green discal spot.

*Young males* are like the females; the gular spot is assumed before the throat becomes green.

In very young birds the under surface is dusky, and this is superseded, at least on the breast, by cinnamon feathers with green disks.

*Hab.* Bolivia.

<i>a, b.</i> ♂ ad.; <i>c.</i> ♀ ad. sk.	Sandillani road, Yungas, Bolivia ( <i>Bridges</i> ).	Gould Coll. (Types of the species.)
<i>d.</i> ♂ ad. sk.	Chulumani, Bolivia ( <i>Warszewicz</i> ).	Salvin-Godman Coll.
<i>e.</i> ♂ ad.; <i>f.</i> ♀ ad. sk.	Unduavi, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>g.</i> ♂ ad.; <i>h.</i> ♂ juv. sk.	Tilotilo, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>i-m.</i> ♂ ad.; <i>n.</i> ♀ ad. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.

## 6. *Helianthea osculans*.

*Helianthea osculans*, *Gould, P. Z. S.* 1871, p. 503; *Whitely, P. Z. S.* 1873, p. 191; *Elliot, Ibis*, 1874, p. 334; *id. Syn. Troch.* p. 73; *Sharpe in Gould's Suppl. Troch.* pl. 18 (Mar. 1887).

*Calligenia osculans*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 310, pl. 64, iv. p. 212; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216.

*Adult male.* Upper surface golden bronze; crown dark shining grass-green, with a glittering green frontal spot; under surface bright shining grass-green, a little darker on the chin, and more golden on the upper abdomen and flanks, a violet gular spot; middle of the abdomen and under tail-coverts cinnamon; tail cinnamon, tipped with bronzy green; outermost primary edged with cinnamon; bill black. Total length about 5·5 inches, wing 3; tail, central rectrices 1·65, lateral 1·9; bill 1·6.

*Female.* Upper surface greener than that of the male, not so golden, the central rectrices bronzy green throughout, no frontal or gular spots; under surface pale cinnamon; all the feathers but those of the middle and lower abdomen with a bright green discal spot, smaller on the throat, larger on the breast.

*Hab.* Peru, Southern Provinces.

a. ♂ ad. sk.	Huasampilla, Peru, Sept. (II. <i>Whitely</i> ).	Gould Coll.
b, c. ♂ ad.; d. ♀ ad. sk.	Cachupata, Peru, Feb. (II. <i>W.</i> ).	Gould Coll.
c. ♂ ad. sk.	Cachupata, Oct. (II. <i>W.</i> ).	(Types of the species.) Salvin-Godman Coll.

### 7. *Helianthea dichroua*.

*Helianthea dichroua*, *Tacz. P. Z. S.* 1874, pp. 138, 543; *id. Orn. Pér.* i. p. 377; *Elliot, P. Z. S.* 1874, p. 334; *id. Syn. Troch.* p. 74; *Gould, Suppl. Troch.* pl. 19 (Jan. 1881).

*Calligenia dichroua*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 309, pl. 63, iv. p. 212; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216.

*Adult male*. "Closely resembling [that of] *H. osculans*. The under surface, with the exception of the lower portion of the abdomen and [under] tail-coverts, dark green. The principal difference is in the tail, which has the terminal third part bronze-green, forming a conspicuous apical band. Maxilla black; mandible flesh-colour, tip black." (*Elliot, l. s. c.*)

The colour of the mandible in this species is noteworthy, as in all other members of the genus it is black in both sexes.

*Hab.* Peru, Northern Provinces.

### 31. BOURCIERIA.

	Type.
<i>Bourcieria</i> , <i>Bp. Compt. Rend.</i> xxx. p. 380 (1850) . . . . .	B. torquata.
<i>Bourcieria a. Couradina</i> , <i>Reich. Aufz. d. Col.</i> p. 10 (1854) . . . . .	B. conradi.
<i>Polyæna</i> , <i>Heine, J. f. Orn.</i> 1863, p. 215 . . . . .	B. torquata.

*Range.* Andes from Venezuela and Colombia to Bolivia.

#### *Key to the Species.*

a. Breast chestnut . . . . .	<i>inea</i> , p. 129.
b. Breast pure white.	
<i>a'</i> . Centre of crown, throat, abdomen, and tips to lateral rectrices glittering grass-green.	
<i>a''</i> . Crown, nape, and back black, the crown with glittering green centre . . . . .	<i>insectivora</i> , p. 129.
<i>b'</i> . Crown and nape uniform glittering green . . . . .	<i>conradi</i> , p. 130.
b'. Centre of crown violet, sides black; abdomen and tips to the lateral rectrices black or greenish black.	
<i>c''</i> . Throat black, centre faintly tinged with green; abdomen black . . . . .	<i>torquata</i> , p. 130.
<i>c'''</i> . Throat black, centre bright green; abdomen greenish black . . . . .	<i>fulgidigula</i> , p. 131.

1. *Bourcieria inca*.

- Bourcieria inca*, *Gould, Contr. Orn.* 1852, p. 136; *id. Mon. Troch.* iv. p. 234 (May 1854); *id. Intr. Troch.* p. 136; *Bp. Rev. Zool.* 1854, p. 252; *Reich. Troch. Enum.* p. 7, pl. 752. ff. 4725-26; *Whitely, P. Z. S.* 1874, p. 675; *Elliot, Syn. Troch.* p. 75; *Sci. & Subv. P. Z. S.* 1879, p. 630; *Tacz. Orn. Pér.* i. p. 388.
- Homophaina inca*, *Cub. & Heine, Mus. Hein.* iii. p. 79; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 322; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216.
- Polyæna inca*, *Heine, J. f. Orn.* 1863, p. 216.
- Diphlogæna inca*, *Muls. & Ferr. Class. Troch.* p. 61.
- Trochilus inca*, *Gray, Hand-l. B.* i. p. 139.

*Adult male.* Body, including upper and under tail-coverts, glittering grass-green, rather brighter and more golden on the abdomen; breast chestnut; head and throat black, a glittering green frontal spot, the feathers of the middle of the throat with dark green discs; outermost primary edged with chestnut; central rectrices shining golden green, lateral white, with golden-green tips, which become wider towards the outermost pair; bill black. Total length about 5·2 inches, wing 3·1; tail, central rectrices 1·6, lateral 1·95; bill 1·65.

*Female.* Crown and nape grass-green, a little duller than the back, the frontal feathers more glittering; under surface from the chin to the breast chestnut, the sides of the throat washed with green; lateral rectrices white, the outermost pair black on the outer web for two-thirds of their distal end and with the inner web dusky near the tip; the next pair are dusky on the edge of the outer web for one-third of their distal end, this dusky margin crossing the feather to the inner web, leaving the shaft white.

*Hab.* Peru and Bolivia on the eastern slopes of the Andes.

- a.* ♂ ad.; *b, c.* ♀ ad. Coroico, Bolivia (*Warszewicz*). Gould Coll. (Types of the species.)
- d.* ♂ ad.; *e.* ♂ juv. Cillutincara, Bolivia (*Buckley*). Salvin-Godman Coll.
- f.* ♀ ad. sk. Tilotilo, Yungas, Bolivia (*Buckley*). Salvin-Godman Coll.
- g-i.* ♂ ad.; *j, k.* ♀ ad. sk. Bolivia (*Buckley*). Gould & Sclater Colls.
- l.* ♂ ad. sk. Huasampilla, Peru, Oct. (II. *Whitely*). Gould Coll.

2. *Bourcieria insectivora*.

- Trochilus insectivorus*, *Tsch. Faun. Per.* p. 248. f. 1.
- Bourcieria fulgidigula*, *Reich. Troch. Enum.* p. 7, pl. 749. ff. 4718-20?
- Bourcieria insectivora*, *Gould, Intr. Troch.* p. 135; *Tacz. P. Z. S.* 1874, p. 543, 1882, p. 38; *id. Orn. Pér.* i. p. 389; *Elliot, Ibis*, 1876, p. 5; *id. Syn. Troch.* p. 76; *Sharpe in Gould's Suppl. Troch.* pl. 20 (Mar. 1887).
- Polyæna insectivora*, *Heine, J. f. Orn.* 1863, p. 216.

*Diphlogæna insectivora*, *Muls. & Ferr. Class. Troch.* p. 61.

*Homophaina insectivora*, *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 213;  
*id. Ann. Soc. Linn. Lyon*, xxii. p. 216.

*Adult male*. Upper surface shining greenish black, a frontal spot glittering greenish blue, and an occipital spot of glittering green; throat glittering green tinged with blue; abdomen green; a wide pectoral band white; under tail-coverts green; wings blackish with a purple gloss; tail forked, the central rectrices brassy green, the rest white with brassy-green tips; bill black. Total length about 6 inches, wing 3·2, tail 1·95, bill 1·45. (*Ex* Taczanowski, *l. s. c.*)

*Female*. Upper surface including the crown uniform shining grass-green; throat white, each feather with a discal green spot.

*Hab.* Peru.

- |              |                          |                       |
|--------------|--------------------------|-----------------------|
| a. ♀ ad. sk. | Peru ( <i>Tschudi</i> ). | Gould Coll.           |
|              |                          | (A typical specimen.) |
| b. ♀ ad. sk. | [Peru.]                  | Gould Coll.           |

### 3. *Bourcieria conradi*.

*Trochilus conradi*, *Bourc. P. Z. S.* 1847, p. 45.

*Bourcieria conradi*, *Bp. Consp.* i. p. 73; *id. Rev. Zool.* 1854, p. 252;

*Gould, Mon. Troch.* iv. pl. 253 (Sept. 1859); *id. Intr. Troch.*

p. 136; *Scl. & Salv. P. Z. S.* 1870, p. 782; *Elliot, Syn. Troch.* p. 76.

*Bourcieria a. Conradinia conradi*, *Reich. Troch. Enum.* p. 7, pl. 747.  
ff. 4714-15.

*Helianthea conradi*, *Cab. & Heine, Mus. Hein.* iii. p. 80.

*Polyæna conradi*, *Heine, J. f. Orn.* 1863, p. 216.

*Diphlogæna conradi*, *Muls. & Ferr. Class. Troch.* p. 61.

*Homophaina conradi*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 320, iv.  
p. 213; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216.

*Adult male*. Upper surface, throat, and abdomen shining grass-green, the head and throat more glittering; breast with a wide white band; central rectrices golden green, lateral white with golden-green tips, wider towards the outermost pair; outermost primary edged with rufous; bill black. Total length about 5·4 inches, wing 3·1; tail, central rectrices 1·4, lateral 1·8; bill 1·45.

*Female*. Like the male, but duller; the throat white; the lateral feathers with green discal spots.

*Hab.* Venezuela, in the highlands.

- |                   |                                |                       |
|-------------------|--------------------------------|-----------------------|
| a-d. ♂ ad.; e, f. | Sierra Nevada de Merida,       | Salvin-Godman, Gould, |
| ♀ ad. sk.         | Venezuela ( <i>Goering</i> ).  | & Selater Colls.      |
| g-j. ♂ ad.; k. ♀  | [Venezuela] ( <i>Linden</i> ). | Gould Coll.           |
| ad. sk.           |                                |                       |

### 4. *Bourcieria torquata*.

*Ornismya torquata*, *Boiss. Rev. Zool.* 1840, p. 6.

*Bourcieria torquata*, *Bp. Consp.* i. p. 73; *id. Rev. Zool.* 1854, p. 251;

*Gould, Mon. Troch.* iv. pl. 251 (May 1854); *id. Intr. Troch.* p. 135;

*id.* P. Z. S. 1870, p. 803; *Sci. Cat. Am. B.* p. 309; *Elliot, Syn. Troch.* p. 77; *Sci. & Salv. P. Z. S.* 1879, p. 530; *Tacz. & Berl. P. Z. S.* 1885, p. 105; *Berl. J. f. Orn.* 1887, p. 324.

Bourcieria  $\beta$ . Homophaina prunellii, *Reich. Troch. Enum.* p. 7, pl. 748. ff. 4716-17.

Homophaina torquata, *Cub. & Heine, Mus. Hein.* iii. p. 79; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 316, iv. p. 213; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216.

Polyæna torquata, *Heine, J. f. Orn.* 1863, p. 215.

Diphlogæna torquata, *Muls. & Ferr. Chass. Troch.* p. 61.

Trochilus torquatus, *Gray, Hand-l. B.* i. p. 139.

*Adult male.* Upper surface black, with a greenish gloss on the lower back and wing-coverts, a glossy violet occipital spot; throat black, the central feathers with dark green discal spot, a wide white pectoral band; abdomen black; under tail-coverts dark green, central rectrices greenish-black, lateral white with greenish-black tips, wider on the outermost feathers; bill black. Total length about 5.5 inches, wing 3.1, tail 1.9, bill 1.6.

*Female.* Upper surface and abdomen dark shining grass-green, darker on the crown; throat white, each feather with a dark green discal spot; breast white as in the male.

*Young* birds are dusky black beneath, the white feathers of the breast begin to appear at the sides and gradually spread irregularly across; the occipital spot is the last to develop.

*Hab.* Colombia and Ecuador.

a. ♀ ad. sk.	Santa Elena, Colombia ( <i>T. K. Salmon</i> ).	Salvin-Godman Coll.
b. ♂ juv. sk.	Medellin, Colombia ( <i>T. K. S.</i> )	Gould Coll.
c-f. ♂ ad.; g-j. ♂ juv.; k, l. ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman, Gould, & Sclater Colls.
m, n. ♂ ad. sk.	Baiza, Ecuador ( <i>Buckley</i> ).	Gould Coll.
o-r. ♂ ad.; s. ♂ juv.; t, u. ♀ ad. sk.	Baños, Ecuador ( <i>Buckley</i> ).	Salvin-Godman & Gould Colls.
v, w. ♂ ad. sk.	Ecuador.	Gould Coll.
x. Ad. st.		Purchased.

### 5. Bourcieria fulgidigula.

Bourcieria fulgidigula, *Gould, Mon. Troch.* iv. p. 252 (May, 1854); *id. Intr. Troch.* p. 135; *Sci. P. Z. S.* 1859, p. 145, 1860, p. 81; *id. Cat. Am. B.* p. 309; *Elliot, Syn. Troch.* p. 76; *Berl. & Tacz. P. Z. S.* 1884, p. 304.

Homophaina fulgidigula, *Cub. & Heine, Mus. Hein.* iii. p. 79; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 318, iv. p. 213; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216.

Polyæna fulgidigula, *Heine, J. f. Orn.* 1863, p. 216.

Trochilus fulgidigula, *Gray, Hand-l. B.* i. p. 139.

*Adult male.* Like that of *B. torquata*, but with the occipital spot

of a greener hue, the throat bright grass-green, and the lower back and abdomen glossed with dark green.

*Female* and young birds are like those of the allied species, and difficult to be distinguished from them; the throat and abdomen of the female are of a rather lighter green.

*Hab.* Ecuador.

<i>a, b.</i> ♂ ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman & Gould Colls.
<i>c.</i> ♂ juv. sk.	Baiza, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>d-f.</i> ♂ ad. sk.	Ecuador ( <i>Fraser</i> ).	Salvin-Godman, Gould, & Sclater Colls.
<i>g.</i> ♂ ad. sk.	Ecuador.	Gould Coll. (Type of the species.)
<i>h-n.</i> ♂ ad. ; <i>o, p.</i> ♂ juv. ; <i>q-v.</i> ♀ ad. sk.	Ecuador.	Gould Coll.

### 32. EUDOSIA.

*Eudisia*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 2 (1876). Type. *E. traviesi*.

*Range.* Colombia.

#### 1. *Eudisia traviesi*.

*Diphlogena* (*Helianthea*) *traviesi*, *Muls. & Verr. Ann. Soc. Linn. Lyon*, 1866, p. 199.

*Eudisia traviesi*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 2, pl. 66; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216; *Berl. J. f. Orn.* 1887, p. 323.

*Bourcieria traviesi*, *Elliot, Syn. Troch.* p. 77; *Sharpe in Gould's Suppl. Troch.* pl. 21 (Mar. 1887).

*Adult male.* Upper surface dark shining grass-green; upper tail-coverts purple-bronze; forehead and middle of the crown blue, shading into greenish blue towards the occiput; throat green; chin black, followed by a violet gular spot; a large white pectoral spot; abdomen, flanks, and under tail-coverts glittering grass-green; tail dark bronzy green; bill black. Total length about 4.8 inches, wing 3; tail, central rectrices 1.65, lateral 1.9; bill 1.5.

*Young males* have the crown dark green like the back, the whole throat dusky black; the thoracic male characters are assumed before those of the crown.

*Hab.* Colombia.

<i>a.</i> ♂ juv. sk.	[Colombia.]	Salvin-Godman Coll.
<i>b.</i> Juv. sk.	[Colombia.]	Salvin-Godman Coll.

### 33. LAMPROPYGIA.

<i>Bourcieria</i> $\gamma$ . <i>Lampropygia</i> , <i>Reich. Aufz. d. Col.</i> p. 10 (1854) . . . . .	Type.
<i>Bourcieria</i> $\beta$ . <i>Homophaina</i> , <i>Reich. Aufz. d. Col.</i> p. 10 (1854) . . . . .	<i>L. wilsoni</i> .
<i>Pilonia</i> , <i>Muls. Hist. Nat. Ois.-Mouches</i> , iii. p. 4 (1876) . . . . .	<i>L. prunellii</i> .

*Range.* Andes from Venezuela and Colombia to Bolivia.

*Key to the Species.*

- a. A white patch on either side of the breast.
- a'. General plumage black with a bright gular spot.
- a''. Gular spot shining green or bluish green; scapulars blue ..... *prunellii*, p. 133.
- b'. Gular spot dark purple; scapulars dark purple-bronze ..... *assimilis*, p. 134.
- b'. General plumage dark purple-brown; gular feathers edged with pale dusky ..... *purpurea*, p. 134.
- c'. Gular feathers shining rosy purple ..... *wilsoni*, p. 134.
- b. No white spot on either side of the breast.
- c'. Upper surface, including the tail, dark rufous-bronze; lower back (viewed from behind) shining coppery green ..... *caligena*, p. 135.
- d'. Upper surface, including the tail, dark olive-green; lower back (viewed from behind) shining green ..... *colombiana*, p. 135.
- e'. Upper surface, including the tail, blackish brown; lower back (viewed from behind) shining green ..... *boliviana*, p. 136.

I. *Lampropygia prunellii*.

- Trochilus prunellii*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, vi. p. 36 (1843); *Gray, Hand-l. B. i.* p. 139.
- Bourcieria prunellii*, *Bp. Consp. i.* p. 73; *id. Rev. Zool.* 1854, p. 252; *Elliot, Syn. Troch.* p. 78; *Berl. J. f. Orn.* 1887, p. 324.
- Bourcieria torquata*, *Reich. Troch. Enum.* p. 7, pl. 750. ff. 4721-22.
- Cœligena prunellii*, *Gould, Mon. Troch.* iv. pl. 257 (Sept. 1857).
- Homophaina prunellii*, *Cab. & Heine, Mus. Hein.* iii. p. 79.
- Lampropygia prunellii*, *Gould, Intr. Troch.* p. 137; *Sci. Cat. Am. B.* p. 309; *Elliot, Ibis*, 1876, p. 58.
- Diphlogæna (Helianthea) prunellii*, *Muls. & Ferr. Class. Troch.* p. 61.
- Pilonia prunellii*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 4, iv. p. 214.
- Eudosia prunellii*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 216.

*Adult male.* General plumage black, a golden-green gloss on the rump when viewed from in front; upper tail-coverts dark purple; when viewed from behind the whole back is of a shining coppery-purple lustre, brighter and more golden on the rump; the scapulars are lustrous blue, shading into dark purple on the smaller wing-coverts; a large white spot on each side of the breast; a gular spot shining greenish blue; under tail-coverts black, with dull white edges; tail deep purple-black; bill black. Total length about 5 inches, wing 3.1; tail, central rectrices 1.5, lateral 1.9; bill 1.3.

*Female.* Like the male.

*Hab.* Colombia.

- a-g. ♂ ad.; h, i. Colombia (Bogota make). Salvin-Godman, Gould,  
 Juv. sk. & Selater Colls.  
 j. Ad. st. Purchased.

2. *Lampropygia assimilis*.

*Lampropygia* — ? , *Elliot, Ibis*, 1876, p. 58.

*Bourcieria assimilis*, *Elliot, Syn. Troch.* p. 78; *Berl. J. f. Orn.* 1884, p. 310, 1887, p. 324; *id. Zeitschr. ges. Orn.* iv. p. 120, pl. 3. f. 2.

*Adult male*. Similar to that of *L. prunellii*, but with the gular spot of a deep purple colour; the scapulars and wing-coverts also are dark bronze instead of blue. (*Mus. v. Berlepsch.*)

*Hab.* Colombia.

This is apparently a distinct species allied to *L. prunellii*, but differing as stated above. The only specimen I have seen was submitted to me by Graf von Berlepsch.

3. *Lampropygia purpurea*.

*Cœligena purpurea*, *Gould, Mon. Troch.* iv. pl. 256 (Oct. 1854); *id.*

*Intr. Troch.* p. 137; *Reich. Troch. Enum.* p. 3, pl. 753. ff. 4727–28.

*Lampropygia purpurea*, *Cab. & Heine, Mus. Hein.* iii. p. 78; *Elliot, Ibis*, 1876, p. 59.

*Pilonia purpurea*, *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 213.

*Bourcieria purpurea*, *Elliot, Syn. Troch.* p. 78.

*Adult male*. General plumage dark purple-brown, darker on the crown, a greenish lustre on the rump; upper tail-coverts, scapulars, and wing-coverts rich dark purple; a white spot on each side of the breast; throat dusky brown, each feather with a pale dusky edge; abdomen and under tail-coverts blackish brown, the latter edged with rufous; tail uniform dark bronze-brown; edge of the wing and edge of the outermost primary chestnut.

*Female* unknown.

*Hab.* Unknown, but probably Colombia.

- |            |                         |                                       |
|------------|-------------------------|---------------------------------------|
| a. Ad. sk. | [Popayan.]              | Gould Coll.<br>(Type of the species.) |
| b. Ad. sk. | Colombia (Bogota make). | Gould Coll.                           |

4. *Lampropygia wilsoni*.

*Trochilus wilsoni*, *Delattre & Bourc. Rev. Zool.* 1846, p. 305; *Gray, Hand-l. B.* i. p. 139.

*Bourcieria wilsoni*, *Bp. Consp.* i. p. 73; *id. Rev. Zool.* 1854, p. 252; *Elliot, Syn. Troch.* p. 77.

*Bourcieria* *γ.* *Lampropygia wilsoni*, *Reich. Troch. Enum.* p. 7, pl. 751. ff. 4723–24.

*Cœligena wilsoni*, *Gould, Mon. Troch.* iv. pl. 258 (May 1856); *Jameson & Fraser, Ibis*, 1859, p. 400; *Sci. P. Z. S.* 1859, p. 145, 1860, p. 94.

*Lampropygia wilsoni*, *Cab. & Heine, Mus. Hein.* iii. p. 78; *Sci. Cat. Am. B.* p. 309; *Gould, Intr. Troch.* p. 137; *Elliot, Ibis*, 1876, p. 79; *Berl. & Tacz. P. Z. S.* 1883, p. 567, 1884, p. 304.

*Diphlogæna* (*Helanthea*) *wilsoni*, *Muls. & Ferr. Class. Troch.* p. 61.

*Pilonia wilsoni*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 7.

*Eudrosia wilsoni*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 216.

*Adult male*. Upper surface dark bronzy brown, greener on the



rump; upper tail-coverts darker bronze; under surface dark brown, chin black, a large gular spot shining purple; a spot on each side of the neck white; under tail-coverts indistinctly edged with rufous; edge of wing and edge of outermost primary chestnut; tail dark bronze; bill black. Total length about 4·8 inches, wing 2·9; tail, central rectrices 1·4, lateral 1·7; bill 1·4.

*Female.* Like the male.

*Young* birds in their first plumage are very like the adult and possess the white spots on the side of the neck. The purple throat is assumed at a later stage.

*Hab.* Colombia and Ecuador.

<i>a.</i> ♂ ad. sk.	Pasto, Ecuador ( <i>Lehmann</i> ).	Salvin-Godman Coll.
<i>b-d.</i> ♂ ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>e.</i> Juv. sk.	Citado, Ecuador ( <i>Buckley</i> ).	Gould Coll.
<i>f, g.</i> ♂ ad. sk.	Quito, Ecuador.	Gould Coll.
<i>h-m.</i> ♂ ad.; <i>n.</i>	Ecuador.	Salvin-Godman &
♀ ad. sk.		Gould Colls.

### 5. *Lampropygia cœligena*.

*Ornismya cœligena*, *Less. Hist. Nat. Troch.* p. 141, pl. 53.

*Trochilus cœligena*, *Less. Ind. Gén. Troch.* p. xviii; *Gray, Hand-l. B.* i. p. 139.

*Cœligena typica*, *Bp. Consp.* i. p. 73; *id. Rev. Zool.* 1854, p. 252; *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* p. 3, pl. 686, f. 4515.

*Lampropygia cœligena*, *Cab. & Heine, Mus. Hein.* iii. p. 78; *Scl. Cat. Am. B.* p. 309; *Gould, Intr. Troch.* p. 136; *id. P. Z. S.* 1870, p. 80; *Scl. & Salv. P. Z. S.* 1868, pp. 169, 629; *Elliot, Ibis*, 1876, p. 55; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 10, iv. p. 214; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216.

*Bourcieria cœligena*, *Elliot, Syn. Troch.* p. 79.

*Adult male.* Upper surface dark rufous-bronze, with a tinge of purple on the crown and upper tail-coverts; rump shining green when viewed from behind, preceded on each feather with a zone of bright bronze; tail dark rufous-bronze; under surface dusky, the feathers of the throat edged with white, under tail-coverts edged with rufous; edge of wing and of outermost primary chestnut; bill black. Total length about 5·8 inches, wing 3·15; tail, central rectrices 1·5, lateral 2·05; bill 1·6.

*Female.* Like the male.

*Hab.* Venezuela.

<i>a, b.</i> Ad. sk.	Venezuela ( <i>Goering</i> ).	Salvin-Godman & Gould Colls.
<i>c.</i> Ad. sk.	Venezuela ( <i>Spence</i> ).	Sclater Coll.
<i>d-h.</i> Ad. sk.	[Venezuela.]	Gould Coll.
<i>i.</i> Ad. sk.	Aragua, Venezuela.	E. Dyson [C.].

### 6. *Lampropygia columbiana*.

*Cœligena typica*, *Gould, Mon. Troch.* iv. pl. 255 (Oct. 1854).

*Lampropygia cœligena*, *Wyatt, Ibis*, 1871, p. 378; *Tacz. P. Z. S.* 1874, p. 543, 1879, p. 239; *id. Orn. Pér.* i. p. 390.

- Diphlogæna (Helianthea) lessoni, *Muls. & Ferr. Class. Troch.* p. 61.  
 Lampropygia columbiana, *Elliot, Ibis*, 1876, p. 57; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 12, iv. p. 214; *Scl. & Salv. P. Z. S.* 1879, p. 530; *Tacz. & Berl. P. Z. S.* 1885, p. 105.  
 Bourcieria columbiana, *Elliot, Syn. Troch.* p. 79; *Berl. J. f. Orn.* 1887, p. 324.

*Adult male.* Very similar to that of *L. caligena*, but the plumage generally of a much more olive tint. The size, too, is less.

*Hab.* Colombia, Ecuador, and N. Peru.

a. Ad. sk.	Frontino, Colombia ( <i>T. K.</i> Salmon).	Salvin-Godman Coll.
b. Ad. sk.	Medellin, Colombia ( <i>T. K. S.</i> )	Salvin-Godman Coll.
c-i. Ad. sk.	Colombia (Bogota make).	Salvin-Godman & Sclater Colls.
j. Ad. sk.	Quito, Ecuador ( <i>Jameson</i> ).	Gould Coll.
k. Ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
l. Ad. sk.	Ulloa, Ecuador ( <i>Buckley</i> ).	Gould Coll.
m. Ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
n. Ad. sk.	Baños, Ecuador ( <i>Buckley</i> ).	Gould Coll.
o. Ad. sk.	Ecuador ( <i>Buckley</i> ).	Gould Coll.

### 7. Lampropygia boliviana.

- Lampropygia boliviana, *Gould, Intr. Troch.* p. 137; *Elliot, Ibis*, 1876, p. 57; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 13, pl. 67; *id. Ann. Soc. Linn. Lyon*, xxii. p. 216; *Scl. & Salv. P. Z. S.* 1879, p. 630.  
 Bourcieria boliviana, *Elliot, Syn. Troch.* p. 79.

*Adult.* In its dark upper surface this species resembles *L. caligena* rather than *L. columbiana*, but is blacker and not so rufescent, the discal spots of the crown-feathers are dark green rather than purple. The tail is of a blacker more purple-bronze than that of either of the allied species.

*Hab.* Bolivia.

a, b. Ad. sk.	Bella Vista, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
c, d. Ad. sk.	Tilotilo, Yungas, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
e-i. Ad. sk.	Bolivia ( <i>Buckley</i> ).	Gould & Sclater Colls.
j. Ad. sk.	Boliva.	Gould Coll.

(Type of the species.)

### 34. CYANOLESBIA.

Type.

- Cynanthus, *Swains. Class. B.* ii. p. 330 (1837) (*nee* 1827);  
*Elliot, Syn. Troch.* p. 150 ..... C. gorgo.  
 Lesbia, *Cab. & Heine, Mus. Hein.* iii. p. 71..... C. mocoa.  
 Cyanolesbia, *Stej. Auk.* ii. p. 46 (1885).

*Range.* Andes from Venezuela and Colombia to Bolivia.

## Key to the Species\*.

- a.* Lateral pair of rectrices glittering violet-blue.  
*a'*. Smaller; under surface greener ..... *gorgo*, p. 137.  
*b'*. Larger; under surface browner ..... *caelestis*, p. 139.
- b.* Lateral pair of rectrices like the rest, glittering green.  
*c'*. Upper surface darker; gular spot sapphire-blue; tail longer ..... *mocoa*, p. 140.  
*d'*. Upper surface lighter; gular spot greener; tail shorter ..... *smaragdina*, [p. 140.]

1. *Cyanolesbia gorgo*.

- ? Long-tailed Green Humming-bird, *Edw.* i. pl. 33.  
 ? *Trochilus forficatus*, *Linn. Syst. Nat.* i. p. 190; *Gm. Syst. Nat.* i. p. 486; *Vieill. N. Diet. d'Hist. N.* vii. p. 366; *id. Enc. Méth.* p. 559.  
 Oiseau-Mouches à longue Queue, or, vert et bleu, *Buff. Hist. Nat. Ois.* vi. p. 38.  
 L'Oiseau-Mouche à tête bleu, *Aud. & Vieill. Dor.* i. p. 129, pl. 60.  
*Trochilus cyanurus*, *Steph. in Shaw's Zool.* xiv. p. 339 (1826) (*nec Vieill.*); *Gray, Hand-l. B.* i. p. 143.  
*Trochilus kingi*, *Less. Hist. Nat. Troch.* p. 107, pl. 38; *id. Ind. Gén. Troch.* p. xviii.  
*Cyananthus forficatus*, *Sw. Classif. B.* ii. p. 330 (1836) (*nec Linn. ? ?*); *Bp. Consp. Av.* i. p. 81; *Elliot, Syn. Troch.* p. 151.  
*Ornismya* (*Lesbia*) *kingi*, *Boiss. Rev. Zool.* 1840, p. 7.  
*Mellisuga forficata*, *Gray, Gen. B.* i. p. 113.  
*Mellisuga cyanura*, *Gray, Gen. B.* i. p. 113.  
*Lesbia gorgo*, *Reich. Aufz. d. Col.* pp. 8, 24; *Sci. Cat. Am. B.* p. 301; *Cab. & Heine, Mus. Hein.* iii. p. 71.  
*Lesbia forficata*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 5, pl. 718. ff. 4628-9; *Bp. Rev. Zool.* 1854, p. 252; *Cab. & Heine, Mus. Hein.* iii. p. 71; *Sci. Cat. Am. B.* p. 301; *Sci. & Salv. P. Z. S.* 1868, p. 169.  
*Cyananthus cyanurus*, *Gould, Mon. Troch.* iii. pl. 172 (May 1852); *id. Intr. Troch.* p. 102; *Muls. & Ferr. Class. Troch.* p. 83; *Wyatt, Ibis*, 1871, p. 377; *Sci. & Salv. P. Z. S.* 1875, p. 235; *Elliot, Ibis*, 1876, p. 10; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 268, iv. p. 220; *id. Ann. Soc. Linn. Lyon*, xxii. p. 224.  
*Lesbia kingi*, *Heine, J. f. Orn.* 1863, p. 212.

\* The following species is unknown to me:—

## CYANOLESBIA GRISEIVENTRIS.

*Cyananthus griseiventris*, *Tacz. P. Z. S.* 1883, p. 72; *id. Orn. Pér.* i. p. 334.

"*C. supra viridis, fronte squamosa longissime splendidissima; subtus totus pallide cinereus, praso gulari splendide cæruleo, plunius basi albis; crisso albo; tetricibus alarum dorso concoloribus; campterio albo; remige primo externe albo marginato; cauda profunde emarginata, splendide viridi, rectricibus mediis splendore apicali latissime cupreo; rectricibus externis nigris viridi terminatis; cauda subtus cæruleo virens.*

"*Hab.* Paucal, Peru (Raymondi)." (*Tacz. Orn. Pér.* i. p. 334.)

*Lesbia margarethæ*, *Heine, J. f. Orn.* 1863, p. 213.

*Lesbia cyanurus*, *Heine, J. f. Orn.* 1863, p. 213.

*Mellisuga salvadorii*, *Bear. Ann. Mus. Zool. Flor.* 1865, p. 204.

*Cyananthus gorgo*, *Muls. & Ferr. Class. Troch.* p. 83.

*Cyanolesbia cyanura gorgo*, *Berl. J. f. Orn.* 1887, p. 326.

*Adult male* (Bogota). Upper surface dark shining grass-green; crown glittering green, drawn to a point towards the nape and edged with black on either side, when viewed from in front; under surface dull green, a gular spot glittering sapphire-blue; tail rich violet-blue, black at the base, the exposed portion of the eight median feathers very frequently shading into glittering green towards their tips; bill black. Total length about 8.3 inches, wing 2.75; tail, central rectrices 1, lateral about 5.5; bill 0.85.

*Adult female*. Upper surface shining bronzy green; crown shining green; under surface chestnut; throat white, each feather with a green disk; flanks green; lateral rectrices steel-blue with white tips, rest shining green above. Length of lateral rectrices 1.6 inch, of the next pair 1.75, central 0.9.

*Young males* are like the old males above and beneath; but the crown is dull green, and the tail in the first instance like that of the female; the brilliant rectrices of the adult are first developed, and afterwards the gular spot and the glittering crown.

*Hab.* Colombia and Venezuela.

Some females from Bogota have the crown shining blue and the breast white.

Specimens from the Venezuelan province of Caracas (*margarethæ*, Heine) are lighter green above, and all the rectrices except the lateral pair are glittering green like those of *C. mocoa*. The male from Caripe, further to the eastward, has a tail which is nearly pure violet-blue on the exposed upper surface, and the lateral pair of feathers are unusually long and wide. Specimens from Merida are without the gular spot. It is quite possible that several well-marked forms are here united, but most of the specimens before me have their origin too indefinitely marked to justify my attempting their separation. The males from Bogota with pure violet tails may come from a different valley from those which have the central rectrices more or less green.

The name *Trochilus cyanurus* cannot be used for any of these forms. Its application by Vieillot in 1823 (*Enc. Méth.* p. 550) to a figure of Seba's (*Thes.* i. p. 84, pl. 51, f. 7), which does not represent one of the *Trochilidae* at all, excludes Stephens's *T. cyanurus* of 1826. I therefore use *gorgo*, Reich., for the Bogota bird, as has already been done by Count Berlepsch.

Linnæus's title *T. forficatus*, has often been applied to this bird, but a reference to Edwards's plate (upon which the Linnæan name was founded) and the reproductions of it, shows that it cannot be employed with any certainty.

The title *C. gorgo* (Reich.) applies to the Colombian bird, which has the central rectrices more or less emerald-green, and thus comes very near to the Caracas bird called *C. margarethæ* (Heine).

The birds from Eastern Venezuela and Merida, as well as the violet-tailed form from Colombia, are without names that can be properly applied to them.

Form *a.* — ?

- a.* ♂ ad. sk. Forests of Caripe, E. Venezuela, June 1867 (*A. Goering*).  
Salvin-Godman Coll.

Form *b.* *C. margaretha* (Heine).

- b, c.* ♂ ad. sk. Caracas, Venezuela (*Sallé*). Gould Coll.  
*d.* ♂ ad.; *e.* ♀ ad. sk. Caracas. Gould Coll.  
*f.* ♀ ad. sk. Valley of Aragua, Venezuela. E. Dyson [C.].  
*g.* ♀ ad. sk. Venezuela (*Spence*). Sclater Coll.

Form *c.* — ?

- h.* ♂ ad. sk. Merida, Venezuela (*v. Berlepsch*).  
Salvin-Godman Coll.

Form *d.* *C. gorgo* (Reich.).

- i-n.* ♂ ad.; *o-r.* ♂ juv.; *s-v.* ♀ ad. sk. Colombia (Bogota make).  
Salvin-Godman, Gould, & Sclater Colls.

Form *e.* — ?

- w-y.* ♂ ad.; *z.* ♀ ad. sk. Colombia (Bogota make).  
Salvin-Godman & Gould Colls.  
*a'.* ♂ ad.; *b'.* ♀ ad. st. Purchased.

2. *Cyanolesbia caelestis*.

*Cyananthus caelestis*, *Gould, Intr. Troch.* p. 102; *Muls. & Ferr. Class. Troch.* p. 83; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 96.

*Cyananthus cyanurus*, *Scl. P. Z. S.* 1869, pp. 70, 95; *Gould, P. Z. S.* 1870, p. 803.

*Lesbia caelestis*, *Scl. Cat. Am. B.* p. 301; *Heine, J. f. Orn.* 1863, p. 212.

*Trochilus caelestis*, *Gray, Hand-l. B.* i. p. 143.

*Cyananthus cyanurus caelestis*, *Berl. & Tacz. P. Z. S.* 1883, p. 567, 1884, p. 305.

*Adult male.* Similar to that of *C. gorgo*, but larger and with a larger bill; the under surface is browner, the feathers having brown edges, and this also applies to the under tail-coverts.

*Adult female.* The crown varies from shining green to shining blue, and the breast is always white.

*Young males* go through the same changes as in *C. gorgo*.

*Hab.* Colombia (Popayan) and Ecuador.

- a.* ♂ ad. sk. Popayan, Colombia. Gould Coll.  
*b.* ♂ ad. sk. Itac, Ecuador (*Buckley*). Salvin-Godman Coll.

c. ♂ ad. sk.	Pallatanga, Ecuador, Nov.	Slater Coll. (Fraser).
d. ♂ ad.; e. ♂ juv.;	Quito, Ecuador.	Gould Coll.
f. ♀ ad. sk.		
g-o. ♂ ad.; p-s. ♂	Ecuador.	Gould Coll. (Type of the species.)
juv.; t-v. ♀ ad. sk.		
w-b'. ♂ ad. sk.	Ecuador.	Salvin-Godman Coll.

### 3. *Cyanolesbia mocoa*.

*Trochilus mocoa*, *Del. & Bourc. Rev. Zool.* 1846, p. 311; *Gray, Hand-l. B.* i. p. 148.

*Cyananthus mocoa*, *Bp. Consp. Av.* i. p. 81; *Gould, Intr. Troch.* p. 103; *Muls. & Ferr. Class. Troch.* p. 83; *Gould, P. Z. S.* 1870, p. 803; *Tacz. P. Z. S.* 1874, p. 544; *id. Orn. Pér.* i. p. 334; *Whitely, P. Z. S.* 1878, p. 188; *Scl. & Salv. P. Z. S.* 1879, pp. 529, 628; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 271; *id. Ann. Soc. Linn. Lyon*, xxii. p. 224; *Elliot, Syn. Troch.* p. 152; *Tacz. & Berl. P. Z. S.* 1885, p. 103.

*Lesbia mocoa*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 5, pl. 717. ff. 4626-7; *Bp. Rev. Zool.* 1854, p. 252; *Heine, J. f. Orn.* 1863, p. 212.

*Cyananthus smaragdicauda*, *Gould, Mon. Troch.* iii. pl. 173 (May 1852).

*Adult male.* Similar to that of *C. gorgo*, but with the whole of the exposed upper surface of the tail glittering green; gular spot sapphire-blue.

*Hab.* Colombia (Cauea Valley) and Ecuador.

a. ♂ ad. sk.	Santa Elena, Antioquia, Colombia (T. K. Salmon).	Salvin-Godman Coll.
b. ♂ ad.; c. ♀ ad. sk.	Antioquia (T. K. S.).	Slater Coll.
d. ♂ juv. sk.	Popayan, Colombia.	Gould Coll.
e. ♂ juv. sk.	Santiago, Ecuador (Lehmann).	Gould Coll.
f-i. ♂ ad.; j, k. ♀ juv. sk.	Baños, Ecuador (Buckley).	Salvin-Godman & Gould Colls.
l-p. ♂ ad. sk.	Ecuador.	Gould Coll.
q. ♀ ad. sk.	Peru?	Gould Coll.

### 4. *Cyanolesbia smaragdina*.

*Trochilus (Lesbia) smaragdinus*, *Gould, P. Z. S.* 1846, p. 85.

*Mellisuga smaragdinis*, *Gray, Gen. B.* i. p. 113.

*Cyananthus bolivianus*, *Gould, Ann. & Mag. N. H.* 1880, v. p. 489; *id. Suppl. Mon. Troch.* pl. 40 (Aug. 1880); *Elliot, Ann. & Mag. N. H.* 1880, vi. p. 232.

*Lesbia mocoa*, *Cab. & Heine, Mus. Hein.* iii. p. 1.

*Adult male.* Similar to that of *C. mocoa*, but with a shorter tail and with the gular spot glittering pale greenish blue rather than sapphire-blue.

*Adult female.* Upper surface bronzy green, the crown brighter bluish green; abdomen chestnut; throat white, each feather with a large green discal spot.

*Hab.* Bolivia.

All Bolivian males of this form that I have seen differ from typical *C. mooca* in the points indicated above; but see Mr. Elliot's notes on this bird.

<i>a, b.</i> ♂ ad.; <i>c.</i> ♂ juv. sk.	Tilotilo, Yungas, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>d.</i> ♂ ad. sk.	Liria, Yungas, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>e-i.</i> ♂ ad.; <i>j.</i> ♂ juv.; <i>k.</i> ♀ ad. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll. (Types of <i>C. boliviana</i> .)
<i>l.</i> ♂ ad. st.	Bolivia.	Bridges [C.].

## 35. ZODALIA.

Type.

*Zodalia, Muls. Hist. Nat. Ois.-Mouches*, iii. p. 281 (1876) . . *Z. ortoni*.

*Range.* Southern Colombia, Ecuador.

*Key to the Species.*

- a.* Upper surface shining green . . . . . *glyceria*, p. 141.  
*b.* Upper surface shining purple . . . . . *ortoni*, p. 142.

1. *Zodalia glyceria*.

*Cometes mossia, Gould, Rep. Brit. Assoc.* 1853, p. 68; *Athenæum*, 1853, p. 1166.

*Lesbia glyceria, Bp. Rev. Zool.* 1854, p. 252.

*Cometes? glyceria, Gould, Mon. Troch.* iii. pl. 176 (May 1858); *id. Intr. Troch.* p. 104; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 225.

*Sparganura mossai, Cab. & Heine, Mus. Hein.* iii. p. 52.

*Zodalia glyceria, Muls. Hist. Nat. Ois.-Mouches*, iii. p. 283; *Elliot, Syn. Troch.* p. 150.

*Sparganura glyceria, Gould, Suppl. Troch.* pl. 38 (Aug. 1880).

*Young male?* Upper surface dark shining bluish green, the feathers of the crown edged with rusty red (immaturity?); under surface dusky buff, the feathers of the flanks and sides of the neck with bluish discal spots, throat glittering brassy olive-green; tail dark shining purple, the lateral rectrices for three fourths of their outer webs and the shaft adjoining dusky white, the shaft of the next feather also dusky white; bill black. Total length about 5.7 inches, wing 2.5; tail, central rectrices 1.25, lateral 3.2; bill 3.7.

*Female* unknown.

*Hab.* Colombia (Popayan).

This species was never characterized by Gould under the name *C. mossia*, either in the 'Athenæum' or *Brit. Assoc. Rep.* It must therefore stand as *C. glyceria*, the name given to it by Bonaparte and adopted by Gould in the 'Monograph of Trochilidæ.'

- a.* ♂ juv. sk. Popayan, Colombia (*Mossa*). Gould Coll. (Type of species.)

2. *Zodalia ortonii*.

*Lesbia ortonii*, *Lawr. Ann. Lyc. N. Y.* ix. p. 269; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 225.

*Zodalia ortonii*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 282; *Elliot, Syn. Troch.* p. 149; *Gould, Suppl. Troch.* pl. 38 (Aug. 1880).

*Adult male*. "Entire upper surface and wing-coverts of a rich glossy purple; the concealed bases of the feathers are green; upper tail-coverts similar in colour to the back, but marked centrally between the purple and green with crimson; the tail-feathers are brownish black, except the two central, which are green; the ends of the eight middle feathers are largely marked with a deep vinous bronzy crimson, most in extent on the short central feathers; the long outer feather on each side ends with obscure bronzy green; the outer edge of the lateral feather is buff for three quarters of its length from the base—this colour occupying only about one third the width of the web; the under surface of the tail is steel-blue, bronzy at the ends of the feathers; the shafts of the two long lateral feathers are whitish at the base for about half their length; wings brownish purple; the throat gorget is of a brilliant metallic pale green; the sides of the neck, breast, upper part of the abdomen, and sides are a shining green; lower part of abdomen ash buff. Bill and feet black. Length  $5\frac{3}{4}$  inches, wing  $2\frac{1}{4}$ ; tail, lateral feathers  $3\frac{1}{16}$ , short central ones  $1\frac{1}{16}$ ; bill  $\frac{1}{2}$ ." (*Lawr. l. s. c.*)

*Adult female*. Upper surface dark shining bluish green; under surface pale buff, becoming nearly white on the lower abdomen; feathers of the throat, breast, and flanks with green discal spots; tail dark purple, central rectrices greener, lateral narrowly tipped with dusky white. Length of the central rectrices 1.1, lateral 2.

*Hab.* Ecuador.

a. ♀ ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
b. ♀ ad. sk.	Ecuador?	Gould Coll.

## 36. SAPPHO.

	Type.
Cometes, <i>Gould, P. Z. S.</i> 1841, p. 31 ( <i> nec Hodgs.</i> 1837)	<i>S. sparganura</i> .
Sappho, <i>Reich. Syst. Av.</i> pl. 40 (1849) . . . . .	<i>S. sparganura</i> .
Sparganura, <i>Cub. &amp; Heine, Mus. Heiv.</i> iii. p. 52 (1860) . . . . .	<i>S. sparganura</i> .
Polyonymus, <i>Heine, J. f. Orn.</i> 1863, p. 206 . . . . .	<i>S. caroli</i> .
Leobia, <i>Muls. Hist. Nat. Ois.-Mouches</i> , iii. p. 298 . .	<i>S. caroli</i> .

*Range.* Andes of Central Peru; Bolivia and Chili; Argentine Republic.

*Key to the Species.*

- a. Tail long, glittering red or orange-red; throat glittering green.  
 a'. Back crimson; tail glittering orange-red . . . . . *sparganura*, p. 143.  
 b'. Back dark crimson; tail glittering red . . . . . *phaon*, p. 144.  
 b. Tail shorter and duller; throat glittering red . . . . . *caroli*, p. 144.



1. *Sappho sparganura*.

- Trochilus sparganurus*, *Shaw, Gen. Zool.* viii. p. 291, pl. 39; *Gray, Hand-l. B.* i. p. 143.  
*Trochilus chysurus*, *Cuv. Règn. An.* i. p. 486 (1829); *Tsch. Faun. Per.* p. 244.  
*Ornismya sappho*, *Less. Hist. Nat. Ois.-Mouches*, pp. xlii, 105, pls. 27, 28; *id. Man. d'Orn.* ii. p. 83; *id. Traité d'Orn.* p. 272.  
*Trochilus sappho*, *Less. Ind. Gén. Troch.* p. xvii.  
*Trochilus chrysochloris*, *Less. Suppl. Ois.-Mouches*, p. 98.  
*Ornismya chysura*, *d'Orb. & Lafr. Syn. Av.* ii. p. 26.  
*Mellisuga sparganura*, *Gray, Gen. B.* i. p. 113.  
*Cometes sappho*, *Gould, P. Z. S.* 1847, p. 31.  
*Cometes sparganurus*, *Bp. Consp.* i. p. 81; *Des Murs, in Casteln. Voy. Ois.* p. 39; *Gould, Mon. Troch.* iii. pl. 174 (Oct. 1858); *id. Intr. Troch.* p. 104; *Burm. J. f. Orn.* 1860, p. 245; *id. La-Plata Reise*, ii. p. 449; *Scl. Cat. Am. B.* p. 301; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 274; *Elliot, Ibis*, 1877, p. 134.  
*Sappho sparganura*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 5, pl. 724. ff. 4651-2; *Muls. & Ferr. Class. Troch.* p. 83; *Elliot, Syn. Troch.* p. 154; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 224; *Scl. & Salv. P. Z. S.* 1879, p. 628; *Salv. Ibis*, 1880, p. 363.  
*Lesbia sparganura*, *Bp. Rev. Zool.* 1854, p. 252.  
*Sparganura sappho*, *Cab. & Heine, Mus. Heine*, iii. p. 52; *E. W. White, P. Z. S.* 1882, p. 615; *Scl. & Huds. Arg. Orn.* ii. p. 3.

*Adult male.* Crown, neck, and under surface shining bronze-green; back and rump shining crimson; throat glittering grass-green; tail dark brown, the exposed portion on the upperside fiery orange-red, the central pair of rectrices narrowly, the rest widely tipped with black; basal portion of the outer web of the lateral rectrices dusky, the adjoining portion of the shafts whitish; bill black. Total length about 7 inches, wing 2.06; tail, central rectrices 1, lateral 4.4; bill 0.8.

*Adult female.* Upper surface shining green, becoming coppery on the upper tail-coverts; an irregular whitish patch on the rump; under surface whitish, all the feathers, except those on the middle of the abdomen, with green discs; under tail-coverts buff; exposed surface of the tail fiery orange-red, the central rectrices tipped with black, outermost feathers with the whole of the outer web, the shaft, and the adjoining part of the inner web (except at the base) whitish, the next pair of rectrices narrowly tipped with whitish. Length of central rectrices 1 inch, lateral 1.9, next pair 2.

*Young male.* Similar to the female, but with longer, more fiery orange-red tail; the outermost rectrix like that of the female, but without white on the inner web. The plumage of the adult first shows on the middle of the back and subsequently on the throat.

*Hab.* Eastern Bolivia, the Argentine Republic, and the Andes of Chili.

a, b. ♂ ad. sk.	Chuquisaca, Bolivia ( <i>Bridges</i> ).	Gould Coll.
c. ♂ juv. sk.	Bolivia ( <i>Bridges</i> ).	Sclater Coll.
d. ♂ juv. sk.	Salta, Argentine Rep., June.	H. Durnford [C.].

<i>e.</i> ♂ ad. sk.	Jachal, Arg. Rep.	Gould Coll.
<i>f.</i> ♂ ad.; <i>g.</i> ♂ juv.; <i>h.</i> ♀ ad. sk.	Tucuman, June.	H. Durnford [C.].
<i>i, j.</i> ♂ ad.; <i>k.</i> ♂ juv.; <i>l, m.</i> ♀ ad. sk.	Portillo Pass, Chilian Andes ( <i>Weisshaupt</i> ).	Salvin-Godman Coll.
<i>n.</i> ♂ ad.; <i>o, p.</i> ♀ ad. sk.	Portillo Pass.	Gould Coll.
<i>q.</i> ♂ ad.; <i>r.</i> ♀ ad. sk.	Chilian Andes ( <i>Leybold</i> ).	Salvin-Godman Coll.
<i>s.</i> ♂ ad.; <i>t.</i> ♂ juv. sk.	"Brazil."	S. Feilding, Esq. [P.].
<i>u.</i> ♀ juv. sk.		Gould Coll.
<i>v.</i> ♂ ad.; <i>w.</i> ♀ ad. st.		Purchased.
<i>x.</i> ♀ ad. st.	Bolivia.	— Bridges [C.].

## 2. Sappho phaon.

- Ornismya chrysur*, var., *d'Orb. & Lafr. Syn. Av.* ii. p. 27.  
*Cometes phaon*, *Gould, P. Z. S.* 1847, p. 31; *id. Mon. Troch.* iii. pl. 175 (Oct. 1853); *id. Intr. Troch.* p. 104; *Bp. Consp. Av.* i. p. 81; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 279, pl. 97; *Elliot, Ibis*, 1877, p. 135.  
*Mellisuga phaon*, *Gray, Gen. B.* i. p. 113.  
*Sappho phaon*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 5, pl. 725. ff. 4653-4; *Muls. & Ferr. Class. Troch.* p. 83; *Elliot, Syn. Troch.* p. 154; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 225; *Sci. & Salv. P. Z. S.* 1879, p. 628.  
*Lesbia phaon*, *Bp. Rev. Zool.* 1854, p. 252.  
*Sparganura phaon*, *Cab. & Heine, Mus. Hein.* iii. p. 52.  
*Trochilus phaon*, *Gray, Hand-l. B.* i. p. 143.

*Adult male.* Similar to that of *S. sparganura*, but with longer, more curved bill; the under surface whiter, each feather with a green disc, the back darker crimson, and the exposed portion of the upperside of the tail darker fiery red.

*Female* resembles that sex of *S. sparganura*; but the rectrices are, as in the male, darker, and the bill longer and more curved.

*Hab.* Andes of Bolivia and (?) Peru.

<i>a, b.</i> ♂ juv.; <i>c.</i> ♀ ad. sk.	Peru?	Salvin-Godman & Gould Colls.
<i>d.</i> ♂ ad.; <i>e.</i> ♂ juv. sk.	Sapahaque, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>f-h.</i> ♂ ad.; <i>i, j.</i> ♂ juv. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.

## 3. Sappho caroli.

- Trochilus caroli*, *Bourc. P. Z. S.* 1847, p. 48; *id. Rev. Zool.* 1847, p. 269.  
*Hylocharis caroli*, *Gray, Gen. B.* i. p. 113; *Bp. Consp. Av.* i. p. 74.  
*Calliphlox caroli*, *Reich. Aufz. d. Col.* p. 12.

- Cometes caroli, *Gould, Mon. Troch.* iii. pl. 177 (July 1861); *id. Intr. Troch.* p. 104; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 225.  
 Polyonymus caroli, *Heine, J. f. Orn.* 1863, p. 206; *Nation, P. Z. S.* 1881, p. 487.  
 Leobia caroli, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 298.  
 Sappho caroli, *Elliot, Syn. Troch.* p. 155.

*Adult? male.* Upper surface, including the central rectrices, shining bronzy green; under surface dusky, each feather with a green disc; throat glittering red; lateral rectrices purple-black, the exposed portion more coppery; outer web of outermost rectrix dusky white for the greater part of its length; bill black. Total length about 5·2 inches, wing 2·5; tail, central rectrices 1·2, lateral 2·2; bill 1.

*Female unknown.*

Notwithstanding the opinion of various writers, I think this aberrant species had best be retained in the genus *Sappho*. Though the tail is short, its shape and the coloration of the outermost rectrix are similar to what obtain in young examples of the more typical species. The bill closely resembles that of *S. sparganura*.

*Hab.* Andes of Peru.

- |                 |   |                     |
|-----------------|---|---------------------|
| a. ♂ juv. ♀ sk. | Peru?   | Gould Coll.         |
| b. ♂ juv. sk.   | Andes of Lima, Peru, Oct.<br>( <i>Nation</i> ). | Salvin-Godman Coll. |
| c. ♂ juv. sk.   | Andes of Lima, Peru ( <i>Nation</i> ).          | Slater Coll.        |

### 37. NEOLESBIA.

Cyanolesbia, partim, *Berl. l. i. c.* ..... Type. N. nehrkorni.

#### 1. Neolesbia nehrkorni.

Cyanolesbia nehrkorni, *Berl. J. f. Orn.* 1887, p. 326; *id. Zeitschr. ges. Orn.* iv. p. 178, pl. 3. f. 1.

*Adult male.* Upperside, including the tail, deep steel-blue, the whole top of the head brighter, the bright part drawn into a point towards the nape; wings purple-black; underside metallic bluish green, rather bluer on the throat; abdomen duller, the sides blue; under tail-coverts dark steel-blue, the sides of each feather white; bill black, long, slightly decurved; feet dark. Length about 5·3 inches, wing 2·5; tail, central rectrices 1·05, lateral 2·6; bill 0·95. (*Type in Mus. Berlepsch.*)

A very distinct species, known from two specimens. That submitted to me is of the usual Bogota make, and was sent to Count Berlepsch by Mr. Nehr Korn, who possesses the second specimen.

The bill of this species is longer and more curved than that of either *Cyanolesbia gorgo* or *Zodalia glyceria*. The tail-feathers are about the same width as in *Zodalia glyceria*.

*Hab.* Colombia.

## 38. LESBIA.

	Type.
Lesbia, <i>Less. Ind. Gén. Troch.</i> p. xvii (1832) . . . . .	L. nuna.
Agaclyta, <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 70 (1860) . .	L. gouldi.
Psalidoprymna, <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 52 (1860)	L. victoriæ.

*Range.* Andes from Venezuela and Colombia to Bolivia.

*Key to the Species.*

- a. Larger: all the rectrices, including the central pair, black tipped with green . . . . . *victoriæ*, p. 146.
- b. Smaller: central rectrices wholly green.
- a'. Exposed portion of the sublateral rectrices black tipped with green.
- a''. Lateral rectrices reddish purple beneath, the pale portion of the outer web extending beyond the ends of the sublateral pair; glittering throat more elongated . . . . . *eucharis*, p. 147.
- b''. Lateral rectrices steel-blue beneath, the pale portion of the outer web not extending beyond the ends of the sublateral pair; glittering throat less elongated, rounded . . . . . *nuna*, p. 148.
- b'. Smallest: exposed portion of all the rectrices, except the lateral pair, green . . . . . *gouldi*, p. 149.

1. *Lesbia victoriæ*.

*Trochilus victoriæ*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, ix. p. 312 (1846); *id. Rev. Zool.* 1846, p. 315, pl. 4.

*Mellisuga victoriæ*, *Gray, Gen. B.* i. p. 113.

*Trochilus amaryllis*, *Bourc. Rev. Zool.* 1848, p. 273; *Gray, Handl. B.* i. p. 143.

*Cyananthus victoriæ*, *Bp. Consp. Av.* i. p. 81; *id. Rev. Zool.* 1854, p. 252.

*Cyananthus amaryllis*, *Bp. Consp. Av.* i. p. 81.

*Psalidoprymna amaryllis*, *Cab. & Heine, Mus. Hein.* iii. p. 53.

*Lesbia amaryllis*, *Reich. Troch. Enum.* p. 5, pl. 714. ff. 4620-1; *Gould, Mon. Troch.* iii. pl. 170 (May 1854); *id. Intr. Troch.* p. 101; *Jameson & Fraser, Ibis*, 1859, p. 399; *Scl. P. Z. S.* 1855, p. 140, 1858, pp. 460, 555, 1860, pp. 81, 94; *id. Cat. Am. B.* p. 301; *Muls. & Ferr. Class. Troch.* p. 83; *Lawr. Ann. Lyc. N. Y.* ix. p. 237; *Wyatt, Ibis*, 1871, p. 376; *Elliot, Syn. Troch.* p. 148; *Berl. & Tacz. P. Z. S.* 1884, p. 305, 1885, p. 103.

*Lesbia victoriæ*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 5, pl. 715. ff. 4622-3; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 286; *Muls. & Verr. Class. Troch.* p. 83.

*Psalidoprymna victoriæ*, *Cab. & Heine, Mus. Hein.* iii. p. 52; *Berl. J. f. Orn.* 1887, p. 328.

*Lesbia gouldi amaryllis*, *Berl. & Tacz. P. Z. S.* 1884, p. 305.

*Adult male.* Upper and under surfaces shining golden green (rather dull); throat glittering grass-green, drawn to a point on the breast; under tail-coverts buff; tail very long, purple-black, each

feather tipped with bronzy green, the outermost rectrix with the basal portion of the outer web to a little beyond the tips of the next pair, with the shaft adjoining, dull white; bill black, Total length about 9.5 inches, wing 2.35; tail, central rectrices 0.85, lateral 6.8; bill (rather curved) 0.85.

*Adult female.* Under surface white, each feather with a green discal spot; tail much shorter than in the male, but similarly marked. Length of central rectrices 0.95, lateral 3.3.

*Young male.* Like the female; the glittering throat of the adult gradually taking the place of the spotted one.

*Hab.* Andes of Colombia and Ecuador.

a, b. ♂ ad. ; c-g.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
♂ juv. sk.		
h. ♂ juv. sk.	Colombia.	Bourcier [C.].
i. ♂ ad. sk.	Riobamba, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
j, k. ♂ ad. sk.	Quito, Ecuador ( <i>Fraser</i> ).	Gould & Selater Colls.
l. ♂ ad. ; m. ♀ ad. sk.	Ecuador ( <i>Fraser</i> ).	Salvin-Godman & Selater Colls.
n, o. ♂ ad. ; p-u. ♂ juv. ; v-y. ♀ ad. sk.	Ecuador.	Salvin-Godman & Selater Colls.
z. ♂ ad. st.		Purchased.

## 2. *Lesbia eucharis*.

*Trochilus eucharis*, *Bowc. Rev. Zool.* 1848, p. 274.

*Lesbia eucharis*, *Reich. Aufz. d. Col.* p. 8; *Gould, Mon. Troch.* iii. pl. 171 (Sept. 1860); *id. Intr. Troch.* p. 102; *Muls. & Verr. Class. Troch.* p. 83; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 289; *id. Ann. Soc. Linn. Lyon*, xxii. p. 225; *Elliot, Syn. Troch.* p. 147.

*Cynanthus eucharis*, *Bp. Rev. Zool.* 1854, p. 252.

*Psalidoprymna eucharis*, *Berl. J. f. Orn.* 1887, p. 328.

*Adult male.* Similar to that of *L. victoriæ* but smaller, and with a shorter tail and shorter, straighter bill; the glittering green of the throat is nearly as elongated, but not shortened and rounded as in *L. nuna* and *L. gouldi*. The central and next two pairs of rectrices are shining green, the sublateral pair dark for most of the exposed portion of their length, with green tips; the lateral pair, too, are tipped with bronzy green; the pale webs of the outer rectrices reach beyond the tips of the next pair.

*Adult female.* Under surface nearly white, all the feathers with green discal spots; the white portion of the outer webs of the outer rectrices extends over more than three fourths of the feather.

*Hab.* Colombia.

Very closely allied to *L. nuna*.

a. ♂ ad. sk.	San Buenaventura, Colombia	Gould Coll.
	( <i>Bourcier</i> ).	(Type of the species.)
b. ♂ ad. ; c. ♀ ad. sk.	(Skins of similar make.)	Gould Coll.

- d. ♂ ad. sk. Peru (?) (ex Bourcier). Gould Coll.  
 (Erroneously marked as the type of *T. nuna-kaoli*.)  
 e. ♀ ad.; f. Pull. — ? Gould Coll.  
 sk.

### 3. *Lesbia nuna*.

- Ornismya nuna*, Less. *Suppl. Ois.-Mouches*, p. 169, pl. 35.  
*Trochilus nuna*, Less. *Ind. Gén. Troch.* p. xvii; Gray, *Hand-l. B. i.*  
 p. 143.  
*Ornismya gouldi*, d'Orb. & Lafr. *Syn. Av.* ii. p. 27 (*nec Lodd.*).  
*Ornismya nuna-kaoli*, Del. & L. ss. *Rev. Zool.* 1839, p. 19.  
*Cyananthus bifurcatus*, Sw. *Birds Mex.* p. 411 ?; *Bp. Consp. Av. i.*  
 p. 81; *id. Rev. Zool.* 1854, p. 232.  
*Mellisuga bifurcata*, Gray, *Gen. B. i.* p. 113.  
*Lesbia bifurcata*, Reich. *Aufz. d. Col. p.* 8; *id. Troch. Enum.* p. 5,  
 pl. 716. ff. 4624-5.  
*Lesbia nuna*, Gould, *Mon. Troch.* iii. pl. 169 (Sept. 1860); *id. Intr.*  
*Troch.* p. 101; *Muls. & Verr. Class. Troch.* p. 83; *Whitely*,  
*P. Z. S.* 1874, p. 675; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 291,  
 pl. 98; *id. Ann. Soc. Linn. Lyon*, xxii. p. 225; *Elliot, Ibis*, 1877,  
 p. 137; *id. Syn. Troch.* p. 147; *Sci. & Salv. P. Z. S.* 1879, p. 628.  
*Psalidoprymna bifurcata*, Cab. & Heine, *Mus. Hein.* iii. p. 53.  
*Agalyta nuna*, Heine, *J. f. Orn.* 1863, p. 211.

*Adult male.* Very similar to that of *L. eucharis*, but with the glittering green of the throat more restricted and rounded at its lower edge, instead of produced towards the breast; the lateral rectrices are steel-blue rather than purple-blue at the base, and the pale outer web does not extend so far along the feather.

*Female.* Does not differ from that of *L. eucharis*.

*Hab.* Peru and Bolivia.

The specimen from d'Orbigny's collection agrees with Whitely's and Buckley's examples, and proves that *O. gouldi*, d'Orb. & Lafr., should be referred to *L. nuna*.

Whether *C. bifurcatus*, Swains., said to be from Mexico, is also referable to the same bird is more doubtful; the locality attributed to it must be wrong, no species of *Lesbia* passing the Isthmus of Panama.

- a. ♀ ad. sk. Vicinity of Lima (*Nation*). Salvin-Godman Coll.  
 b-g. ♂ ad.; h, i. Paucatambo, Peru, Nov., Dec. Salvin-Godman &  
 ♀ ad. sk. (*H. Whitely*). Gould Colls.  
 j. ♀ ad. sk. Huatocto, Peru, July (*H. W.*). Salvin-Godman Coll.  
 k. ♀ ad. sk. Peru or Bolivia (*Warszewicz*). Gould Coll.  
 l. ♂ ad. sk. Bolivia (*d'Orbigny*). Sclater Coll.  
 m. ♂ ad.; n. ♂ Valley of Milipaya, Sorata, Gould Coll.  
 juv. sk. Bolivia, alt. 10,500 feet (*In-*  
*wards*).  
 o. ♂ ad. sk. Sorata, alt. 12,000 feet (*D. Forbes*). Gould Coll.  
 p. ♂ ad. sk. Sorata (*Buckley*). Salvin-Godman Coll.

4. *Lesbia gouldi*.

*Trochilus gouldi*, *Lodd. P. Z. S.* 1832, p. 7; *Gray, Hand-l. B.* i. p. 143.

*Ornismya sylphis*, *Less. Rev. Zool.* 1840, p. 73.

*Trochilus* (*Lesbia*) *gracilis*, *Gould, P. Z. S.* 1846, p. 86.

*Mellisuga gouldi*, *Gray, Gen. B.* i. p. 113.

*Mellisuga gracilis*, *Gray, Gen. B.* i. p. 113.

*Cynanthus gouldi*, *Bp. Consp. Av.* i. p. 81; *id. Rev. Zool.* 1854, p. 282.

*Lesbia gouldi*, *Reich. Aufz. d. Col.* p. 8; *Gould, Mon. Troch.* iii.

pl. 167 (Sept. 1856); *id. Intr. Troch.* p. 101; *Scl. & Salv. P. Z. S.*

1875, p. 235; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 293, iv.

p. 230; *id. Ann. Soc. Linn. Lyon*, xxii. p. 225; *Elliot, Syn. Troch.*

p. 146.

*Cynanthus gracilis*, *Bp. Consp. Av.* i. p. 81.

*Lesbia gracilis*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 5,

pl. 713. ff. 4618-9; *Scl. P. Z. S.* 1860, pp. 70, 94; *Cat. Am. B.*

p. 300; *Gould, Mon. Troch.* iii. pl. 168 (Sept. 1860); *id. Intr.*

*Troch.* p. 101; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 295; *id.*

*Ann. Soc. Linn. Lyon*, xxii. p. 225; *Tacz. P. Z. S.* 1879, p. 238,

1880, p. 200, 1882, p. 36; *id. Orn. Pér.* i. p. 330.

*Agalyta gouldi*, *Cab. & Heine, Mus. Hein.* iii. p. 70.

*Agalyta gracilis*, *Cab. & Heine, Mus. Hein.* iii. p. 71.

*Lesbia sylphia*, *Muls. & Verr. Class. Troch.* p. 83.

*Lesbia chlorura*, *Gould, P. Z. S.* 1871, p. 504.

*Psalidopyrma gouldi*, *Berl. J. f. Orn.* 1857, p. 328.

*Adult male.* Similar to those of *L. eucharis* and *L. nana*, but decidedly smaller, with shorter bill; the glittering portion of the throat rounded posteriorly as in *L. nana*; the exposed portion of the sublateral pair of rectrices is glittering green throughout, a little brighter towards the tip. Total length about 6 to 7 inches, wing 1.95; tail, central rectrices 0.8, lateral 4.5; bill 0.55.

*Female.* Similar to the females of the allied species; white beneath, each feather with a green discal spot. Length of the lateral rectrices about 2.3 inches.

*Young male.* Similar to the female, and spotted on the under surface. These spotted feathers are replaced by green ones as maturity advances.

*Hab.* Colombia, Ecuador, and Peru (?).

*L. gouldi* applies strictly to the Colombian bird and *L. gracilis* to the Ecuadorean; but I am unable to separate them satisfactorily. The former is perhaps smaller and has greener under tail-coverts, but both characters are variable.

a. ♂ ad. sk.	Sierra Nevada of Merida, Venezuela, alt. 8000-9000 feet (Goering).	Salvin-Godman Coll.
b-f. ♂ ad.; g-l. ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
m-p. ♂ juv. sk.	Colombia (Purdie).	Purchased.
q. ♀ ad. sk.	Above Puellaro, Ecuador (Fraser).	Salvin-Godman Coll.
r, s. ♂ ad. sk.	Quito, Ecuador.	Gould Coll.

<i>t, u.</i> ♂ ad. ; <i>v.</i>	Sarayacu, Ecuador ( <i>Buckley</i> ).	Gould Coll.
♀ ad. sk.		
<i>w.</i> ♂ ad. sk.	Ecuador ( <i>Fraser</i> ).	Selater Coll.
<i>x-z.</i> ♂ ad. ; <i>a'</i> -	Ecuador ( <i>Buckley</i> ).	Gould Coll.
<i>c'</i> ♀ ad. sk.		
<i>d', e'</i> ♂ ad. sk.	Ecuador.	Salvin-Godman Coll.
<i>f'</i> ♂ ad. sk.	Peru ? ( <i>Warszewicz</i> ).	Gould Coll.
<i>g', h'</i> ♂ ad. st.		Purchased.

## 39. METALLURA.

	Type.
Metallura, <i>Gould, P. Z. S.</i> 1847, p. 94 . . . . .	<i>M. opaca</i> .
Urolampra, <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 68 (1860).	<i>M. tyrianthina</i> .
Metallura ( <i>Lavinia</i> ), <i>Muls. Hist. Nat. Ois.-Mouches</i> ,	
iii. p. 106 (1877) . . . . .	<i>M. eupogon</i> .
<i>Range.</i> Andes from Venezuela and Colombia to Bolivia.	

*Key to the Species.*

- a.* Upper and under surfaces brownish or purple-black; gular spot glittering bluish green.
- a'*. Rectrices beneath glittering copper-colour; under tail-coverts bronzy purple, edged with dusky rufous . . . . . *opaca*, p. 150.
- b'*. Rectrices beneath glittering vinous-purple; under tail-coverts purple-black edged with rufous . . . . . *jelskii*, p. 151.
- c'*. Rectrices glittering purple; under tail-coverts greenish edged with ochraceous. . . . . *chloropogon*, p. 151.
- b.* Upper and under surfaces shining bronzy green.
- d'*. Gular spot glittering green.
- a''*. Gular spot with definite edges.
- a'''*. Larger . . . . . *aneicauda*, p. 152.
- b'''*. Smaller.
- a<sup>4</sup>*. Rectrices beneath glittering coppery purple . . . . . *tyrianthina*, p. 152.
- b<sup>4</sup>*. Rectrices beneath glittering violet-purple . . . . . *smaragdnicollis*, p. 154.
- b''*. Gular spot without definite edges.
- c'''*. Rectrices beneath glittering bronzy green . . . . . *primolina*, p. 154.
- d'''*. Rectrices beneath glittering purple. . . . . *williamsi*, p. 155.
- e'*. Gular spot glittering red . . . . . *eupogon*, p. 155.

1. *Metallura opaca*.

- Trochilus* (*Lampornis*) *opacus*, *Licht. in Tsch. Consp.* p. 38.
- Trochilus opacus*, *Tsch. Faun. Per. Orn.* p. 248.
- Trochilus* (—) *cupreicauda*, *Gould, P. Z. S.* 1846, p. 87.
- Trochilus cupreicaudus*, *Gray, Hand-l. B.* i. p. 143.
- Mellisuga cupreicauda*, *Gray, Gen. B.* i. p. 113.
- Metallura cupreicauda*, *Gould, P. Z. S.* 1847, p. 94; *id. Mon. Troch.* iii. pl. 191 (May 1859); *id. Intr. Troch.* p. 111; *Bp. Consp. Ar.* i. p. 75; *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 5, pl. 721. ff. 4638-9; *Scl. & Salv. P. Z. S.* 1867, p. 987, 1868, p. 569; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 110.



*Aglaeætis cupreicauda*, *Bp. Rev. Zool.* 1854, p. 253.

*Metallura opaca*, *Cab. & Heine, Mus. Hein.* iii. p. 69; *Elliot, Syn. Troch.* p. 163; *Scl. P. Z. S.* 1881, p. 488; *Tacz. Orn. Pér.* i. p. 353.

*Urolampra cupreicauda*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 220.

*Adult male.* Upper and under surfaces sooty black, nearly pure black on the sides of the bluish-green glittering gular spot; under tail-coverts bronzy purple, with obscure fulvous edges; tail dark bronzy green on the upper surface, glittering copper-colour or bronze beneath; bill black. Total length about 4·5 inch, wing 2·85; tail, central rectrices 1·85, lateral 2·05.

*Female* unknown.

*Hab.* Andes of Peru and Bolivia.

<i>a.</i> ♂ ad. sk.	Andes of Lima, Peru, Sept. ( <i>Nation</i> ).	Slater Coll.
<i>b.</i> ♂ ad. sk.	Chiuata, Peru, July ( <i>H.</i> <i>Whitely</i> ).	Gould Coll.
<i>c-e.</i> ♂ ad. sk.	Valley of Palea, near Tacna, Bolivia ( <i>Bridges</i> ).	Gould Coll.
<i>f, g.</i> ♂ ad. sk.	Bolivia.	Bridges [C.].

## 2. *Metallura jelskii*.

*Metallura jelskii*, *Cab. J. f. Orn.* 1874, p. 99; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 109, pl. 79; *Elliot, Syn. Troch.* p. 164; *Tacz. Orn. Pér.* i. p. 354.

*Metallura cupreicauda*, *Tacz. P. Z. S.* 1874, p. 544.

*Adult male.* Said to differ in the colour of the tail, which is (according to Mr. Elliot, who had a typical example in his possession) "luminous vinous-purple."

*Hab.* Andes of Central Peru.

A specimen sent by Prof. Nation from the Andes, near Lima, certainly agrees with Bolivian examples which have been referred to *M. opaca*. If *M. jelskii* is distinct from *M. opaca*, their ranges must approach each other very closely.

## 3. *Metallura chloropogon*.

*Urolampra chloropogon*, *Cab. & Heine, Mus. Hein.* iii. p. 68; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 122.

*Metallura chloropogon*, *Elliot, Syn. Troch.* p. 164.

*Adult male.* "Purpureo-fuscescens nitore quodam metallico virescenti, vertice, humeris uropygioque valde, imprimis autem macula gulari splendidissime virescenti-fulgentibus; alis purpureo-fuscis, retriçibus latissimis pulchre purpureo resplendentibus; crisso albedo, tectricibus caudæ inferioribus virescenti-nitentibus, margine lutescenti. Fem. (an mas juv.): Subtus brunnescenti-ochracea, gula lateribusque maculis parvis fuscis virescentibusque guttatis, retriçibus splendide purpurascens, tribus externis apice pallide albescentibus." (*Cab. & Heine, l. s. c.*)

*Hab.* — ?

I have not yet met with specimens answering to this description.

4. *Metallura æneicauda*.

*Trochilus* (—?) *æneicauda*, *Gould, P. Z. S.* 1846, p. 87.

*Mellisuga æneicauda*, *Gray, Gen. B.* i. p. 113.

*Metallura æneicauda*, *Gould, P. Z. S.* 1847, p. 94; *id. Mon. Troch.* iii. pl. 192 (May 1859); *id. Intr. Troch.* p. 111; *Bp. Consp. Ar.* i. p. 75; *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 5, pl. 720. ff. 4634-5; *Whitey, P. Z. S.* 1873, p. 191; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 111; *Elliot, Syn. Troch.* p. 165; *Scl. & Salv. P. Z. S.* 1879, p. 628.

*Aglaëactis æneicauda*, *Bp. Rev. Zool.* 1854, p. 253.

*Urolampra æneicauda*, *Cab. & Heine, Mus. Hein.* iii. p. 68; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 220.

*Adult male.* Upper surface bronzy green; under surface bronzy green, each feather edged with fulvous; throat with a well-defined glittering green spot; tail above dark shining olive-green, becoming purple when viewed from behind, beneath glittering bronzy green; bill black. Total length about 4.2 inches, wing 2.5; tail, central rectrices 1.5, lateral 1.7; bill 0.9.

*Adult female.* Similar to the male, but instead of the gular spot the feathers of the throat are fulvous, with green discs, becoming dusky towards the chin; the rectrices beneath are edged with a coppery hue and very narrowly tipped with white.

*Hab.* Andes of Southern Peru and Bolivia.

a. ♂ juv. sk.	Cachupata, Peru, Nov. ( <i>H. Whitey</i> ).	Gould Coll.
b, c. ♂ ad. sk.	Unduavi, Bolivia ( <i>Bridges</i> ).	Gould Coll.
d. ♂ ad.; e, f. ♀ ad. sk.	Cillutincara, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
g, h. ♂ ad.; i. ♂ juv. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.
j, k. ♂ ad. sk.	Bolivia.	Bridges [C.].

5. *Metallura tyrianthina*.

*Trochilus tyrianthinus*, *Lodd. P. Z. S.* 1832, p. 6; *Fraser, P. Z. S.* 1840, p. 18; *Gray, Hand-l. B.* i. p. 142.

*Ornismya allardi*, *Bourc. Rev. Zool.* 1839, p. 294; *id. Ann. Sc. Phys. et Nat. Lyon*, (2) iii. p. 226, pls. 3, 4 (1840).

*Ornismya paulinæ*, *Boiss. Rev. Zool.* 1839, p. 354; *id. Mag. Zool.* 1840, pl. 13.

*Mellisuga tyrianthina*, *Gray, Gen. B.* i. p. 113.

*Metallura tyrianthina*, *Bp. Consp.* i. p. 75; *id. Rev. Zool.* 1854, p. 253; *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 5, pl. 719. ff. 4630-1; *Gould, Mon. Troch.* iii. pl. 195 (May 1859); *id. Intr. Troch.* p. 112; *id. P. Z. S.* 1870, p. 803; *Scl. P. Z. S.* 1859, p. 145, 1860, p. 95; *id. Cat. Am. B.* p. 303; *Scl. & Salv. P. Z. S.* 1868, pp. 169, 629, 1870, p. 782, 1879, p. 529; *Wyatt, Ibis*, 1871, p. 377; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 117; *Elliot, Syn. Troch.* p. 166; *Berl. & Tacz. P. Z. S.* 1884, p. 305, 1885, p. 104; *Tacz. Orn. Pér.* i. p. 358; *Berl. J. f. Orn.* 1884, p. 311, 1887, p. 325.

*Trochilus allardi*, *Jard. Contr. Orn.* 1850, pp. 81, 89, 151, pl. 55.

*Urolampra tyrianthina*, *Cab. & Heine, Mus. Hein.* iii. p. 68.

*Metallura thyrianthina*?, *d'Hamonv. Bull. Soc. Zool. Fr.* xi. p. 311 (1886).

*Metallura quitensis*, *Gould, Intr. Troch.* p. 112; *Lawr. Ann. Lyc. N. Y.* ix. p. 237; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 115.

*Urolampra quitensis*, *Heine, J. f. Orn.* 1863, p. 210.

*Adelomya tyrianthina*, *Muls. & Ferr. Class. Troch.* p. 70.

*Adult male.* Upper and under surfaces dark shining grass-green; throat black, with a large spot of glittering green extending to the chin; tail rich bronze, beneath purple-bronze; bill black. Total length about 2.2 inches, wing 2.25; tail, central rectrices 1.2, lateral 1.55.

*Adult female.* Upper surface shining grass-green; under surface as far as the breast rufous, the sides of the neck with green discal spots; abdomen white, each feather with a wide discal green bar; under tail-coverts dusky with buff edges, lateral rectrices tipped with buff.

*Young male.* Bronzy green on the underside, each feather with a subterminal whitish spot; the under surface becomes darker, and the throat shows glittering green feathers as maturity is approached.

*Hab.* Venezuela, Colombia, and Ecuador.

*M. quitensis* of Ecuador is said to differ from *M. tyrianthina* in its larger size, but I am unable to confirm this statement with any certainty. A female or young male from Bolivia has discal green spots on the throat-feathers; the under surface is nearly uniform rufous, the middle of the abdomen being slightly lighter, the tail is lighter and less purple beneath. This bird may belong to another species of this section of the genus, but adult males are required to make this point certain.

a. ♂ ad. ; b. Juv. sk.	Paramo of Merida, Venezuela.	Gould Coll.
c. ♂ ad. ; d. ♂ juv. sk.	Valley of Aragua, Venezuela.	Dyson [C.].
e. ♂ ad. sk.	Caracas, Venezuela, Oct. ( <i>A. Goering</i> ).	Salvin-Godman Coll.
f. ♂ ad. sk.	Venezuela.	Gould Coll.
g, h. ♂ ad. ; i. ♀ ad. sk.	Medellin, Colombia ( <i>T. K. Salmon</i> ).	Gould Coll.
j. ♂ ad. ; k. ♀ ad. sk.	Colombia ( <i>Purdie</i> ).	Purchased.
l-t. ♂ ad. ; u, v. ♂ juv. ; w-y. ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman Coll.
z. ♂ ad. ; a'. ♀ juv. sk.	Laguna near Pasto, Ecuador ( <i>Lehmann</i> ).	Salvin-Godman Coll.
b'-d'. ♂ ad. ; e'. ♂ juv. ; f'. ♀ ad. sk.	Ulva, Ecuador ( <i>Buckley</i> ).	Gould Coll.
g', h'. ♂ ad. ; i'-k'. ♀ ad. sk.	Quito, Ecuador.	Gould Coll.
l'. ♂ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
m'. ♂ ad. sk.	Rio Napo, Ecuador.	Salvin-Godman Coll.
n', o'. ♂ ad. ; p'-s'. ♀ ad. sk.	Ecuador.	Gould Coll.
t'. ♀ ad. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.

6. *Metallura smaragdinicollis*.

*Orthorhynchus smaragdinicollis*, *d'Orb. & Lafr. Syn. Av.* ii. p. 31; *d'Orb. Voy. Am. MÉR.* iv. p. 375, *Atlas*, pl. 59. f. 2.

*Mellisuga smaragdinicollis*, *Gray, Gen. B.* i. p. 113.

*Metallura smaragdinicollis*, *Gould, P. Z. S.* 1847, p. 94; *id. Mon. Troch.* iii. pl. 196 (May 1859); *id. Intr. Troch.* p. 112; *Bp. Consp. Av.* i. p. 75; *id. Rev. Zool.* 1854, p. 253; *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 5, pl. 719. f. 4632, pl. 720. f. 4633; *Whitely, P. Z. S.* 1873, p. 191; *Tacz. P. Z. S.* 1874, p. 544, 1879, p. 238, 1880, p. 207, 1882, p. 37; *id. Orn. Pér.* i. p. 356; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 120, pl. 80, p. 219; *Elliot, Ibis*, 1877, p. 141; *id. Syn. Troch.* p. 166; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 220; *Salv. & Godm. Ibis*, 1879, p. 205; *Scl. & Salv. P. Z. S.* 1879, p. 629.

*Urolampra smaragdinicollis*, *Cab. & Heine, Mus. Hein.* iii. p. 88.

*Trochilus smaragdinicollis*, *Gray, Hand-l. B.* i. p. 142.

*Adult male.* Similar to that of *M. tyrianthina*, but with the tail both above and beneath much deeper purple of a violet and not a coppery hue.

*Hab.* Andes of Peru and Bolivia.

a. ♂ juv. sk.	Chinchicua Valley, N. Colombia, Feb. ( <i>F. Simons</i> ).	Salvin-Godman Coll.
b-g. ♂ ad. sk.	Cachupata, Peru, Feb., Oct. ( <i>H. Whitely</i> ).	Salvin-Godman, Gould, & Sclater Colls.
h. ♂ juv. sk.	S. José de Chicalulo, Bolivia, Mar. ( <i>D. Forbes</i> ).	Gould Coll.
i. ♂ ad. sk.	Tilotilo, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
j. ♀ ad. sk.	Araca, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
k-n. ♂, o, p. ♀ ad. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.
q. ♀ ad. sk.	Bolivia.	Bridges [C.].
r-t. ♂ ad.; u. ♂ Juv.; v. ♀ ad. sk.	Bolivia.	Salvin-Godman & Gould Colls.

7. *Metallura primolina*.

*Metallura primolina*, *Bourc. Rev. Zool.* 1853, p. 295; *Reich. Aufz. d. Col.* p. 8; *Bp. Rev. Zool.* 1854, p. 253; *Gould, Mon. Troch.* iii. pl. 194 (Sept. 1861); *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 113; *Elliot, Syn. Troch.* p. 165; *Tacz. & Berl. P. Z. S.* 1885, p. 103.

*Urolampra primolina*, *Cab. & Heine, Mus. Hein.* iii. p. 68; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 220.

*Metallura primolii*, *Gould, Intr. Troch.* p. 112; *Sharpe in Gould's Suppl. Mon. Troch.* pl. 45 (March 1887).

*Adult male.* Upper and under surfaces dark shining bronzy green; a dark glittering olive-green patch on the throat without distinct margins, but shading off gradually into the duller sides; tail dark shining bronzy green, changing into purple when viewed from behind; bill black. Total length about 3·8 inches, wing 2·3; tail. central rectrices 1·45, lateral 1·6.

*Adult female?* Throat without the glittering patch, but rufous with a green disc on each feather, becoming dusky towards the chin; feathers of the abdomen with a median whitish bar, lateral rectrices tipped with buff.

*Hab.* Ecuador.

Mr. Sharpe, in the Supplement to Gould's 'Monograph,' calls this bird the "Guiana Copper-tail," stating that Mr. Whitely obtained a specimen in British Guiana. The specimen in question is that mentioned below from Buckley's Collection. It came, as all other specimens of the species have done, from Ecuador.

a, b. ♂ ad.; c, d. ♀? sk.      Ecuador.      Gould Coll.  
e. ♂ ad. sk.      Ecuador (*Buckley*).      Salvin-Godman Coll.

### 8. *Metallura williami*.

*Metallura williami*, *Bourc. & Del. Rev. Zool.* 1846, p. 308; *Gould, P. Z. S.* 1847, p. 94; *id. Mon. Troch.* iii. pl. 193 (May 1859); *id. Intr. Troch.* p. 112; *Bp. Consp. Av.* i. p. 75; *id. Rev. Zool.* 1854, p. 253; *Reich. Aufz. d. Col.* p. 8; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 114; *Elliot, Syn. Troch.* p. 165.

*Mellisuga williami*, *Gray, Gen. B.* i. p. 113.

*Urolampira williami*, *Cab. & Heine, Mus. Hein.* iii. p. 68; *Muls. Ann. Soc. Lim. Lyon*, xxii. p. 220.

*Adult male.* Similar to that of *M. primolina*, but with the tail beneath of a rich purple hue instead of bronzy green.

*Adult female.* Under surface rufous as far as the breast, each feather with a green disc; the abdomen is white, but also spotted with green; outer rectrices tipped with pale buff.

*Hab.* Southern Colombia (Popayan).

a. ♂ ad.; b. ♂ juv.;      Popayan, Colombia.      Gould Coll.  
c. ♀ ad. sk.

### 9. *Metallura eupogon*.

*Metallura eupogon*, *Cab. J. f. Orn.* 1874, p. 97; *Elliot, Syn. Troch.* p. 164.

*Metallura hedvigæ*, *Tacz. P. Z. S.* 1874, p. 139 (pub. 1 June, 1874), p. 544; *id. Orn. Pér.* i. p. 352; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 107.

*Adult male.* Upper and under surfaces dark shining bronzy green; a line down the middle of the throat glittering red; tail dark bronzy green, changing to purple when viewed from behind, beneath glittering bronzy green; bill black. Total length about 3.7 inches, wing 2.4; tail, central rectrices 1.4, lateral 1.5.

*Female* unknown.

*Hab.* Andes of Central Peru.

a. ♂ ad. sk.      Maraynioc, Peru, 1871 (*Jelski*).      Salvin-Godman Coll.  
[An authentic specimen.]

40. **EUSTEPHANUS.**

Type.

- Eustephanus*, *Reich. Av. Syst.* pl. 40 (1849) . . . . *E. galeritus*.  
*Sephanoides*, *Bp. Consp. Av.* i. p. 82 (1850).  
*Thaumaste*, *Reich. Aufz. d. Col.* p. 14 (1854) . . . . *E. fernandensis* ♀.

*Range.* Chili, and the islands of Juan Fernandez and Masafuera.

*Key to the Species.*

- a.* Sexes similar . . . . . *galeritus*, p. 156.  
*b.* Sexes widely dissimilar.  
*a'.* Crown glittering fiery red; outer web of outermost rectrix of ♀ wholly white . . . . *fernandensis*, p. 157.  
*b'.* Crown and nape glittering fiery red; outer web of outermost rectrix in ♀ white only at the tip . . . . . *leyboldi*, p. 158.

1. **Eustephanus galeritus.**

- Trochilus galeritus*, *Molina, Hist. Chili*, p. 219; *Gm. Syst. Nat.* i. p. 484; *Lath. Ind. Orn.* i. p. 304; *Vieill. N. Dict. d'Hist. N.* vii. p. 348; *id. Enc. Méth.* p. 552; *Less. Hist. Nat. Ois.-Mouches, Suppl.* p. 97; *Fraser, P. Z. S.* 1843, p. 114; *Gray, Hand-l. B.* i. p. 147.  
*Mellisuga kingi*, *Vig. Zool. Journ.* iii. p. 432.  
*Ornismya sephanoides*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxv, 69, pl. 14; *Suppl.* p. 109, pl. 5; *d'Orb. & Lafr. Syn. Av.* ii. p. 29.  
*Trochilus sephanoides*, *Less. Ind. Gén. Troch.* p. xxix.  
*Orthorhynchus sephanoides*, *Less. & Garn. Voy. Coquille*, pl. 31. f. 2.  
*Trochilus forficatus*, *Gould, Zool. Voy. Beagle*, iii. p. 110.  
*Sephanoides kingi*, *Gray, List Gen. B.* p. 19.  
*Mellisuga galerita*, *Gray, Gen. B.* i. p. 113.  
*Eustephanus galeritus*, *Gould, Mon. Troch.* iv. pl. 265 (May 1852); *id. Intr. Troch.* p. 141; *Reich. Aufz. d. Col.* p. 14; *Cab. & Heine, Mus. Hein.* iii. p. 76; *Scl. Cat. Am. B.* p. 310; *id. P. Z. S.* 1867, p. 328; *id. Ibis*, 1871, p. 181; *Scl. & Salv. Ibis*, 1869, p. 283; *id. P. Z. S.* 1878, p. 433; *id. Voy. Chall. Zool.* ii. pt. 2, p. 103; *Reed, Ibis*, 1874, p. 82; *Salv. Ibis*, 1875, p. 376; *id. Cat. Strickl. Coll.* p. 367; *id. P. Z. S.* 1883, p. 425; *Elliot, Ibis*, 1877, p. 138; *id. Syn. Troch.* p. 93; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 246, pl. 53, iv. p. 209; *id. Ann. Soc. Linn. Lyon*, xxii. p. 214.  
*Sephanoides galeritus*, *Bp. Rev. Zool.* 1854, p. 256.  
*Orthorhynchus galeritus*, *Muls. & Verr. Class. Troch.* p. 57.

*Adult male.* Upper surface shining bronzy green; entire crown glittering orange-red; under surface greyish white, each feather with a shining green discal spot, smaller on the throat, larger on the breast and flanks, absent on the middle of the abdomen; under tail-coverts dull green, edged with pale rufous; tail uniform bronze-green, the outer web of the outermost rectrix paler; bill black. Total length about 4.3 inches, wing 2.5, tail 1.4, bill 0.85.

*Female.* Like the male, the crown being like the back instead of glittering orange-red.

*Hab.* Chili, and Juan Fernandez Island.

<i>a.</i> ♂ ad. sk.	Valparaiso, Chili.	Capt. Brett [P.].
<i>b, c.</i> ♂ ad. sk.	Chili ( <i>Leybold</i> ).	Salvin-Godman Coll.
<i>d.</i> ♀ ad. sk.	Santiago, Chili.	Gould Coll.
<i>e.</i> ♂ juv. sk.	Cockle Cove, Straits of Magellan, Feb. 9 ( <i>Dr. Copping</i> ).	Lords of the Admiralty.
<i>f.</i> ♀ ad. sk.	Puerto Bueno, Straits of Magellan, Jan. 9.	Challenger Exp.
<i>g-i.</i> ♂ ad. ; <i>j.</i> ♀ ad. sk.	[Chili.]	Gould Coll.
<i>k, l.</i> ♂ ad. ; <i>m.</i> ♀ ad. sk.	Juan Fernandez I.	Challenger Exp.
<i>n, o.</i> ♂ ad. sk.	Juan Fernandez I.	Gould & Selater Colls.
<i>p.</i> ♂ ad. ; <i>q.</i> ♀ ad. sk.	Juan Fernandez I. ( <i>A. II. Markham</i> ).	Salvin-Godman Coll.

## 2. *Eustephanus fernandensis.*

*Trochilus fernandensis*, *King*, *P. Z. S.* 1830-1, p. 30 ; *Gray*, *Hand-l. B.* i. p. 147.

*Trochilus stokesi*, *King*, *P. Z. S.* 1830-1, p. 30 ; *Less.* *Hist. Nat. Troch.* p. 135, pl. 50 ; *id.* *Ind. Gén. Troch.* p. xxix.

*Ornismya fernandensis*, *d'Orb. & Lafr. Syn. Av.* ii. p. 29.

*Ornismya cinnamomea*, *Gerv. Mag. Zool.* 1835, *Ois.* pl. 43.

*Ornismya robinson*, *Delattre & Less. Rev. Zool.* 1839, p. 18.

*Mellisuga fernandensis*, *Gray, Gen. B.* i. p. 113.

*Mellisuga stokesi*, *Gray, Gen. B.* i. p. 113.

*Sephanoides fernandensis*, *Bp. Consp. Av.* i. p. 82 ; *id. Rev. Zool.* 1854, p. 256.

*Sephanoides stokesi*, *Bp. Consp. Av.* i. p. 82 ; *id. Rev. Zool.* 1854, p. 256.

*Eustephanus fernandensis*, *Gould, Mon. Troch.* iv. pl. 267 (May 1854) ; *id. Intr. Troch.* p. 142 ; *id. Suppl. Troch.* pl. 26 (Jan. 1881) ; *Reich. Aufz. d. Col.* p. 14 ; *Cab. & Heine, Mus. Hein.* iii. p. 76 ; *Landb. P. Z. S.* 1866, p. 556 ; *Sci. Ibis*, 1871, p. 180 ; *Reed. Ibis*, 1874, p. 82 ; *Salv. Ibis*, 1875, p. 377 ; *Elliot, Ibis*, 1877, p. 137 ; *id. Syn. Troch.* p. 93 ; *Sci. & Salv. P. Z. S.* 1878, p. 434 ; *id. Voy. Chall. Zool.* ii. pt. 2, p. 103 ; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 248, pl. 54, iv. p. 209 ; *id. Ann. Soc. Linn. Lyon*, xxii. p. 214.

*Eustephanus stokesi*, *Gould, Mon. Troch.* iv. pl. 266 (May 1854) ; *id. Intr. Troch.* p. 142 ; *Cab. & Heine, Mus. Hein.* iii. p. 75.

*Thaumaste stokesi*, *Reich. Aufz. d. Col.* p. 14.

*Orthorhynchus fernandensis et stokesi*, *Muls. & Verr. Class. Troch.* p. 57.

*Adult male.* Entire plumage rich cinnamon-red ; crown fiery orange-red ; wings purple-brown ; coverts cinnamon ; bill black, Total length about 5·2 inches, wing 3·15 ; tail, central rectrices 1·85, lateral 2·1 ; bill 0·85.

*Female.* Upper surface shining bluish grass-green, brighter on the rump, more glittering on the crown ; under surface white, the feathers of the throat and flanks with a small green discal spot ; under

tail-coverts white, with a discal green spot; central rectrices shining bluish green, lateral white on the inner web, the two outer ones on either side with the inner portion of the outer web also white.

*Young males* are like the old ones, except that the crown is coloured like the back.

*Young females* resemble old ones, the crown being much duller and the spots of the under surface more diffused and not so clear.

*Hab.* Juan Fernandez Island.

<i>a-d.</i> ♂ ad. ; <i>e, f.</i> ♂ juv. ; <i>g, h.</i> ♀ ad. ; <i>i, j.</i> ♀ juv. sk.	Juan Fernandez I.	Challenger Exp.
<i>k-o.</i> ♂ ad. ; <i>p.</i> ♀ ad. sk.	Juan Fernandez I. ( <i>E.C. Reed</i> ).	Salvin-Godman & Sclater Colls.
<i>q, r.</i> ♂ ad. ; <i>s, t.</i> ♀ ad. sk.	Juan Fernandez I. ( <i>Landbeck</i> ).	Sclater Coll.
<i>u.</i> ♀ juv. sk.	Juan Fernandez I. ( <i>Capt. King?</i> )	Gould Coll.
<i>v.</i> ♂ skeleton.	Juan Fernandez I. ( <i>Cuming</i> ).	Purchased.

### 3. *Eustephanus leyboldi*.

*Eustephanus leyboldi*, *Gould, Ann. & Mag. N. II.* 1870, vi. p. 406; *id. Suppl. Troch.* pl. 25 (Jan. 1881); *Scl. Ibis*, 1871, p. 181; *Salv. Ibis*, 1875, pp. 370, 377; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 251, iv. p. 210; *id. Ann. Soc. Linn. Lyon*, xxii. p. 214; *Elliot, Syn. Troch.* p. 94.

*Adult male.* Precisely like that of *E. fernandensis*, except that the fiery orange-red of the crown extends to the nape.

*Female.* Also resembles that sex of the allied species, but the upper surface and the spots of the under surface are golden rather than bluish green; the lateral rectrices are white only at the tips, and this chiefly on the inner webs.

*Hab.* Masafuera Island.

<i>a.</i> ♂ ad. ; <i>b.</i> ♀ ad. sk.	Masafuera I. ( <i>Leybold</i> ).	Gould Coll. (Types of the species.)
<i>c-e.</i> ♂ ad. ; <i>f, g.</i> ♀ ad. sk.	Masafuera I. ( <i>Leybold</i> ).	Salvin-Godman & Gould Colls.

### 41. PANTERPE.

*Panterpe*, *Cab. & Heine, Mus. Hein.* iii. p. 43 (1860) . . . . Type. *P. insignis*.

*Range.* Costa Rica and Western Panama.

#### 1. *Panterpe insignis*.

*Panterpe insignis*, *Cab. & Heine, Mus. Hein.* iii. p. 43; *Cab. J. f. Orn.* 1862, p. 164; *Gould, Mon. Troch.* v. pl. 336 (May 1861); *id. Intr. Troch.* p. 167; *Lawr. Ann. Lyc. N. Y.* viii. p. 45 (partim), ix.



p. 124; *Frantz, J. f. Orn.* 1869, p. 316; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 25, pl. 31, iv. p. 188; *id. Ann. Soc. Linn. Lyon*, xxii. p. 208; *Boucard, P. Z. S.* 1878, p. 71; *Elliot, Syn. Troch.* p. 195; *Eudes-Desl. Ann. Mus. Caen*, i. p. 401.

*Clytolæma insignis*, *Muls. & Verr. Class. Troch.* p. 59.

*Adult male.* Upper surface shining bluish green, becoming bluer on the upper tail-coverts; nape black; crown glittering blue; centre of the throat glittering red, shading into glittering orange on the sides; middle of the breast glittering blue, shading into green on the flanks and abdomen; under tail-coverts bluish green; tail dark steel-blue: bill black, mandible at the base flesh-colour. Total length about 4.2 inches, wing 2.5, tail 1.5, bill 0.9.

*Adult female.* Similar to the male.

*Hab.* Costa Rica.

<i>a-g.</i> Ad. sk.	Volcan de Cartago, Costa Rica ( <i>E. Arcé</i> ).	Salvin-Godman & Gould Colls.
<i>h.</i> ♂ ad.; <i>i, j.</i> ♀ ad.; <i>k, l.</i> Ad. sk.	Volcan de Chiriqui ( <i>E. Arcé</i> ).	Salvin-Godman & Gould Colls.

#### 42. HELIANGELUS.

Heliangelus, <i>Gould, P. Z. S.</i> 1848, p. 12	Type.
Trochilus, $\beta$ . <i>Anactoria, Reich. Aufz. d. Col.</i> p. 12 (1854)	H. clarissæ.
<i>Anactoria, Muls. &amp; Verr. Class. Troch.</i> p. 69 (1865).	H. clarissæ.
Trochilus, $\gamma$ . <i>Diotima, Reich. Aufz. d. Col.</i> p. 12 (1854)	H. spencei.
<i>Peratus, Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 219 (1875)	H. amethysticollis.

*Range.* Andes from Venezuela and Colombia to Bolivia.

#### Key to the Species.

- a.* Frontal spot glittering grass-green.
- a'.* Tail shining grass-green; rump slightly tinged with bronze.
- a''.* Pectoral band white.
- a'''.* Pectoral band narrow, bordered below by glittering green; middle of abdomen greyish buff . . . . . *clarissæ*, p. 160.
- b'''.* Pectoral band wide without glittering-green lower border; middle of abdomen buff . . . . . *laticlavus*, p. 160.
- b''.* Pectoral band buff . . . . . *amethysticollis*, [p. 161.
- b'.* Tail steel-blue; rump reddish bronze.
- c''.* Throat glittering rosy red . . . . . *strophianus*, p. 161.
- d''.* Throat glittering violet-blue . . . . . *violicollis*, p. 162.
- b.* Frontal spot glittering silvery green . . . . . *spencei*, p. 162.
- c.* Frontal spot glittering fiery orange-red . . . . . *marvora*, p. 163.

1. *Heliangelus clarissæ*.

- Ornismya clarissæ*, de *Longuem. Rev. Zool.* 1841, p. 306; *id. Mag. Zool.* 1842, *Ois.* pl. 26.  
*Mellisuga clarissæ*, *Gray, Gen. B.* i. p. 112.  
*Heliangelus clarissæ*, *Bp. Consp. Av.* i. p. 76; *id. Rev. Zool.* 1854, p. 252; *Gould, Mon. Troch.* iv. pl. 241 (May 1855); *id. Intr. Troch.* p. 132; *Cub. & Heine, Mus. Hein.* iii. p. 75; *Sel. Cat. Am. B.* p. 308; *Wyatt, Ibis*, 1871, p. 378; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 84, iv. p. 218; *id. Ann. Soc. Linn. Lyon*, xxii. p. 219; *Elliot, Syn. Troch.* p. 89; *Berl. J. f. Orn.* 1884, p. 310, 1887, p. 322.  
*Trochilus*  $\beta$ . *Anactoria clarissæ*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* pl. 830. ff. 4953-55.  
*Trochilus*  $\beta$ . *Anactoria libussa*, *Reich. Aufz. d. Col.* p. 12.  
*Anactoria clarissæ*, *Muls. & Ferr. Class. Troch.* p. 69.  
*Trochilus clarissæ*, *Gray, Hand-l. B.* i. p. 139.  
*Heliangelus taczanowskii*, *Pelz. Ibis*, 1877, p. 338; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 218.

*Adult male.* Upper surface shining green, slightly tinged with a golden or bronze hue, a little darker on the rump; head and neck nearly black when viewed from in front; a small frontal spot and the lower breast glittering grass-green; throat glittering rosy red, shading into glittering purple towards the sides and chin; pectoral band white; abdomen green, each feather edged with greyish buff; under tail-coverts white, with a dusky shaft-stripe; central rectrices shining grass-green like the back, lateral purple-black; bill black. Total length 4.3 inches, wing 2.8; tail, central rectrices 1.6, lateral 1.7; bill 0.9.

*Female.* Very similar to the male on the upper surface, the bright frontal spot faintly shown; the throat is dusky black, each feather with paler lateral edges.

*Young* birds resemble the female, and the males, as they advance to maturity, assume the bright feathers of the throat by degrees, the bright frontal spot appearing simultaneously.

*Hab.* Colombia.

*a-d.* ♂ ad.; *e-p.* ♂ juv.; Colombia (Bogota make). *Salvin-Godman & Gould Colls.*  
*q, r.* ♀ ad. sk.

2. *Heliangelus laticlavus*. (Plate V. fig. 1.)

*Adult male.* Very similar to that of *H. clarissæ*, and with the upper surface and tail coloured in the same way; on the under surface the white pectoral band is much wider, more than double the width of that of the allied form; there is no band of glittering green feathers below the white, and the middle of the abdomen is more distinctly buff; the under tail-coverts are white, with wider dusky shaft-stripes.

*Female* unknown.

*Hab.* Ecuador.

- a. ♂ ad. sk. Jima, Ecuador (*Buckley*). Salvin-Godman Coll. {  
 b. ♂ aa. sk. Intac, Ecuador (*Buckley*). Salvin-Godman Coll. {  
 (Types of the species.)  
 c. ♂ ad. sk. "Rio Napo," Ecuador. Salvin-Godman Coll.

### 3. *Heliangelus amethysticollis*.

*Orthorhynchus amethysticollis*, *d'Orb. & Lafr. Syn. Av.* p. 31; *d'Orb. Voy. Am. MÉR., Ois.* p. 576, pl. 8, fig. 2.

*Trochilus amethysticollis*, *Tsch. Fauna Per.* p. 246; *Gray, Hand-l. B. i.* p. 140.

*Mellisuga amethysticollis*, *Gray, Gen. B. i.* p. 112.

*Heliangelus amethysticollis*, *Bp. Consp. Av. i.* p. 76; *id. Rev. Zool.* 1854, p. 252; *Gould, Mon. Troch.* iv. pl. 245 (May 1855); *id. Intr. Troch.* p. 133; *id. Orn. Pér. i.* p. 381; *Cab. & Heine, Mus. Hein.* iii. p. 75; *Tacz. P. Z. S.* 1874, p. 543; *Elliot, Ibis*, 1877, p. 141; *id. Syn. Troch.* p. 90; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 90.

*Trochilus* β. *Anactoria amethysticollis*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 829. ff. 4950-52.

*Anactoria amethystina*, *Muls. & Verr. Class. Troch.* p. 69.

*Peratus amethysticollis*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 219.

*Adult male*. Very similar to that of *H. clarissæ* on the upper surface, the green of the rump a little more golden; the frontal spot larger; the pectoral band is buff instead of white and is followed below by shining green, not glittering green; in the latter respect this species resembles *H. laticlavus*.

The *female* has the fore part of the crown rather bright shining green; the pectoral band is buff as in the male; the throat is dusky black, each feather with a wide rusty edge.

*Young males* are like the females, and gradually replace the throat-feathers of that sex with the glittering ones of the adult.

*Hab.* Peru and Bolivia.

- a-c. ♂ ad.; d, e. ♂ juv.; f. ♀ ad. sk. Huasampilla, Peru, April and Sept. (*H. Whitely*). Salvin-Godman & Gould Colls.  
 g. ♀ ad. sk. Tilotilo, Bolivia (*Buckley*). Salvin-Godman Coll.  
 h. ♂ juv. sk. Cillutincara, Bolivia (*Buckley*). Salvin-Godman Coll.  
 i. ♂ ad.; j. ♀ ad. sk. Bolivia (*Bridges*). Gould Coll.  
 k. ♀ ad. sk. Bolivia. Bridges [C.].  
 l-n. ♂ ad.; o, p. ♂ juv.; q. ♀ ad. sk. Bolivia (*Buckley*). Gould Coll.

### 4. *Heliangelus strophianus*.

*Trochilus* (—?) *strophianus*, *Gould, P. Z. S.* 1846, p. 45.

*Mellisuga strophianus*, *Gray, Gen. B. i.* p. 112.

*Heliangelus strophianus*, *Bp. Consp. Av. i.* p. 76; *id. Rev. Zool.* 1854, p. 252; *Gould, Mon. Troch.* iv. p. 243 (May 1855); *id. Intr. Troch.* p. 132; *Sci. P. Z. S.* 1860, p. 95; *id. Cat. Am. B.* p. 308; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 86; *id. Ann. Soc. Linn. Lyon*, xxii. p. 219; *Elliot, Syn. Troch.* p. 90.

*Trochilus* β. *Anactoria strophiana*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* pl. 831. ff. 4956-57.

*Anactoria strophiana*, *Muls. & Ferr. Class. Troch.* p. 69.  
*Trochilus strophianus*, *Gray, Hand-l. B. i.* p. 139.

*Adult male.* Upper surface dark shining bronzy green, greener on the middle of the back, deeper, more reddish bronze on the rump; head viewed from in front nearly black, the frontal spot glittering grass-green; throat like that of *H. clarissæ*; pectoral band white, followed by glittering green as in *H. clarissæ*; abdomen dusky, washed with green; under tail-coverts bronzy green, edged with white; tail steel-blue, central feathers slightly tinged with bronze; bill black. Total length about 4.5 inches, wing 2.75; tail, central rectrices 1.4, lateral 1.9; bill 0.8.

*Female* and *young* birds resemble those of *H. clarissæ*; but the tail seems to be always of a darker, more steel-blue, with less green or bronze on the central feathers.

*Hab.* Ecuador.

<i>a-d.</i> ♂ ad. sk.	Quito, Ecuador ( <i>Jameson</i> ).	Salvin-Godman & Gould Colls.
<i>e-i.</i> ♂ ad. sk.	Ecuador ( <i>Jameson</i> ).	Gould Coll.
<i>j, k.</i> Ad. sk.	Ecuador.	Gould Coll.
<i>l, m.</i> ♂ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman & Gould Colls.
<i>n.</i> ♂ ad. sk.	Yanayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.

### 5. *Heliangelus violicollis*. (Plate V. fig. 2.)

*Adult male.* Similar to that of *H. strophianus*, but the upper surface of a darker, more rufescent brown, especially in the middle of the back; the abdomen, too, has a more bronzy hue; the most obvious difference is in the colour of the throat, which is glittering violet-blue without any red or rosy tint.

*Young male.* Has the feathers of the throat black with white edges, amongst these the glittering violet feathers of the adult appear.

*Hab.* Ecuador.

<i>a.</i> ♂ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll. (Type of species.)
<i>b.</i> ♂ juv. sk.	Ecuador?	Gould Coll.

### 6. *Heliangelus spencii*.

*Trochilus spencei*, *Bourc. P. Z. S.* 1847, p. 46.

*Mellisuga spencii*, *Gray, Gen. B. i.* p. 112.

*Heliangelus spencii*, *Bp. Consp. Av. i.* p. 76; *id. Rev. Zool.* 1854, p. 252; *Gould, Mon. Troch. iv.* pl. 244 (May 1855); *id. Intr. Troch.* p. 132; *Sci. & Satr. P. Z. S.* 1870, p. 752; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 88, pl. 75; *id. Ann. Soc. Lim. Lyon*, xxii. p. 219; *Elliot, Syn. Troch.* p. 90.

*Trochilus* γ. *Diotima spencii*, *Reich. Aufz. d. Col.* p. 12.

*Anactoria spencei*, *Muls. & Ferr. Class. Troch.* p. 69.

*Adult male.* Upper surface shining golden green; head, viewed from in front, black; frontal spot glittering silvery green; throat glittering rosy red, a little darker and not quite so silky as in *H. clarissæ*; pectoral band white; abdomen shining green, the middle mingled with pale buff; under tail-coverts bronzy green, with narrow dusky-white edges; central rectrices like the back, lateral dark purple-black; bill black. Total length about 4.1 inches, wing 2.4; tail, central rectrices 1.5, lateral 1.65; bill 0.75.

*Female.* Feathers of the throat dusky at the base, with a sub-terminal rufous bar which widens towards the edge on each side, and with a terminal dark bronzy-green spot; the forehead is only slightly greener than the rest of the crown, and the lateral rectrices have a dusky-white tip.

*Hab.* Venezuela.

<i>a-i.</i> ♂ ad.; <i>j.</i> ♂ ad. sk.	Merida, Venezuela ( <i>Funck &amp; Schlim</i> ).	Salvin-Godman & Gould Colls.
<i>k.</i> ♀ ad. sk.	Merida ( <i>A. Goering</i> ).	Salvin-Godman Coll.
<i>l.</i> Ad. sk.	Venezuela.	Gould Coll.

### 7. *Heliangelus mavors*.

*Heliangelus mavors*, *Gould, P. Z. S.* 1848, p. 12; *id. Mon. Troch.* iv. pl. 246 (May 1855); *id. Intr. Troch.* p. 133; *Bp. Consp. Av.* i. p. 76; *id. Rev. Zool.* 1854, p. 252; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 92; *Elliot, Syn. Troch.* p. 91.

*Mellisuga mavors*, *Gray, Gen. B.* i. p. 112.

*Trochilus mavors*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 827. ff. 4945-47; *Gray, Hand-l. B.* i. p. 140.

*Anactoria mavors*, *Muls. & Ferr. Class. Troch.* p. 69.

*Peratus mavors*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 219.

*Adult male.* Upper surface shining bronzy green, more golden on the upper tail-coverts and central rectrices; head, viewed from in front, black; frontal spot glittering fiery orange-red; throat glittering orange-red, not quite so lustrous as the frontal spot; a wide pectoral band and middle of the abdomen cinnamon-buff; flanks washed with green; under tail-coverts bronze, edged with dusky white; lateral rectrices bronzy, slightly tipped with dull white; bill black. Total length about 4.2 inches, wing 2.5; tail, central rectrices 1.5, lateral 1.65; bill 0.8.

*Female.* The throat is brownish black, each feather edged with rufous.

*Hab.* Colombia.

<i>a-l.</i> ♂ ad. sk.	N. Colombia ( <i>Funck &amp; Schlim</i> ).	Salvin-Godman & Gould Colls.
<i>m.</i> ♂ ad. sk.	Colombia.	Slater Coll.

## 43. HELIOTRYPHA.

	Type.
Heliotrypha, <i>Gould, Mon. Troch.</i> iv. pl. 241 (May 1853); <i>id. Intr. Troch.</i> p. 131 .....	H. viola.
Heliotryphon, <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 74.	
Rhamphomicron $\beta$ . Parzudakia, <i>Reich. Aufz. d. Col.</i> p. 12 (1854) .....	H. exortis.
Helymus, <i>Muls. Hist. Nat. Ois.-Mouches</i> , iii. p. 93 (1876) .....	H. micrastur.
Nodalia, <i>Muls. Hist. Nat. Ois.-Mouches</i> , iii. p. 99 (1876) .....	H. barrali.
<i>Range.</i> Andes from Colombia to Peru.	

*Key to the Species.*

- a. A glittering frontal spot; breast-feathers dark at the base.
- a'*. Tail deeply forked; frontal spot large ..... *viola*, p. 164.
- b'*. Tail moderately forked; frontal spot small.
- a''*. Gular spot glittering rosy red, shading into purple towards the chin ..... *exortis*, p. 165.
- b''*. Gular spot fiery golden, shading into fiery crimson towards the chin ..... *micrastur*, p. 166.
- b. No glittering frontal spot; breast-feathers whitish towards the base.
- c''*. Throat and chin glittering leaden green .. *barrali*, p. 166.
- d''*. Throat and chin glittering olive-green .... *speciosa*, p. 167.

1. *Heliotrypha viola*.

- Heliangelus viola*, *Gould, P. Z. S.* 1853, p. 61.
- Rhamphomicron*  $\beta$ . Parzudakia *viola*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 832. ff. 4958-59.
- Heliotrypha viola*, *Gould, Mon. Troch.* iv. pl. 241 (May 1853); *id. Intr. Troch.* p. 131; *Bp. Rev. Zool.* 1854, p. 252; *Sci. P. Z. S.* 1859, p. 145; *id. Cat. Am. B.* p. 308; *Muls. & Verr. Class. Troch.* p. 69; *Elliot, Ibis*, 1875, p. 317; *id. Syn. Troch.* p. 87; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 97; *id. Ann. Soc. Linn. Lyon*, xxii. p. 219; *Tacz. P. Z. S.* 1879, p. 238, 1880, p. 205, 1882, p. 38; *id. Orn. Pér.* i. p. 379; *Berl. & Tacz. P. Z. S.* 1884, p. 303, 1885, p. 105.
- Heliotryphon viola*, *Cab. & Heine, Mus. Hein.* iii. p. 74.
- Trochilus viola*, *Gray, Hand-l. B.* i. p. 140.

*Adult male.* Upper surface dark shining grass-green; forehead and breast glittering bluish green; entire throat glittering purplish violet, the sides edged with black; rest of the under surface dark shining grass-green like the back; under tail-coverts green, widely edged with buff; central rectrices shining grass-green, lateral steel-blue tipped with green; bill black. Total length about 4.7 inches, wing 2.6; tail, central rectrices 1.1, lateral 2.3; bill 0.75.

*Female.* Upper surface shining grass-green; forehead and breast

rather brighter; throat black, each feather with a dusky spot on the lateral margin.

*Hab.* Ecuador, Peru, and Bolivia, on the slopes of the Andes between Illimani and Sorata.

- a. ♂ ad.; b, c. ♀ ad. sk. "Banks of the Marañon" (Warszewicz). Gould Coll. (Types of the species.)  
 d, e. ♂ ad. sk. Jima, Ecuador (Buckley). Salvin-Godman Coll.  
 f. ♂ ad.; g. ♀ ad. sk. R. Napo, Ecuador. Salvin-Godman Coll.  
 h-j. ♂ ad. sk. Ecuador. Gould Coll.  
 k. ♂ ad. sk. Tambillo, Peru, 25th April (H. Whitely). Selater Coll.

## 2. *Heliotrypha exortis*.

*Trochilus exortis*, *Fraser, P. Z. S.* 1840, p. 14.

*Ornismya parzudakii*, *de Long. & Parz. Rev. Zool.* 1840, p. 72 (*nec Less.*).

*Eriopus exortis*, *Bp. Consp. Av.* i. p. 80.

*Heliangelus parzudakii*, *Bp. Consp. Av.* i. p. 76.

*Rhamphomicron* β. *Parzudakia dispar*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 833. ff. 4960-62.

*Heliotrypha parzudakii*, *Bp. Rev. Zool.* 1854, p. 252; *Gould, Mon. Troch.* iv. pl. 240 (May 1860); *id. Intr. Troch.* p. 131; *id. P. Z. S.* 1870, p. 803; *Sci. Cat. Am. B.* p. 308; *Muls. & Ferr. Class. Troch.* p. 69; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 219; *Sci. & Salv. P. Z. S.* 1879, p. 529; *Tacz. & Berl. P. Z. S.* 1885, p. 105.

*Heliotryphon parzudakii*, *Cab. & Heine, Mus. Hein.* iii. p. 74.

*Heliotrypha exortis*, *Elliot, Ibis*, 1876, p. 318; *id. Syn. Troch.* p. 87; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 95, iv. p. 218; *Berl. J. f. Orn.* 1887, p. 322.

*Trochilus parzudakii*, *Gray, Hand-l. B.* i. p. 140.

*Adult male.* Upper surface dark shining grass-green, nearly black in certain lights on the upper tail-coverts; neck and nape, forehead (narrowly) and breast glittering grass-green; sides of the chin and throat black; a large gular spot glittering rosy red, shading into blue on the middle of the chin; rest of the under surface dark shining grass-green; under tail-coverts white; central rectrices very dark bronzy green, lateral purplish black; bill black. Total length about 4·3 inches, wing 2·6; tail, central rectrices 1·3, lateral 1·8; bill 0·8.

*Female.* Upper surface like the male but lighter, the forehead less brilliant; throat brown, with a large white central patch; lateral rectrices narrowly tipped with dusky white.

*Young birds* have a brown throat supplanted by glittering rosy red in the male and white in the female. Young males assume their glittering feathers at a very early age, sometimes when only half-grown.

*Hab.* Colombia, Ecuador.

- a-d. ♂ ad.; e. ♂ juv. sk. Medellin, Colombia (T. K. Salmon). Gould Coll.  
 f. ♂ ad. sk. Antioquia, Colombia (T. K. S.). Salvin-Godman Coll.

<i>g-o.</i> ♂ ad. ; <i>p-u.</i> ♂ juv. ; <i>v-x.</i> ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>y.</i> ♂ ad sk.	Santiago, Ecuador ( <i>Lehmann</i> ).	Gould Coll.
<i>z.</i> ♂ ad. ; <i>a'.</i> ♀ ad. sk.	Puella near Riobamba, Ecuador.	Gould Coll.
<i>b'.</i> ♂ ad. sk.	Baños, Ecuador ( <i>Buckley</i> ).	Gould Coll.
<i>c'-e'.</i> ♂ ad. ; <i>f'.</i> ♀ ad. sk.	Quito, Ecuador ( <i>Jameson</i> ).	Gould Coll.
<i>g'.</i> ♂ ad. ; <i>h'.</i> ♀ ad. sk.	Yanayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.

### 3. *Heliotrypha micrastur.*

*Heliangelus micrastur*, *Gould, Ann. & Mag. N. H.* 1872, p. 195 ;  
*id. Mon. Troch. Suppl.* pl. 23 (Jan. 1883).

*Helymus micrastur*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 93 ; *id.*  
*Ann. Soc. Linn. Lyon*, xxii. p. 219.

*Heliotrypha micrastur*, *Elliot, Syn. Troch.* p. 88 ; *Tacz. P. Z. S.* 1889,  
p. 205 ; *id. Orn. Pér.* i. p. 380.

*Adult male.* Upper surface dark shining green, becoming bronze on the lower back and upper tail-coverts ; head and chin nearly black when viewed from in front ; frontal spot and breast glittering grass-green ; throat glittering fiery golden, shading into fiery crimson towards the chin ; abdomen like the back ; under tail-coverts white, with a dusky central streak including the shafts of each feather ; tail—central rectrices dark bronzy green, lateral bronzy black ; bill black. Total length about 3.6 inches, wing 2.55 ; tail, central rectrices 1.3, lateral 1.7 ; bill 0.75.

*Female.* Lighter above than the male and greener, the glittering frontal spot less vivid ; throat whitish, mingled with glittering red feathers ; abdomen pale buff, the flanks spotted with green ; under tail-coverts white ; lateral rectrices tipped with dusky white.

*Hab.* Ecuador and Peru.

<i>a, b.</i> ♂ juv. sk.	San Lucas, Ecuador ( <i>Buckley</i> ).	Gould Coll. (Types of the species.)
<i>c-e.</i> ♂ ad. ; <i>f.</i> ♂ juv. sk.	San Lucas ( <i>Buckley</i> ).	Salvin-Godman & Gould Colls.
<i>g, h.</i> ♂ ad. ; <i>i.</i> ♀ ad. sk.	Cutervo, Peru ( <i>J. Stolzmann</i> ).	Salvin-Godman & Sclater Colls.

### 4. *Heliotrypha barrali.* (Plate VI. fig. 2.)

*Heliotrypha barrali*, *Muls. & Verr. Ann. Soc. Linn. Lyon*, xviii.  
p. 106 ; *Elliot, Syn. Troch.* p. 88 ; *Sharpe in Gould's Suppl. Troch.*  
(Mar. 1887).

*Heliangelus squamigularis*, *Gould, P. Z. S.* 1871, p. 503.

*Nodalia barrali*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 100.

*Adult male.* Upper surface shining grass-green, the distal half of the crown appearing almost black in some aspects ; throat glittering leaden green, with a dark margin on either side ; breast glittering



green; abdomen shining green; under tail-coverts green, with dusky-white edges; central rectrices dark shining green, lateral steel-blue; bill black. Total length about 4.1 inches, wing 2.5; tail, central rectrices 1.3, lateral 1.7; bill 0.9.

*Female* unknown.

*Young males* have the feathers of the throat dusky black with dark green discs, amongst which the glittering feathers of the adult appear.

*Hab.* Colombia.

- a. ♂ ad. sk. Colombia (Bogota make). Gould Coll.  
(Type of *H. squamigularis*, Gould.)  
b. ♀ juv. sk. Colombia (Bogota make). Gould Coll.

### 5. *Heliotrypha speciosa*. (Plate VI. fig. 1.)

*Adult male*. Very similar to that of *H. barrali*, but with a longer bill, and the throat of a more glittering olive-green without the leaden or silvery hue of the allied species; the feathers of the breast are rather more conspicuously white at the base, but this character is also seen in *H. barrali*. Total length about 5 inches, wing 2.5; tail, central rectrices 1.45, lateral 1.6; bill 1.

*Hab.* Colombia?

- a. ♂ ad. sk. (Apparently of Bogota make.) Salvin-Godman Coll.  
(Type of species.)

## 44. UROSTICTE.

- Urosticte, *Gould, Mon. Troch.* iii. pl. 190 (Oct. 1853); Type  
*id. Intr. Troch.* p. 110 . . . . . U. benjamini.  
Basilinna ♂. *Urosticta, Reick. Aufz. d. Col.* p. 13  
(1854).

*Range.* Andes from Ecuador to Peru.

### *Key to the Species.*

- a. Throat glittering green; a lilac pectoral spot.  
a'. Pectoral spot large; white postocular spot large; under tail-coverts green with white edges . . . . . *benjamini*, p. 167.  
b'. Pectoral spot small; white postocular spot small; under tail-coverts green with rufous edges . . . . . *intermedia*, p. 168.  
b. Throat and breast uniform glittering green; no pectoral spot; under tail-coverts rufous . . . . . *ruficrissa*, p. 169.

### 1. *Urosticte benjamini*.

*Trochilus benjamini, Bourc. Compt. Rend.* xxxii. p. 167; *Gray, Hand-l. B.* i. p. 142.

*Urosticte benjamini, Gould, Mon. Troch.* iii. pl. 190 (Oct. 1853); *id.*

*Intr. Troch.* p. 110; *Bp. Rev. Zool.* 1854, p. 253; *Sci. P. Z. S.* 1860, p. 95; *id. Cat. Am. B.* p. 303; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 101, pl. 77; *id. Ann. Soc. Linn. Lyon*, xxii. p. 220; *Elliot, Syn. Troch.* p. 92.

*Basilinna* ♂. *Urosticte benjamini*, *Reich. Aufz. d. Col.* p. 13.  
*Heliotrypha benjamini*, *Muls. & Ferr. Class. Troch.* p. 69.

*Adult male.* Upper surface uniform grass-green, a large postocular white spot; throat glittering green; a large lilac pectoral spot followed below by a white band; abdomen shining grass-green, the feathers of the middle edged with greyish white; under tail-coverts green, edged with white; central rectrices bronze-green, and as well as the next pair conspicuously tipped with pure white; lateral rectrices dark bronzy green; bill black. Total length about 4 inches, wing 2; tail, central rectrices 1·2, lateral 1·55; bill 0·9.

*Female.* Upper surface uniform shining grass-green; a large white postocular spot as in the male; under surface white, each feather with a shining green discal spot; lateral rectrices tipped with white.

*Young males* have rufous throats and gradually assume the glittering green feathers of the adult; the white tips to the four median rectrices and the pectoral spot are assumed at an early age.

*Hab.* Ecuador.

<i>a-c.</i> ♂ ad. sk.	Quito, Ecuador.	Salvin-Godman & Gould Colls.
<i>d-f.</i> ♂ ad. sk.	Baiza, Ecuador ( <i>Buckley</i> ).	Salvin-Godman & Gould Colls.
<i>g.</i> ♂ ad.; <i>h.</i> ♂ juv. sk.	Loxa, Ecuador.	Salvin-Godman Coll.
<i>i-p.</i> ♂ ad.; <i>q-u.</i> ♂ juv.; <i>v-z.</i> ♀ ad. sk.	Ecuador.	Salvin-Godman & Gould Colls.
<i>a'.</i> ♀ ad. sk.	Ecuador ( <i>Fraser</i> ).	Slater Coll.

## 2. *Urosticte intermedia*.

*Urosticte intermedia*, *Tacz. P. Z. S.* 1882, p. 36; *id. Orn. Pér. i.* p. 351; *Sharpe in Gould's Suppl. Troch.* (Mar. 1887).

“Supra aureo viridis; gula et collo antico squamosis, nitente viridibus; pectoris medio ornamento obscure violaceo; abdomine viridi, plumis griseo marginatis; subcaudalibus rufescentibus, disco viridi; macula alba postoculari minima; remigibus brunneis, nitore violaceo; cauda emarginata, rectricibus basi æneo-viridibus, apice fusco cupreis, mediis et submediis brevioribus, macula alba terminatis.

“*Fem.* Subtus alba, viridi maculata; rectricibus ternis utrinque lateralibus albo terminatis; subcaudalibus rufescentibus albida.” (*Taczanowski, l. s. c.*)

*Hab.* Peru.

3. *Urosticte ruficrissa*.

*Urosticte ruficrissa*, *Lavr. Ann. Lyc. N. Y.* viii. p. 44; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 103, pl. 78; *id. Ann. Soc. Linn Lyon*, xxii. p. 220; *Elliot, Syn. Troch.* p. 91; *Gould, Suppl. Troch.* pl. 24 (Jan. 1883).

*Adult male*. Similar to that of *U. benjamini* but larger; bill longer; tail more deeply forked; throat and breast uniform glittering green, without a pectoral spot and hardly any white across the chest; under tail-coverts rufous. Total length about 4.4 inches, wing 2.4; tail, central rectrices 1.2, lateral 1.8; bill 1.

*Female*. Like that of *U. benjamini*, but with pale buff under tail-coverts.

*Hab.* Ecuador.

a-d. ♂ ad.; e, f.	Ecuador.	Salvin-Godman &
♂ juv.; g, h.		Gould Colls.
♀ ad. sk.		

## 45. ADELOMYIA.

		Type.
<i>Adelomyia</i> , <i>Bp. Rev. Zool.</i> 1854, p. 253	.....	<i>A. melanogenys</i> .
<i>Adelisca</i> , <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 72	....	<i>A. melanogenys</i> .

*Range*. Andes from Venezuela and Colombia to Bolivia.

*Key to the Species.*

- a. Throat spotted with green or brown.  
 a'. Under surface pale whitish buff.  
 a''. Larger; gular spots spread over the whole throat. .... *melanogenys*, p. 169.  
 b''. Small; gular spots confined to the upper part of the throat. .... *æneotincta*, p. 171.  
 b'. Under surface dark buff; gular spots confined to the upper part of the throat. .... *cervina*, p. 171.  
 b. Throat spotted with blue. .... *inornata*, p. 172.

1. *Adelomyia melanogenys*.

- Trochilus melanogenys*, *Fraser, P. Z. S.* 1840, p. 18; *Gray, Hand-l. B.* i. p. 142.  
*Trochilus sabinæ*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, vi. p. 323 (1846); *id. Rev. Zool.* 1846, p. 316.  
*Mellisuga melanogenys*, *Gray, Gen. B.* i. p. 112.  
*Mellisuga sabinæ*, *Gray, Gen. B.* i. p. 112.  
*Rhamphomicron sabinæ*, *Bp. Consp. Av.* i. p. 79.  
*Rhamphomicron melanogenys*, *Bp. Consp. Av.* i. p. 79.  
*Metallura sabinæ*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 5, pl. 720. ff. 4636-7.  
*Adelomyia sabinæ*, *Bp. Rev. Zool.* 1854, p. 253.  
*Adelisca melanogenys*, *Cab. & Heine, Mus. Hein.* iii. p. 72; *Heine, J. f. Orn.* 1863, p. 214.

- Adelomyia melanogenys*, *Scl. P. Z. S.* 1859, p. 145, 1860, pp. 70, 94; *id. Cat. Am. B.* p. 303; *Jameson & Fraser, Ibis*, 1859, p. 400; *Muls. & Verr. Class. Troch.* p. 71; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 131; *id. Ann. Soc. Linn. Lyon*, xxii. p. 220; *Elliot, Syn. Troch.* p. 182; *Tacz. P. Z. S.* 1879, p. 238, 1880, p. 207; *id. Orn. Pér.* i. p. 361; *Berl. J. f. Orn.* 1884, p. 311, 1887, p. 325.
- Adelomyia maculata*, *Gould, Mon. Troch.* i. i. pl. 199 (Sept. 1861); *id. Intr. Troch.* p. 113; *Muls. & Verr. Class. Troch.* p. 71; *Gould, P. Z. S.* 1870, p. 803; *Scl. Cat. Am. B.* p. 303; *Tacz. P. Z. S.* 1882, p. 37.
- Adelisca maculata*, *Heine, J. f. Orn.* 1863, p. 214.
- Trochilus maculata*, *Gray, Hand-l. B.* i. p. 142.
- Adelomyia chlorospila*, *Gould, Ann. & Mag. N. H.* 1872, x. p. 452; *Whitely, P. Z. S.* 1873, p. 189; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 128; *id. Ann. Soc. Linn. Lyon*, xxii. p. 220; *Elliot, Syn. Troch.* p. 182; *Tacz. Orn. Pér.* i. p. 360; *Sharpe in Gould's Suppl. Troch.* (April 1885).
- Adelomyia melanogenys maculata*, *Berl. & Tacz. P. Z. S.* 1884, p. 305, 1885, p. 104.

*Adult male.* Upper surface golden grass-green, darker on the crown; a postocular white stripe; ear-coverts blackish brown; under surface pale buff, darker on the flanks; each feather of the throat with a brown discal spot, this colour changing in most cases into bronzy green in certain lights; flank-feathers with obscure green discs; tail bronzy brown, paler at the base, lateral rectrices tipped with buff: bill black, base of mandible and feet yellow. Total length about 3.5 inches, wing 2.25, tail 1.45, bill 0.7.

*Adult female.* Similar to the male.

The bird from Ecuador is said to be larger and to have a longer bill than the typical Colombian bird (the actual type from the Liverpool Museum being before me); but I am unable to distinguish them with certainty. *A. chlorospila*, described from a Peruvian specimen, has the spots of the throat more distinctly green than others from the same locality which I cannot separate from *A. melanogenys*. As these spots nearly always have some tint of green in certain lights, I am not disposed to recognize *A. chlorospila* as distinct.

*Hab.* Andes of Colombia, Ecuador, and Peru.

a. Ad. sk.	Alto, Colombia ( <i>C. W. Wyatt</i> ).	Salvin-Godman Coll.
b-g. Ad. sk.	Colombia (Bogota make).	Salvin-Godman, Gould, & Sclater Colls.
h, i. Ad. sk.	Quito, Ecuador.	Gould Coll.
	(Probable types of <i>A. maculata</i> , Gould.)	
j. Ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
k, l. Ad. sk.	Monji, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
m-o. Ad. sk.	Ulva, Ecuador ( <i>Buckley</i> ).	Gould Coll.
p, q. Ad. sk.	Napo, Ecuador.	Gould Coll.
r, s. Ad. sk.	Ecuador ( <i>Fraser</i> ).	Gould & Sclater Colls.
t. ♂ ad. sk.	Tambillo, Peru ( <i>J. Stolzmann</i> ).	Gould Coll.

u, v. ♂ ad. sk.	San Antonio, Peru, July ( <i>H. Whitely</i> ).	Gould Coll. (Types of <i>A. chlorospila</i> , Gould.)
w. ♀ ad. sk.	Guadalupe, Peru, Nov. ( <i>H. W.</i> )	Gould Coll.
x. ♂ ad.; y. ♀ ad. sk.	Huasampilla, Peru, April ( <i>H. W.</i> ).	Salvin-Godman Coll.
z. Ad. sk.	Peru ( <i>Warsezewicz</i> ).	Gould Coll.

## 2. *Adelomyia æneotincta*.

*Adelomyia melanogenys*, Gould, *Mon. Troch.* iii. pl. 198 (May 1859);  
*id. Intr. Troch.* p. 113 (partim); *Scl. & Salv. P. Z. S.* 1875, p. 735.  
*Adelomyia æneotincta*, Simon, *Mém. Soc. Zool. Fr.* 1889, p. 223.

*Adult male.* Very similar to that of *A. melanogenys*, but smaller and with a shorter bill; the under surface is paler, and the gular spots are confined to the upper part of the throat; the rectrices, too, appear to be wider. Length of wing 2 inches, bill 0·6.

This bird was identified and figured by Gould as *A. melanogenys*, from which it presents several points of distinction; Gould, when describing *A. maculata*, recognized the difference, but unfortunately described the wrong bird. This has recently been rectified by M. Simon.

*Hab.* Venezuela.

a. ♂ ad. sk.	Sierra Nevada de Merida, Venezuela, alt. 8000 feet ( <i>Goering</i> ).	Salvin-Godman Coll.
b. Ad. sk.	Valley of Aragua, Venezuela.	Dyson [C.].
c-e. Ad. sk.	[Venezuela.]	Gould Coll.

## 3. *Adelomyia cervina*.

*Adelomyia cervina*, Gould, *Ann. & Mag. N. H.* 1872, x. p. 453;  
*Muls. Hist. Nat. Ois.-Mouches*, iii. p. 130; *id. Ann. Soc. Linn. Lyon*, xxii. p. 220; *Elliot, Syn. Troch.* p. 181; *Scl. & Salv. P. Z. S.* 1879, p. 529; *Sharpe in Gould's Suppl. Troch.* pl. 46 (March 1887).

*Adult.* Similar to *A. melanogenys*, but larger and with proportionally shorter bill; under surface fawn-colour, rather lighter on the throat and middle of the abdomen, darker on the flanks, the feathers of which have indistinct green discs; throat spotted with brown, apparently without any shade of green: bill black, base of the mandible and the feet yellow. Total length about 3·8 inches, wing 2·35, tail 1·5, bill 0·65.

*Hab.* Colombia, Cauca Valley.

a. Ad. sk.	Medellin, Colombia ( <i>T. K. Salmon</i> ).	Gould Coll. (Type of species.)
b. Ad. sk.	Medellin, Colombia ( <i>T. K. S.</i> ).	Salvin-Godman Coll.

4. *Adelomyia inornata*.

*Trochilus* (— ?) *inornatus*, *Gould, P. Z. S.* 1846, p. 89.

*Mellisuga inornata*, *Gray, Gen. B.* i. p. 112.

*Rhamphomicon inornatus*, *Bp. Consp. Av.* i. p. 79.

*Metallura inornata*, *Reich. Aufz. d. Col.* p. 8.

*Adelomyia inornata*, *Bp. Rev. Zool.* 1854, p. 253; *Gould, Mon. Troch.* iii. pl. 197 (May 1855); *id. Intr. Troch.* p. 113; *Muls. & Verr. Class. Troch.* p. 71; *Wyatt, Ibis*, 1871, p. 377; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 127; *id. Ann. Soc. Linn. Lyon*, xxii. p. 220; *Elliot, Syn. Troch.* p. 181; *Sci. & Salv. P. Z. S.* 1879, p. 629; *Tacz. Orn. Pér.* i. p. 359.

*Adelisca inornata*, *Cab. & Heine, Mus. Hein.* iii. p. 72.

*Trochilus inornatus*, *Gray, Hand-l. B.* i. p. 142.

*Adult male.* Similar to those of the rest of the genus; the upper surface, especially on the rump, more bronzy green; the middle of the under surface buff, the flanks washed with green; the discs of the central feathers of the throat glittering blue: bill nearly black, feet hazel. Total length about 2·5 inches, wing 2·05, tail 1·45, bill 0·65.

*Hab.* Bolivia.

- |                    |                                    |                     |
|--------------------|------------------------------------|---------------------|
| a. ♂ ad. sk.       | ? Sandillani, Yungas, Bolivia      | Gould Coll.         |
|                    | ( <i>Bridges</i> ).                | (Probably a type.)  |
| b, c, d. ♂ ad. sk. | Bolivia ( <i>Buckley</i> ).        | Gould Coll.         |
| e. ♂ ad. sk.       | Tilotilo, Yungas, Bolivia          | Salvin-Godman Coll. |
|                    | ( <i>Buckley</i> ).                |                     |
| f. ♂ ad. sk.       | Chairo, Yungas ( <i>Buckley</i> ). | Salvin-Godman Coll. |

## 46. ANTHOCEPHALA.

Type.

*Anthocephala*, *Cab. & Heine, Mus. Hein.* iii. p. 72 (1860). *A. floriceps*.

*Range.* Northern Colombia.

1. *Anthocephala floriceps*.

*Trochilus* (— ?) *floriceps*, *Gould, P. Z. S.* 1853, p. 62.

*Metallura floriceps*, *Reich. Aufz. d. Col.* p. 8.

*Adelomyia floriceps*, *Bp. Rev. Zool.* 1854, p. 253; *Gould, Mon. Troch.* iii. pl. 202 (May 1855); *Muls. & Verr. Class. Troch.* p. 71.

*Anthocephala floriceps*, *Cab. & Heine, Mus. Hein.* iii. p. 72; *Gould, Intr. Troch.* p. 115; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 125; *id. Ann. Soc. Linn. Lyon*, xxii. p. 220; *Elliot, Syn. Troch.* p. 183; *Salv. & Godm. Ibis*, 1881, p. 595.

*Adult male.* Upper surface golden grass-green, becoming bronzy on the upper tail-coverts and central rectrices; forehead pale buff, with a narrow anterior edge of blackish, and shading into "peach-blossom" colour on the crown; under surface greyish buff, darker on the flanks, which are also tinged with green; lateral rectrices bronzy at the base, passing into a dark subterminal purplish band, the tips being buff; bill black. Total length about 3·3 inches, wing 2, tail 1·2, bill 0·75.

*Adult female.* Similar to the male, but with the forehead and crown dark bronzy green.

*Young male.* Similar to the female, but with the tips to the lateral rectrices wider and whiter, the rest of those feathers greener.

*Hab.* Northern Colombia.

- |               |   |                        |
|---------------|---|------------------------|
| a. ♂ ad. sk.  | San Antonio, Sierra Nevada de Santa Marta, Colombia ( <i>Lin-</i>   | Gould Coll.            |
|               | <i>den</i> ).   | (Type of the species.) |
| b. ♂ juv. sk. | (A skin of Bogota make.)  | Gould Coll.            |
| c. ♂ ad. sk.  | — ?   | Salvin-Godman Coll.    |
| d. ♀ ad. sk.  | San José, Sierra Nevada de Santa Marta, March ( <i>F. Simons</i> ). | Salvin-Godman Coll.    |

#### 47. PHLOGOPHILUS.

Type.

Phlogophilus, *Gould, P. Z. S.* 1860, p. 310 . . . . . *P. hemileucurus*.

*Range.* Andes of Eastern Ecuador.

A genus of doubtful affinity. Gould, unable to indicate its position, placed it at the end of the *Trochilidae*, but suggested, without stating his reasons, that it might be allied to *Adelomyia*. This view I am inclined to think justified. Mr. Elliot places it between *Augastes* and *Schistes*, and went so far as to state his belief that it might turn out to be inseparable from the former, and that *P. hemileucurus* might even prove to be only the female of one of the species of *Augastes*!

#### 1. Phlogophilus hemileucurus.

Phlogophilus hemileucurus, *Gould, P. Z. S.* 1860, p. 310; *id. Mon. Troch.* v. pl. 360 (Sept. 1861); *id. Intr. Troch.* p. 181; *Elliot, Syn. Troch.* p. 172; *Eudes-Desl. Ann. Mus. Caen*, i. p. 325.

*Leucolia hemileucura, Muls. & Verr. Class. Troch.* p. 31.

*Elvira hemileucura, Muls. Hist. Nat. Ois.-Mouches*, i. p. 264; *id. Ann. Soc. Linn. Lyon*, xxii. p. 205.

*Adult male?* Upper surface dark shining grass-green; under surface white, the feathers of the throat and flanks with green discs; pectoral band, centre of the abdomen, and under tail-coverts white; central rectrices green tinged with bronze; lateral white with a wide central band, and the edges of the outer webs of the tips steel-blue-black; bill black; feet yellow. Total length about 3.5 inches, wing 1.9; tail, central rectrices 1.3, lateral 0.9; bill 0.8.

*Adult female?* Like the male, but with the tips of the lateral rectrices wholly white.

I have now seen a considerable number of specimens of this species, all closely resembling one another. Some examples have a dark outer edging to the white tip to the lateral rectrices. These I take to be males, and those without this edging to be females. I have no dissected specimens before me, so that this supposition as to

the sexes is only suggested by the fact that in *Trochilidae* generally the lateral rectrices of the females are, as a rule, tipped with lighter colour than those of the males.

*Hab.* Andes of Eastern Ecuador.

a. Ad. ? sk.	Banks of the River Napo?, Ecuador ( <i>Bourcier</i> ).	Gould Coll. (Type of the species.)
b, c. Ad. ? sk.	Loxa, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
d-o. Ad. ? sk.	Ecuador ( <i>Buckley</i> ).	Gould Coll.

#### 48. POLYTMUS.

Type.

*Polytmus*, *Briss. Orn.* iii. p. 667 (1760) . . . . . *P. thaumantias*.  
*Chrysobronchus*, *Bp. Rev. Zool.* 1854, p. 252.

*Range.* South America from Colombia, Venezuela, and Trinidad to Guiana and South-eastern Brazil.

*P. thaumantias* has the nasal covers less exposed than either *P. viridissimus* or *P. leucorrhous*; moreover, the tail is more rounded, being almost cuneate, and tipped and edged with white. The interramal space is more feathered in *P. thaumantias* than in either of the other species; so that it becomes a question whether they should all be referred to one genus. No attempt has as yet been made to make a separation, and I am hardly prepared to do so at present.

#### *Key to the Species.*

- a. Tail more rounded, lateral rectrices tipped and edged with white; interramal space more feathered . . . . . *thaumantias*, p. 174.  
b. Tail less rounded, lateral rectrices uniform green; interramal space less feathered.  
a'. Under tail-coverts glittering green . . . . . *viridissimus*, p. 176.  
b'. Under tail-coverts white . . . . . *leucorrhous*, p. 176.

#### 1. *Polytmus thaumantias*.

*Polytmus*, *Briss. Orn.* iii. p. 667.

*Trochilus thaumantias*, *Linn. Syst. Nat.* i. p. 190; *Gm. Syst. Nat.* i. p. 489; *Vieill. N. Dict. d'Hist. N.* vii. p. 353; *id. Enc. Méth.* p. 557.

*Colibri*, *Daub. Pl. Enl.* 600. fig. 1.

Petit Colibri, *Buff. Hist. Nat. Ois.* vi. p. 64.

Admirable Humming Bird, *Lath. Syn.* i. 2, p. 763.

*Trochilus viridis*, *Aud. & Vieill. Ois. Dor.* i. p. 101, pl. 41; *Vieill. N. Dict. d'Hist. N.* vii. p. 354; *id. Enc. Méth.* p. 557; *Less. Ind. Gén. Troch.* p. xxvii; *d'Orb. & Lafr. Syn. Av.* ii. p. 32; *Cab. in Schomb. Guiana*, iii. p. 707.

*Trochilus chrysobronchus*, *Shaw, Gen. Zool.* viii. p. 287.

*Trochilus virescens*, *Dumont, Dict. Sc. Nat.* x. p. 49 (1818); *Wied, Beitr.* iv. p. 107.

*Ornismya viridis*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxxiii, 178, pl. 60.



*Polytmus chrysobronchus*, *Gray, Gen. B.* i. p. 108.

*Leucippus chrysobronchus*, *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 8, pl. 781. ff. 4816-7.

*Chrysobronchus virescens*, *Bp. Rev. Zool.* 1854, p. 252; *Gould, Mon. Troch.* iv. pl. 230 (Sept. 1858); *E. C. Taylor, Ibis*, 1863, p. 92; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 276, iv. p. 180; *id. Ann. Soc. Linn. Lyon*, xxii. p. 205; *Scl. & Salv. P. Z. S.* 1879, p. 629; *Eudes-Desl. Ann. Mus. Caen*, i. p. 442; *Forbes, Ibis*, 1881, p. 348; *Salv. Ibis*, 1885, p. 435.

*Polytmus virescens*, *Gould, Intr. Troch.* p. 126; *Gray, Hand-l. B.* i. p. 129; *Elliot, Ibis*, 1877, p. 142.

*Polytmus thaumantias*, *Cab. & Heine, Mus. Hein.* iii. p. 5; *Scl. Cat. Am. B.* p. 307; *Pelz. Orn. Bras.* p. 28; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 106; *Elliot, Syn. Troch.* p. 214; *Salv. Cat. Strickl. Coll.* p. 366; *Berl. J. f. Orn.* 1887, p. 317.

*Polytmus leucochlorus*, *Heine, J. f. Orn.* 1863, p. 176.

*Chlorestes thaumantias*, *Muls. & Verr. Class. Troch.* p. 32.

*Polytmus thaumantias virescens*, *Berl. J. f. Orn.* 1887, p. 317.

*Adult male.* Upper surface golden green, upper tail-coverts rather brighter, crown duller; under surface glittering yellowish green; under tail-coverts white with green discs; tail bluish green, tipped with white, the base of the outer web of all the feathers whitish, this colour in the outermost pair meets the white tip; bill blackish, the middle of the culmen and the mandible (except the tip) flesh-colour. Total length about 4.2 inches, wing 2.2, tail 1.5, bill 1 (Roraima).

*Young male.* Under surface fawn-colour, a median line of glittering green feathers on the throat, outermost rectrix nearly white; bill black.

There is a good deal of variation in the length of the bill in this species, and also in the colour of the central rectrices as well as acuteness of the outer ones. The latter characters seem to vary with age. *P. leucochlorus*, Heine, was based upon Venezuela specimens; *P. thaumantias virescens*, Berl., upon Bogota examples. I do not think either can be definitely separated.

*Hab.* Colombia, Venezuela and Trinidad, Guiana and South-eastern Brazil.

a. ♀ ad. sk.	Colombia (Bogota make).	Gould Coll.
b. ♂ ad. sk.	Venezuela.	Slater Coll.
c-f. ♂ ad.; g,	Trinidad.	Gould Coll.
h. Ad. et juv. sk.		
i, j. ♂ ad.; k, l.	Roraima, Brit. Guiana, Jan., June,	Salvin-Godman Coll.
♂ juv.; m.	Dec. ( <i>H. Whitely</i> ).	
♀ ad. sk.		
n, o. ♂ ad.; p.	Pernambuco ( <i>W. A. Forbes</i> ).	Salvin-Godman &
♀ ad. sk.		Slater Colls.
q, r. ♂ ad. sk.	Bahia, Brazil ( <i>Wucherer</i> ).	Salvin-Godman Coll.
s-v. ♂ ad. sk.	Bahia.	Gould Coll.
w. ♂ juv.; x.	Chapada, Matto Grosso, May and	Salvin-Godman Coll.
♀ juv. sk.	July ( <i>H. H. Smith</i> ).	

2. *Polytmus viridissimus*.

- Oiseau-Mouche tout vert, *Aud. & Vieill. Ois. Dor.* i. p. 102, pl. 42.  
*Trochilus viridissimus*, *Vieill. N. Dict. d'Hist. Nat.* vii. p. 375;  
*id. Enc. Méth.* p. 572; *Gray, Hand-l. B.* i. p. 129.  
*Trochilus virescens*, *Wied. Beitr.* iv. p. 107 (*nec Dum.*).  
*Trochilus theresiæ*, *Da Silva, Mai. Min. Bras.* p. 2 (1843).  
*Amazilius viridissimus*, *Bp. Consp. Av.* i. p. 77.  
*Chlorestes β. Smaragditiis viridissima*, *Reich. Aufz. d. Col.* p. 7.  
*Chrysobronchus viridissimus*, *Bp. Rev. Zool.* 1854, p. 252; *Muls.*  
*Hist. Nat. Ois.-Mouches*, i. p. 279, pl. 26; *id. Ann. Soc. Linn.*  
*Lyon*, xxii. p. 206; *Eudes-Desl. Ann. Mus. Caen*, i. p. 445; *Salv.*  
*Ibis*, 1885, p. 435.  
*Chlorestes viridissima*, *Reich. Troch. Enum.* p. 4, pl. 695. ff. 4547-8;  
*Muls. & Ferr. Class. Troch.* p. 32.  
*Thaumantias viridissimus*, *Burm. Syst. Ueb.* ii. p. 344.  
*Thaumantias chrysurus*, *Burm. Syst. Ueb.* ii. p. 345.  
*Chrysobronchus viridicaudus*, *Gould, Mon. Troch.* iv. pl. 231 (Sept.  
 1858).  
*Polytmus viridissimus*, *Gould, Intr. Troch.* p. 127; *Sci. Cat. Am.*  
*B.* p. 307; *Pelz. Orn. Bras.* p. 28; *Elliot, Syn. Troch.* p. 214.  
*Polytmus theresiæ*, *Cab. & Heine, Mus. Hein.* iii. p. 5.  
*Trochilus viridicaudus*, *Saucer. MS.* (*fide Cab.*).  
*Trochilus prasinus*, *Licht. Mus. Ber.* (*fide Cab.*).

*Adult male.* Upper surface shining bronzy grass-green, duller on the crown; under surface, including the under tail-coverts, pale glittering grass-green; tail uniform glittering green; bill brown; mandible, except the tip, flesh-colour. Total length about 3·7 inches, wing 2·3, tail 1·3, bill 0·8.

*Female.* Duller on the under surface than the male, under tail-coverts edged and lateral rectrices tipped with white.

*Hab.* Venezuela and Guiana.

a. ♂ ad. sk.	[Venezuela.]	Salvin-Godman Coll.
b-d. ♂ ad. sk.	Demerara.	Gould Coll.
e. ♀ ad. sk.	Bartica Grove, Brit. Guiana, Sept. 2 ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
f, g. ♂ ad. sk.	Merunié Mts., Brit. Guiana, July ( <i>H. W.</i> ).	Salvin-Godman & Selater Colls.
h, i. ♂ ad. sk.	(Cayenne make.)	Salvin-Godman & Selater Colls.

3. *Polytmus leucorrhous*.

- Polytmus leucorrhous*, *Sci. & Salv. P. Z. S.* 1867, pp. 584, 753, 1873,  
 p. 288; *Gould, P. Z. S.* 1871, p. 505; *Elliot, Syn. Troch.* p. 215.  
*Chrysobronchus leucorrhous*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 281,  
 iv. p. 180; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206; *Eudes-Desl.*  
*Ann. Mus. Caen*, i. p. 446; *Tacz. Orn. Pér.* i. p. 373.  
*Polytmus leucoproctus*, *Gray, Hand-l. B.* i. p. 128.

*Adult male.* Similar to that of *P. viridissimus*, but with the under tail-coverts white.

a. ♂ ad. sk.	Xeberos, Upper Amazons, June ( <i>E. Bartlett</i> ).	Salvin-Godman Coll.
b-d. ♂ ad.; e- g. Ad. sk.	Upper Amazons ( <i>E. B.</i> ).	Gould Coll. (Types of the species.)
h. ♂ ad. sk.	Xeberos, June 27.	E. Bartlett [ <i>C.</i> ].
i, j. ♂ ad. sk.	Upper Amazons.	E. Bartlett [ <i>C.</i> ].
k, l. ♂ ad. sk.	Cobati, Rio Negro, Nov. ( <i>A. R.</i> <i>Wallace</i> ).	Salvin-Godman & Gould Colls.
m, n. ♀ ad. sk.	Rio Negro, Dec. ( <i>A. R. W.</i> ).	Salvin-Godman Coll.

## 49. DOLEROMYIA.

Doleromya, <i>Bp. Rev. Zool.</i> 1854, p. 249.....	Type. D. fallax.
Dolerisca, <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 6.....	D. fallax.

*Range.* Northern Colombia and Venezuela.

1. *Doleromyia fallax*.

- Trochilus fallax*, *Bourc. Ann. Soc. Sc. Phys. et Nat. Lyon*, vi. p. 44 (1843); *id. Rev. Zool.* 1843, p. 103.  
*Trochilus* (*Lampornis*?) *fulviventris*, *Gould, P. Z. S.* 1846, p. 88.  
*Polytmus fallax*, *Gray, Hand-l. B.* i. p. 129.  
*Doleromyia fallax*, *Bp. Rev. Zool.* 1854, p. 249; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 206, pl. 18; *Eudes-Desl. Ann. Mus. Caen*, i. p. 166; *Elliot, Syn. Troch.* p. 9.  
*Leucippus fallax*, *Gould, Mon. Troch.* ii. pl. 56 (Sept. 1856).  
*Dolerisca fallax*, *Cab. & Heine, Mus. Hein.* iii. p. 6; *Gould, Intr. Troch.* p. 56; *Scl. & Salv. P. Z. S.* 1868, p. 168.  
*Dolerisca cervina*, *Gould, Intr. Troch.* p. 56.  
*Leucolia fallax*, *Muls. & Verr. Class. Troch.* p. 31.  
*Doleromyia fallax*, *Muls. Ann. Soc. Linn. Lyon*, xxiii. p. 204.

*Adult male.* Upper surface dull green, the feathers edged with dusky, darker on the crown; under surface fulvous, the lower abdomen and under tail-coverts white; central rectrices dull green, the rest tipped with white and having a dark subterminal band; mandible black, maxilla flesh-colour, the tip black. Total length about 4 inches, wing 2.5, tail 1.5, bill 1.

*Young* almost exactly like the adult.

The Colombian birds have a little less white on the lateral rectrices, and in this respect agree with the type of *D. cervina*, Gould. The difference is hardly material.

*Hab.* Northern Colombia and Venezuela.

a. Ad. sk.	Venezuela.	Gould Coll.
b. Ad. sk.	[Venezuela.]	Gould Coll.
	(Probable type of <i>T. fulviventris</i> , Gould.)	
c. ♂ ad. sk.	Carupano, Venezuela, Dec. ( <i>A. Goering</i> ).	Salvin-Godman Coll.
d. ad. sk.	— ?	Gould Coll.
		(Type of <i>D. cervina</i> , Gould)
e-g. Juv. sk.	— ?	Gould Coll.
h, i. Ad. sk.	Northern Colombia ( <i>F. Simons</i> ).	Salvin-Godman Coll.

## 50. LEUCOCHLORIS.

Type.

*Agyrtria*  $\gamma$ . *Leucochloris*, *Reich. Aufz. d. Col.* p. 10  
(1854) ..... *L. albicollis*.

*Range.* Southern Brazil and Paraguay.

1. *Leucochloris albicollis*.

*Trochilus albicollis*, *Vieill. N. Dict. d'Hist. N.* xxiii. p. 426; *id. Enc. Méth.* p. 558; *Less. Ind. Gén. Troch.* p. xxv; *Temm. Pl. Col.* 203. f. 2.

*Colibri albogularis*, *Spix, Av. Bras.* i. p. 81, pl. 82. f. 1.

*Trochilus vulgaris*, *Wied, Beitr.* iv. p. 72.

*Ornismya albicollis*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxxiii, 184, pl. 63; *d Orb. & Lafr. Syn. Av.* ii. p. 30.

*Polytmus albicollis*, *Gray, Gen. B.* i. p. 108; *id. Hand-l. B.* i. p. 127.

*Thaumantias albicollis*, *Bp. Consp. Av.* i. p. 78; *id. Rev. Zool.* 1854, p. 255; *Burm. Syst. Ueb.* ii. p. 342; *id. J. f. Orn.* 1860, p. 245; *id. La Plata Reise*, ii. p. 448.

*Agyrtria*  $\gamma$ . *Leucochloris albicollis*, *Reich. Aufz. d. Col.* p. 10.

*Leucippus albicollis*, *Reich. Troch. Enum.* p. 8, pl. 782. ff. 4818-9.

*Leucochloris albicollis*, *Gould, Mon. Troch.* v. pl. 291 (Sept. 1855); *id. Intr. Troch.* p. 151; *Muls. & Verr. Class. Troch.* p. 32; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 261, pl. 22, iv. p. 178; *id. Ann. Soc. Linn. Lyon*, xxii. p. 205; *Elliot, Ibis*, 1877, p. 138; *id. Syn. Troch.* p. 200; *Sci. & Salv. P. Z. S.* 1879, p. 630; *Eudes-Desl. Ann. Mus. Caen*, i. p. 7, p. 323; *Salv. Cat. Strickl. Coll.* p. 368; *Sci. & Huds. Arg. Orn.* ii. p. 7.

*Agyrtria albicollis*, *Cab. & Heine, Mus. Hein.* iii. p. 32; *Heine, J. f. Orn.* 1863, p. 183; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 112; *Pelz. Orn. Bras.* p. 29; *Berl. J. f. Orn.* 1873, p. 276.

*Adult male.* Upper surface, chin, chest, and flanks shining grass-green; throat, middle of the abdomen, and under tail-coverts pure white; central rectrices rather darker than the back, lateral steel-blue conspicuously tipped with white; bill black, basal three-fourths of the mandible flesh-colour. Total length about 4 inches, wing 2.4, tail 1.3, bill 1.

*Hab.* Southern Brazil and Paraguay.

<i>a, b.</i> Ad. sk.	Rio Janeiro, Brazil ( <i>Touss.</i> )	Salvin-Godman Coll.
<i>c-g.</i> Ad. sk.	Rio.	Gould Coll.
<i>h.</i> Ad. sk.	Santa Catarina, Brazil ( <i>Rogers</i> ).	Salvin-Godman Coll.
<i>i.</i> Ad. sk.	Santa Catarina ( <i>Rogers</i> ).	Sclater Coll.

## 51. AGYRTRIA.

Type.

*Thaumantias*, *Bp. Rev. Zool.* 1854, p. 255 (*unc Eschsch.*).

*Agyrtria*, *Reich. Aufz. d. Col.* p. 10 (1854).

*Thaumasius*, *Sclater. P. Z. S.* 1879, p. 146 ..... *A. taczanowskii*.

*Ranje.* Tropical America, from Southern Mexico to Bolivia and South Brazil.

*Key to the Species.*

- a. Throat white, green, or blue.
- a'. Crown glittering green or bluish green.
- a''. Throat and breast white.
- a'''. Bill wholly black . . . . . *niveipectus*, p. 180.
- b''. Mandible except the tip flesh-colour.
- a<sup>4</sup>. Lateral rectrices steel-blue . . . . . *leucogaster*, p. 181.
- b<sup>4</sup>. Lateral rectrices greyish green.
- a<sup>5</sup>. Larger; lateral rectrices without definite subterminal bar . . . . . *viridiceps*, p. 181.
- b<sup>5</sup>. Smaller; lateral rectrices with more or less definite subterminal bar . . . . . *milleri*, p. 182.
- b''. Throat and breast glittering green.
- c'''. Crown glittering pale bluish green; bill longer . . . . . *caeruleiceps*, p. 183.
- d'''. Crown glittering green; bill smaller. *nitidifrons*, p. 183.
- b'. Crown dull green, slightly darker than the back.
- c''. Breast glittering blue.
- e'''. Lateral rectrices pale greenish bronze, with a subterminal blackish bar . . . . . *neglecta*, p. 183.
- f'''. Lateral rectrices steel-blue . . . . . *bartletti*, p. 184.
- d''. Throat and breast glittering green or white.
- g'''. Under tail-coverts greyish edged with white.
- c<sup>4</sup>. Lateral rectrices greyish green, with a more or less distinct subterminal bar.
- c<sup>5</sup>. Middle of the throat and breast white . . . . . *brevirostris*, p. 185.
- d<sup>5</sup>. Throat and breast covered with green spots . . . . . *affinis*, p. 185\*.
- d<sup>4</sup>. Lateral rectrices steel blue, sometimes tipped with bronze or whitish.
- e<sup>5</sup>. Lateral rectrices with more or less distinct tips of grey or bronze.
- a<sup>6</sup>. Lateral rectrices steel-blue beneath except at the extreme base.
- a<sup>7</sup>. Larger; lateral rectrices less distinctly tipped . . . . . *viridissima*, p. 186.
- b<sup>7</sup>. Smaller; lateral rectrices very distinctly tipped . . . . . *maculicauda*, p. 188.
- b<sup>6</sup>. Lateral rectrices bronzy green, with purple-bronze subterminal bar . . . . . *luciae*, p. 188.
- f<sup>5</sup>. Lateral rectrices nearly uniform, or with narrow whitish tips.

\* *A. alleni*, Elliot. p. 186, probably belongs here.

- c*<sup>6</sup>. Throat and breast bluish green; lateral rectrices nearly uniform ..... *fluvialis*, p. 188.
- d*<sup>6</sup>. Throat and breast golden green; lateral rectrices narrowly tipped with whitish .. *apicalis*, p. 189.
- h*<sup>'''</sup>. Under tail-coverts white.
- e*<sup>4</sup>. Middle of the under surface white. *candida*, p. 190.
- f*<sup>4</sup>. Throat and breast glittering green.
- g*<sup>1</sup>. Larger; central rectrices green tipped with blackish ..... *tephrocephala*, p. 191.
- h*<sup>5</sup>. Smaller; central rectrices wholly green ..... *nitidicauda*, p. 192.
- i*<sup>5</sup>. Smaller; central rectrices very dark, faintly washed with greenish towards the base .... *nigricauda*, p. 192.
- i*<sup>'''</sup>. Under tail-coverts green. .... *compsa*, p. 192.
- b*. Throat and under surface pale grey, the former faintly marked with dusky spots .. *taczanowskii*, p. 193.

### 1. *Agyrtria niveipectus*.

*Thaumatias chionopectus*, *Gould, Mon. Troch.* v. pl. 293 (Sept. 1859); *id. Intr. Troch.* p. 152; *E. C. Taylor, Ibis*, 1863, p. 92; *Elliot, Ibis*, 1878, p. 40.

*Agyrtria niveipectus*, *Cab. & Heine, Mus. Hein.* iii. p. 33; *Sci. Cat. Am. B.* p. 312; *Heine, J. f. Orn.* 1863, p. 184; *Elliot, Syn. Troch.* p. 202; *Salv. Cat. Strickl. Coll.* p. 368.

*Leucolia chionopectus*, *Muls. & Verr. Class. Troch.* p. 31; *Eudes-Desl. Ann. Mus. Caen*, i. p. 337.

*Leucolia niveipectus*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 227, iv. p. 173; *id. Ann. Soc. Linn. Lyon*, xxii. p. 204.

*Polytmus chionopectus*, *Léot. Ois. Trin.* p. 140 (1866); *Gray, Handl. B.* i. p. 128.

*Adult male*. Upper surface bronzy green, becoming darker on the upper tail-coverts; crown and sides of the neck glittering green; throat and middle of the abdomen white; flanks golden green; under tail-coverts pale grey with white edges; tail purple-bronze, the lateral rectrices with an indistinct subterminal darker band; bill black. Total length about 3.6 inches, wing 2.15; tail, central rectrices 1.1, lateral 1.3; bill 0.85.

*Adult female*. Similar to the male, but with the crown less brilliant, and the subterminal band on the lateral rectrices more distinct, and the outer three feathers on either side tipped with grey.

*Hab.* Trinidad, Venezuela, and British Guiana.

- |   |   |  |
|---|---|--|
| <i>a-c.</i> ♂ ad. ; <i>d.</i> ♀ ad. sk. | Trinidad ( <i>Tucker</i> ).                             | Gould Coll.  |
| <i>e.</i> ♂ ad. sk.                     | Trinidad.   | (Types of <i>T. chionopectus</i> , Gould.)<br>Slater Coll. |
| <i>f.</i> ♀ ad. sk.                     | Venezuela ( <i>Spence</i> ).                            | Slater Coll.   |
| <i>g.</i> ♂ ad. sk.                     | British Guiana ( <i>Schomburgk</i> ).                   | Gould Coll.  |
| <i>h.</i> ♂ ad. sk.                     | Quonga, Brit. Guiana, Oct. 23<br>( <i>H. Whitely</i> ). | Salvin-Godman Coll.  |
| <i>i.</i> Ad. sk.                       | — ?   | Salvin-Godman Coll.  |

2. *Agyrtria leucogaster*.

- Mellisuga cayemensis, *Briss. Orn.* iii. p. 704, pl. 36. f. 3.  
 Vert-doré, *Buff. Hist. Nat. Ois.* vi. p. 29.  
 Oiseaux Mouches de Cayenne, *d'Aub. Pl. Enl.* 276. f. 3.  
 Trochilus leucogaster, *Gm. Syst. Nat.* i. p. 495; *Vieill. N. Dict. d'Hist. N.* vii. p. 363; *id. Enc. Méth.* p. 564.  
 Oiseaux Mouches à gorge et ventre blanc, *Aud. Ois. Dor.* i. p. 104, pl. 43.  
 Ornismya albirostris, *Less. Hist. Nat. Ois.-Mouches*, pp. xxxiv, 212, pl. 78.  
 Trochilus albirostris, *Less. Ind. Gén. Troch.* p. xxv.  
 Thaumantias leucogaster, *Bp. Consp. Av.* i. p. 78; *id. Rev. Zool.* 1854, p. 255; *Gould, Mon. Troch.* v. pl. 294 (Sept. 1859); *id. Intr. Troch.* p. 152; *Elliot, Ibis*, 1878, p. 41; *Eudes-Desl. Ann. Mus. Caen*, i. p. 374.  
 Agyrtria leucogaster, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 7, pl. 762. ff. 4762-64; *Cab. & Heine, Mus. Hein.* iii. p. 34; *Pelz. Orn. Bras.* p. 29; *Elliot, Syn. Troch.* p. 202; *Salv. Ibis*, 1885, p. 435.  
 Leucolia leucogaster, *Muls. & Ferr. Class. Troch.* p. 31; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 231; *id. Ann. Soc. Linn. Lyon*, xxii. p. 204.  
 Polytmus leucogaster, *Gray, Hand-l. B.* i. p. 128.  
 ? Trochilus mellisugus, *Linn. Syst. Nat.* i. p. 192; *Gm. Syst. Nat.* i. p. 494?  
 ? Thaumantias mellisuga, *Bp. Consp.* i. p. 78.

*Adult male.* Upper surface golden grass-green; crown and sides of the neck and breast glittering grass-green; whole of the middle of the under surface and the under tail-coverts white; flanks shining green; tail steel-blue, the central rectrices bronzy green; maxilla black; mandible, except the tip, flesh-colour. Total length about 4 inches, wing 2; tail, central rectrices 1, lateral 1.2; bill 0.9.

*Adult female.* Like the male, but with the lateral rectrices obscurely tipped with bronzy grey.

*Hab.* Cayenne, and Eastern Brazil to Bahia.

The bird marked "Demerara" is immature, and lacks the glittering crown. I doubt the correctness of its locality.

a, b. ♂ ad. sk.	(Skins of Cayenne make.)	Salvin-Godman & Gould Colls.
c. ♂ ad. sk.	Cayenne.	E. Wilson, Esq. [P.].
d. ♀ ad. sk.	Demerara.	Gould Coll.
e, f. ♂ ad. sk.	Pernambuco ( <i>Forbes</i> ).	Salvin-Godman Coll.
g-k. ♂ ad.; l-n. ♀ ad. sk.	Bahia, Brazil.	Salvin-Godman & Gould Colls.

3. *Agyrtria viridiceps*.

- Thaumantias viridiceps, *Gould, P. Z. S.* 1860, p. 307; *id. Mon. Troch.* v. pl. 295 (July 1861); *id. Intr. Troch.* p. 152; *id. P. Z. S.* 1870, p. 803; *Elliot, Ibis*, 1878, p. 42.

*Agyrtria viridiceps*, *Heine, J. f. Orn.* 1863, p. 185; *Elliot, Syn. Troch.* p. 203; *Berl. & Tacz. P. Z. S.* 1883, p. 568.

*Polytmus viridiceps*, *Gray, Hand-l. B. i.* p. 128.

*Leucolia viridiceps*, *Muls. & Ferr. Class. Troch.* p. 31; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 229; *id. Ann. Soc. Linn. Lyon*, xxii. p. 204; *Eudes-Desl. Ann. Mus. Caen*, i. p. 360.

*Adult male.* Upper surface shining bronzy green, becoming more bronzy on the rump and upper tail-coverts; crown and sides of the neck glittering green: under surface, including the under tail-coverts, pure white; flanks washed with shining green; tail greyish green, the lateral rectrices with a subterminal dark band: maxilla black; mandible flesh-colour, the tip black. Total length about 4 inches, wing 2.1, tail 1.3, bill 1.1.

*Female.* Similar to the male.

*Hab.* Ecuador.

a, b. ♂ ad.; c. ♀ ad. sk.	Ecuador, near Nanegal?	Gould Coll. (Types of species.)
d. ♂ ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
e. ♂ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
f. ♂ ad.; g. ♀ ad. sk.	Citado, Ecuador ( <i>Buckley</i> ).	Gould Coll.
h. Juv. sk.	Balzar Mts., Ecuador ( <i>Illingworth</i> ).	Salvin-Godman Coll.
i-o. ♂ ad.; p. ♀ ad.; q. Juv. sk.	Ecuador.	Salvin-Godman & Gould Colls.

#### 4. *Agyrtria milleri*.

*Trochilus milleri*, *Bourc. P. Z. S.* 1847, p. 43; *id. Rev. Zool.* 1847, p. 255.

*Polytmus milleri*, *Gray, Gen. B. i.* p. 108; *id. Hand-l. B. i.* p. 128.

*Tbaumatias milleri*, *Bp. Consp. Ar. i.* p. 78; *id. Rev. Zool.* 1854, p. 255; *Gould, Mon. Troch. v.* pl. 296 (Sept. 1859); *id. Intr. Troch.* p. 152; *Elliot, Ibis*, 1878, p. 42.

*Agyrtria milleri*, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 7, pl. 759. ff. 4752-3; *Cab. & Heine, Mus. Hein.* iii. p. 33; *Scl. Cat. Am. B.* p. 313; *Heine, J. f. Orn.* 1863, p. 185; *Pelz. Orn. Bras.* p. 29; *Scl. & Salv. P. Z. S.* 1867, p. 584; *Elliot, Syn. Troch.* p. 203; *Berl. J. f. Orn.* 1887, p. 330.

*Leucolia milleri*, *Muls. & Ferr. Class. Troch.* p. 31; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 225, iv. p. 173; *id. Ann. Soc. Linn. Lyon*, xxii. p. 204; *Eudes-Desl. Ann. Mus. Caen*, i. p. 362.

*Adult male.* Very similar to that of *A. viridiceps*, but smaller, and with much shorter bill; the bright crown and sides of the neck with a slight bluish tint (a somewhat variable character). Total length about 3.3 inches, wing 1.9, tail 1.15, bill 0.75.

*Hab.* Rio Negro, Colombia.

a-h. ♂ ad.; i-k. ♀ ad. sk.	Colombia (skins of Bogota make).	Salvin-Godman, Gould, & Sclater Colls.
l. ♂ ad. sk.	Cobati, Rio Negro, Nov. ( <i>A. R. Wallace</i> ).	Salvin-Godman Coll.



5. *Agyrtria cæruleiceps*. (Plate VII. fig. 1.)

*Thaumatias cæruleiceps*, *Gould, P. Z. S.* 1860, p. 307; *id. Intr. Troch.* p. 152; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 239; *id. Ann. Soc. Linn. Lyon*, xxii. p. 204; *Elliot, Syn. Troch.* 1878, p. 52.

*Leucochloris cæruleiceps*, *Muls. & Ferr. Class. Troch.* p. 31.

*Agyrtria cæruleiceps*, *Heine, J. f. Orn.* 1863, p. 185; *Elliot, Syn. Troch.* p. 206; *Sharpe, in Gould's Mon. Troch. Suppl.* (Mar. 1885); *Berl. J. f. Orn.* 1887, p. 330.

*Leucolia cæruleiceps*, *Eudes-Dest. Ann. Mus. Caen*, i. p. 370.

*Adult male*. Upper surface shining green, passing into bronzy green on the rump and upper tail-coverts, and into glittering greenish blue on the nape and crown; under surface shining green, more glittering on the throat, the sides of which are bluer, and the feathers in the middle edged with dusky white (? immature); under tail-coverts grey, with darker centres; tail nearly uniform bronzy green, with a very faint indication of a darker subterminal bar: maxilla dark brown; mandible (except at the tip) flesh-colour. Total length about 3·5 inches, wing 2·1, tail 1·2, bill 0·85.

*Hab.* Colombia.

a. ♂ ad. sk.            Colombia (Bogota make).            Gould Coll. (Type of species.)

6. *Agyrtria nitidifrons*.

*Thaumatias nitidifrons*, *Gould, P. Z. S.* 1860, p. 308; *id. Mon. Troch.* v. pl. 297 (Sept. 1861); *id. Intr. Troch.* p. 152; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 238, iv. p. 174; *id. Ann. Soc. Linn. Lyon*, xxii. p. 204; *Elliot, Ibis*, 1878, p. 52.

*Agyrtria nitidifrons*, *Heine, J. f. Orn.* 1863, p. 185; *Elliot, Syn. Troch.* p. 205; *Salv. Cat. Strickl. Coll.* p. 368.

*Leucochloris nitidifrons*, *Muls. & Ferr. Class. Troch.* p. 32.

*Leucolia nitidifrons*, *Eudes-Dest. Ann. Mus. Caen*, i. p. 367.

*Adult male*. Similar to that of *A. cæruleiceps*, but smaller and with shorter bill. The whole head, sides of the neck, and throat are glittering green, the crown being slightly bluer; tail olive-green, the lateral feathers crossed by a subterminal band of purplish brown; under tail-coverts grey, edged with white. Total length about 3 inches, wing 1·9, tail 0·85, bill 0·68.

*Hab.* — ?

a. ♂ ad. sk.            — ?            Gould Coll. (Type of species.)

7. *Agyrtria neglecta*.

*Ornismya bicolor*, *d'Orb. & Lafr. Syn. Av.* ii. p. 30.

*Thaumatias neglectus*, *Elliot, Ibis*, 1877, p. 140, 1878, p. 53; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 174; *Scl. & Salv. P. Z. S.* 1879, p. 630.

*Agyrtria neglecta*, *Elliot, Syn. Troch.* p. 205.

*Leucolia neglecta*, *Eudes-Dest. Ann. Mus. Caen*, i. p. 368.

“*Male*. Top of head, nape, and mantle metallic green; throat and upper part of the breast brilliant metallic blue, the white bases of the feathers on the throat and breast conspicuously amid the blue; but this may be caused by the plumage of the specimen being disarranged. Back, rump, and upper tail-coverts light greenish bronze; wings purplish; flanks and lower part of breast shining green; abdomen whitish; under tail-coverts pale brown, margined with white; tail pale greenish bronze; a subterminal black bar, as in many species of *Thaumantias*, is present on all the feathers excepting the two median ones: bill very slender and pointed; maxilla black; mandible flesh-colour; feet black. Total length 3.25 inches, wing 2, tail 1.25, bill 0.75.

“*Female*. Head and upper parts, sides of throat, and flanks shining grass-green; centre of throat and underparts whitish, apparently spotted with metallic light green; tail like that of the male, tips of lateral feathers whitish; under tail-coverts whitish; wings purple; maxilla broken off, the base black; mandible flesh-colour; feet black. Length 3.75 inches, wing 2, tail 1.25, bill 0.75.” (*Elliot, l. s. c.*)

Described by Mr. Elliot from specimens in the Paris Museum, brought by d'Orbigny from Moxos and Yungas in Bolivia. The so-called female was in bad condition, but if correctly described shows a sexual difference in the colour of the throat from the male without precedent in this genus.

*Hab.* Bolivia.

### S. *Agyrtria bartletti*.

*Thaumantias bartletti*, *Gould, P. Z. S.* 1866, p. 194; *Scl. & Salv. P. Z. S.* 1873, p. 388; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 255; *id. Ann. Soc. Linn. Lyon*, xxii. p. 205; *Elliot, Ibis*, 1878, p. 53; *Eudes-Desl. Ann. Mus. Caen*, i. p. 378.

*Polytmus bartletti*, *Gray, Hand-l. B.* i. p. 128.

*Agyrtria bartletti*, *Elliot, Syn. Troch.* p. 205; *Tacz. Orn. Pér.* i. p. 403; *Sharpe in Gould's Mon. Troch.* pl. 50 (Mar. 1885).

*Adult male*. Upper surface dark shining grass-green, changing to bronzy green on the upper tail-coverts; throat and breast dark glittering blue; middle of the abdomen greyish white; flanks shining bluish green; under tail-coverts dark brown edged with greyish white; tail steel-blue, the central rectrices above washed with bronzy green; maxilla black; mandible flesh-colour, tip black. Total length about 4.1 inches, wing 2.1, tail 1.15, bill 0.9.

*Adult female*. Similar to the male, but with the lateral rectrices tipped with greyish white.

*Hab.* Upper Amazons Valley.

<i>a, b.</i> ♂ ad. sk.	Upper Ucayali, Peru, June, July ( <i>E. Bartlett</i> ).	} Gould Coll. (Types of the species.) Salvin-Godman Coll., &c.
<i>c.</i> ♀ ad. sk.	Sarayacu, Peru, Aug. ( <i>E. B.</i> ).	
<i>d-f.</i> ♂ ad. sk.	Sarayacu, Peru, June, Sept. ( <i>E. B.</i> ).	

9. *Agyrtria brevirostris*.

*Ornismya brevirostris*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxxvii, 211, pl. 77.

*Trochilus brevirostris*, *Less. Ind. Gén. Troch.* p. xxvi.

*Polytmus brevirostris*, *Gray, Gen. B. i.* p. 108; *id. Hand-l. B. i.* p. 128.

*Trochilus versicolor*, *Nordm. in Erman's Reise, Atl.* pl. i. ff. 1-3.

*Hylocharis versicolor*, *Gray, Gen. B. i.* p. 115; *Bp. Consp. Av. i.* p. 74.

*Agyrtria brevirostris*, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 7, pl. 759. f. 4749; *Cab. & Heine, Mus. Hein.* iii. p. 34; *Sci. Cat. Am. B.* p. 313; *Heine, J. f. Orn.* 1863, p. 185; *Pelz. Orn. Bras.* p. 29; *Berl. J. f. Orn.* 1873, p. 276; *Elliot, Syn. Troch.* p. 204.

*Agyrtria versicolor*, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 7, pl. 759. ff. 4750-1.

*Leucochloris brevirostris*, *Muls. & Ferr. Class. Troch.* p. 31.

*Leucolia brevirostris*, *Endes-Desl. Ann. Mus. Caen*, i. p. 365.

*Thaumatias brevirostris*, *Bp. Consp. Av. i.* p. 78; *id. Rev. Zool.* 1854, p. 255; *Gould, Mon. Troch.* v. pl. 298 (May 1855); *id. Intr. Troch.* p. 152; *Burm. Syst. Ueb.* ii. p. 343; *Elliot, Ibis*, 1878, p. 44; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 241, iv. p. 176; *id. Ann. Soc. Linn. Lyon*, xxii. p. 205.

*Adult male.* Upper surface shining bronzy green; middle of the under surface from the chin to the vent pure white; sides of the neck glittering green; flanks shining golden green; under tail-coverts greenish grey, edged with white; tail shining olive-green, the lateral rectrices with a dark subterminal band: maxilla black; mandible flesh-colour, tip black. Total length about 3.5 inches, wing 1.95, tail 1.15, bill 0.75.

*Female.* Similar to the male, the lateral rectrices with pale tips.

*Hab.* South-eastern Brazil.

<i>a-d.</i> ♂ ad.; <i>e.</i> ♀ ad. sk.	Bahia, Brazil ( <i>Wucherer</i> ).	Salvin-Godman & Gould Colls.
<i>f.</i> ♂ ad. sk.	Bahia.	E. Fielding, Esq. [P.].
<i>g, h.</i> ♂ ad. sk.	Rio Janeiro, Brazil.	Salvin-Godman & Gould Colls.
<i>i.</i> ♂ ad. sk.	Brazil ( <i>Natterer</i> ).	Salvin-Godman Coll.
<i>j, k.</i> ♂ ad. sk.	Santa Catarina, Brazil ( <i>Rogers</i> ).	Salvin-Godman & Sclater Colls.
<i>l, m.</i> ♂ ad. sk.	Parana, Brazil ( <i>Rogers</i> ).	Gould Coll.

10. *Agyrtria affinis*.

*Thaumatias affinis*, *Gould, Mon. Troch.* v. pl. 299 (May 1855); *id. Intr. Troch.* p. 153.

*Agyrtria affinis*, *Cab. & Heine, Mus. Hein.* iii. p. 33; *Sci. Cat. Am. B.* p. 313; *Heine, J. f. Orn.* 1863, p. 185; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 112.

*Polytmus affinis*, *Gray, Hand-l. B. i.* p. 128.

Similar to *A. brevirostris*, but with a glittering green discal spot on all the feathers of the throat and breast, so that there is no continuous median white line on the under surface.

This form of *A. brevirostris* seems sufficiently distinct for recognition. It probably has a distinct range, but trade skins do not afford trustworthy data on this point. All Mr. Herbert Smith's specimens from Matto Grosso are of this form.

*Hab.* South-eastern Brazil.

<i>a.</i> ♂ ad. ; <i>b.</i> ♀ ad. sk.	Minas Geraes, Brazil.	Gould Coll. (Types of the species.)
<i>d-h.</i> ♂ ad. ; <i>i.</i> ♀ ad. ; <i>j.</i> Juv. sk.	Rio Janeiro, Brazil.	Salvin-Godman, Gould, & Sclater Colls.
<i>k.</i> ♀ ad. sk.	Brazil ( <i>Natterer</i> ).	Salvin-Godman Coll.
<i>l.</i> ♂ ad. ; <i>m.</i> ♀ ad. sk.	Brazil.	Salvin-Godman Coll.
<i>n-r.</i> ♂ ad. ; <i>s-u.</i> ♀ ad. ; <i>r.</i> Juv. sk.	Chapada, Matto Grosso, Brazil, June, Sept. Oct. ( <i>H. H. Smith</i> ).	Salvin-Godman Coll.

## 11. *Agyrtria alleni*.

*Agyrtria alleni*, *Elliot, Auk*, vi. p. 263.

"Top of head and occiput dark greenish blue, not metallic; nape, back, and shoulders shining grass-green; rump and upper tail-coverts glittering bronze; tail shining bronze, with the tips of the feathers pale grey, widest on the outermost rectrices and diminishing to the central ones, which have a mere indication of grey at the tip; wings purplish brown; sides of neck shining bluish green; throat and centre of breast white, speckled with shining green; sides of breast and flanks metallic grass-green; abdomen whitish; under tail-coverts pale brown, edged with white; maxilla black; mandible flesh-colour, tip black; feet black. Total length  $3\frac{1}{2}$  inches, wing  $1\frac{7}{8}$ , tail  $1\frac{7}{16}$ , bill  $\frac{3}{4}$ .

*Hab.* "Yungas, Bolivia." (*Elliot, l. s. c.*)

Unknown to me.

## 12. *Agyrtria viridissima*.

? *Trochilus maculatus*, *Vieill. Ois. Dor.* i. p. 106, pl. 44; *id. N. Dict. d'Hist. N.* vii. p. 361; *id. Enc. Méth.* p. 563.

*Ornismya viridissima*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxxiv, 207, pl. 75.

*Trochilus viridissima*, *Less. Ind. Gén. Troch.* p. xxvi.

*Chlorestes malvina*, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* p. 4, pl. 696. ff. 4550-1.

*Chlorestes Saucerottia viridipectus*, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* p. 4, pl. 702. ff. 4573-4.

*Thaumatias linnæi*, *Bp. Rev. Zool.* 1854, p. 255; *Gould, Mon. Troch.* v. pl. 302 (Sept. 1856); *id. Intr. Troch.* p. 153; *Muls. Hist. Nat.*

*Ois.-Mouches*, i. p. 248, iv. p. 176; *id. Ann. Soc. Linn. Lyon*, xxii. p. 205.

*Thaumatias viridissimus*, *Burm. Syst. Ueb.* ii. p. 344?

*Agyrtria malvinæ*, *Cab. & Heine, Mus. Hein.* iii. p. 33; *Heine, J. f. Orn.* 1863, p. 183.

*Agyrtria terpna*, *Heine, J. f. Orn.* 1863.

*Leucochloris linnæi*, *Muls. & Ferr. Class. Troch.* p. 32.

*Polytmus linnæi*, *Gray, Hand-l. B.* i. p. 128.

*Thaumatias tobaci*, *Elliot, Ibis*, 1878, p. 49; *Elliot, Syn. Troch.* p. 206; *Eudes-Dest. Ann. Mus. Caen*, i. p. 383; *Salv. Ibis*, 1885, p. 435.

*Thaumatias terpna*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 205.

*Agyrtria maculata*, *Cab. & Heine, Mus. Hein.* iii. p. 33; *Scl. Cat.*

*Am. B.* p. 313; *Heine, J. f. Orn.* 1863, p. 184; *Pelz. Orn. Bras.* p. 29; *Scl. & Salv. P. Z. S.* 1867, p. 554.

*Agyrtria viridissima terpna*, *Berl. J. f. Orn.* 1887, p. 330.

*Adult male.* Upper surface dark shining bronzy green, darker on the head; throat and breast glittering grass-green; middle of the abdomen white; flanks shining green; under tail-coverts grey, broadly edged with white; tail dark steel-blue, median pair of rectrices bronzy green, lateral greenish at the base and on the edges of the outer webs and tips; maxilla blackish; mandible flesh-colour, tip black. Total length about 4 inches, wing 2.2, tail 1.2, bill 0.9.

*Adult female.* Similar to the male, but with the tips of the lateral rectrices grey.

Mr. Elliot identifies this bird with Latham's "Tobago Humming Bird" (*Trochilus tobaci*, Gm.), but I much doubt if he is correct in so doing; and I agree with Count Berlepsch that this name is better applicable to an *Amazilia* of the *erythronota* group, perhaps to *A. erythronota* itself. *Trochilus maculatus*, Vieill., probably applies to this species, and was so assigned by Cabanis and Heine, but there are discrepancies in the description which render this determination doubtful. On the whole Lesson's title *O. viridissima* is the least unsatisfactory one to use, and this is Count Berlepsch's opinion.

I feel very doubtful as to the status of *A. apicalis* and *A. maculicauda* with respect to *A. viridissima*, but the materials before me are insufficient and the data respecting them too imperfect to enable me to decide how many forms can really be recognized. It would not surprise me if eventually only one is admitted, with a range extending from Guiana to Colombia.

*A. fluviatilis* can apparently be always distinguished by the bluer shade of the throat; and, in the male, by its uniform tail.

*Hab.* Guiana, Venezuela, Trinidad, and Lower Amazons Valley.

<i>a, b.</i> ♂ ad. sk.	Trinidad.	Gould Coll.
<i>c, d.</i> ♂ ad.; <i>e-g.</i> ♀ ad. sk.	Merumé Mts., Brit. Guiana, July ( <i>H. Whitely</i> ).	Salvin-Godman & Selater Colls.
<i>h.</i> ♂ ad.; <i>i.</i> ♀ ad. sk.	Roraima, Brit. Guiana, Nov. ( <i>H. W.</i> ).	Salvin-Godman Coll.
<i>j-m.</i> ♂ ad.; <i>n.</i> ♀ ad. sk.	Cayenne.	Salvin-Godman, Gould, & Selater Colls.

- o.* ♂ ad. sk. Mexiana I., Amazons, Nov. Salvin-Godman Coll.  
(A. R. Wallace).  
*p.* ♂ ad. sk. Para. Wallace [C.].

### 13. *Agyrtria maculicauda*.

*Thaumatias maculicauda*, *Gould, Intr. Troch.* p. 154; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 250, iv. p. 176; *id. Ann. Soc. Linn. Lyon*, xxii. p. 205; *Elliot, Ibis*, 1878, p. 51; *Eudes-Dest. Ann. Mus. Caen*, i. p. 387.

*Agyrtria maculicauda*, *Heine, J. f. Orn.* 1863, p. 184; *Elliot, Syn. Troch.* p. 207; *Sharpe in Gould's Mon. Troch.* (Mar. 1885).

*Leucochloris maculicauda*, *Muls. & Verr. Class. Troch.* p. 31.

*Female?* Upper surface shining golden green, a little duller on the crown; throat and breast glittering green; middle of the abdomen and under tail-coverts dusky white; tail shining green, the central pair of rectrices tipped with black, the lateral with a wide subterminal band of steel-blue, the tips pale green at the base, the ends whitish: the outermost pair of rectrices beneath are steel-blue, green at the base of the outer web and tipped as above: maxilla black; mandible flesh-colour, the tip black. Total length about 4·3 inches, wing 2, tail 1·1, bill 0·9.

*Hab.* British Guiana.

- a.* ♀? ad. sk. British Guiana (*Schomburgk*). Gould Coll.  
(Type of species.)

### 14. *Agyrtria luciaë*.

*Thaumatias luciaë*, *Lawr. Pr. Ac. Phil.* 1867, p. 233; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 205; *Elliot, Ibis*, 1878, p. 52; *Eudes-Dest. Ann. Mus. Caen*, i. p. 385.

*Agyrtria luciaë*, *Elliot, Syn. Troch.* p. 208.

“Upper plumage of a dull bronzy dark green, the crown duller; the upper tail-coverts of a lighter bronzy green, somewhat golden; the tail-feathers are dull bronzy green, all except the two central ones are broadly marked near their ends with dark purplish bronze, the tips being ashy grey; the throat and breast are glittering bluish green; middle of the abdomen white; the under tail-coverts are light olive, margined with white; wings brownish purple; upper mandible black, the under yellow, with the end blackish; feet black. Length (skin)  $3\frac{3}{4}$  inches, wing  $2\frac{1}{8}$ , tail  $1\frac{3}{8}$ , bill  $\frac{13}{16}$ .”

*Hab.* “Honduras.” (*Lawrence, l. s. c.*)

I do not know this bird. Mr. Lawrence compares it with *A. viridissima*, but remarks that the lateral rectrices differ, resembling those of *A. niveipectus*.

### 15. *Agyrtria fluviatilis*.

*Thaumatias fluviatilis*, *Gould, Intr. Troch.* p. 154; *Sci. & Salu. P. Z. S.* 1866, p. 194, 1867, pp. 753, 979, 1873, p. 288; *Muls.*

*Hist. Nat. Ois.-Mouches*, i. p. 253, iv. p. 176; *id. Ann. Soc. Linn. Lyon*, xxii. p. 205; *Elliot, Ibis*, 1878, p. 51; *Eudes-Desl. Ann. Mus. Caen*, i. p. 380; *Tacz. P. Z. S.* 1882, p. 39; *id. Orn. Pér.* i. p. 404.

*Agyrtria fluviatilis*, *Heine, J. f. Orn.* 1863, p. 184; *Elliot, Syn. Troch.* p. 207; *Sharpe in Gould's Mon. Troch. Suppl.* pl. 51 (Mar. 1885).

*Leucochloris fluviatilis*, *Muls. & Ferr. Class. Troch.* p. 32.

*Polytmus fluviatilis*, *Gray, Hand-l. B.* i. p. 128.

*Adult male.* Similar to that of *A. viridissima*, but with the throat rather bluer, the under tail-coverts with larger and darker discal spots, and the outer rectrices uniform steel-blue without green tips.

*Female.* Resembles the male, but has very faint indications of pale tips to the lateral rectrices.

*Hab.* Upper Amazons Valley.

<i>a.</i> ♂ ad. ; <i>b.</i> Juv. sk.	Napo, Ecuador.	Gould Coll. (Types of the species.)
<i>c.</i> ♂ ad. ; <i>d-f.</i> Juv. sk.	Ecuador.	Gould Coll.
<i>g.</i> ♂ ad. ; <i>h.</i> ♂ juv. sk.	Lower Ucayali, Peru, May.	E. Bartlett [C.].
<i>i.</i> Juv. sk.	Amazons ( <i>E. B.</i> ).	Gould Coll.
<i>j-n.</i> ♂ ad. ; <i>o, p.</i> ♀ ad. sk.	Pebas, Amazons, May, June ( <i>J. Hauvixell</i> ).	Salvin-Godman, Gould, & Sclater Colls.
<i>q.</i> ♂ ad. sk.	Iquitos, Amazons, May ( <i>H. Whitely</i> ).	Salvin-Godman Coll.

### 16. *Agyrtria apicalis*.

*Thaumatias apicalis*, *Gould, Intr. Troch.* p. 154; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 252; *id. Ann. Soc. Linn. Lyon*, xxii. p. 205; *Elliot, Ibis*, 1878, p. 51; *Eudes-Desl. Ann. Mus. Caen*, i. p. 386; *Berl. J. f. Orn.* 1887, p. 331.

*Agyrtria apicalis*, *Heine, J. f. Orn.* 1863, p. 184; *Elliot, Syn. Troch.* p. 207; *Sharpe in Gould's Mon. Troch. Suppl.* (Mar. 1885).

*Agyrtria terpna*, *Heine, J. f. Orn.* 1863, p. 184; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 253.

*Leucochloris apicalis*, *Muls. & Ferr. Class. Troch.* p. 32.

"About the same size as *A. fluviatilis*, and with equally lengthened bill; the upper surface golden green; the centre of the abdomen and under tail-coverts pure white; the four outer tail-feathers steel-black, with pure white at the tip. Total length about 3.5 inches, wing 2.12, tail 1.25, bill 1." (*Gould, l. s. c.*)

The under tail-coverts in the type specimens can hardly be called pure white, as there is a dark shade over their discal area, more plainly shown in other examples. I am inclined to think that Gould's type is a female, and that the male has a greenish tip to the outer rectrices. If this is so, the relationship to *A. viridissima* becomes very close, and the only point of distinction lies

in the more uniformly steel-blue tail towards the base in *A. apicalis*.

*A. terpna* was probably founded on a male of *A. apicalis*.

*Hab.* Colombia.

a. Ad. sk.	Colombia (Bogota make).	Goold Coll. (Type of species.)
b-f. Ad. sk.	Colombia (Bogota make).	Salvin-Godman & Goold Colls.

### 17. *Agyrtria candida*.

*Trochilus candidus*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, ix. p. 326 (1846); *id. Rev. Zool.* 1846, p. 319.

*Polytmus candidus*, *Gray, Gen. B.* i. p. 108; *id. Hand-l. B.* i. p. 128.

*Thaumatias candidus*, *Bp. Consp. Av.* i. p. 78; *id. Rev. Zool.* 1854, p. 255; *Sel. P. Z. S.* 1858, p. 358, 1859, p. 386; *Sel. & Salv. Ibis*, 1859, p. 130; *Salv. Ibis*, 1859, p. 467, 1860, pp. 197, 270, 1873, p. 320; *Goold, Mon. Troch.* v. pl. 292 (May 1860); *id. Intr. Troch.* p. 151; *de Oca, La Nat.* iii. p. 206; *Lavr. Bull. U.S. Nat. Mus.* no. 4, p. 33; *Elliot, Ibis*, 1878, p. 43.

*Agyrtria margaritacea*, *Reich. Troch. Enum.* p. 7, pl. 758. f. 4748.

*Agyrtria candida*, *Cab. & Heine, Mus. Hein.* iii. p. 33; *Heine, J. f. Orn.* 1863, p. 183; *Elliot, Syn. Troch.* p. 203.

*Leucolia candida*, *Muls. & Ferr. Class. Troch.* p. 31; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 233, pl. 21, iv. p. 174; *id. Ann. Soc. Linn. Lyon*, xxii. p. 204; *Eudes-Desl. Ann. Mus. Caen*, i. p. 364.

*Adult male.* Upper surface shining bronzy green, more bronzy on the crown and upper tail-coverts; under surface, including under tail-coverts, white; sides of the neck and flanks shining golden green; tail shining olive-green, the lateral rectrices with a bronzy purple subterminal band; maxilla black; mandible flesh-colour, the tip black. Total length about 3.6 inches, wing 2, tail 1.2, bill 0.75.

*Adult female.* Similar to the male, but with the tips of the outer rectrices paler.

*Hab.* Southern Mexico and Central America, from Guatemala to Nicaragua.

a. Ad. sk.	Misantla, Vera Cruz, Mexico.	Salvin-Godman Coll. Feb. ( <i>F. D. G.</i> ).
b. ♂ ad. sk.	Xochiapa, Vera Cruz, Jan. ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
c-e. ♂ ad.; f. ♀ ad. sk.	Chimalapa, Tehuantepec, March ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
g. ♀ ad. sk.	Temax, Yucatan, Oct. ( <i>G. F. Gummer</i> ).	Salvin-Godman Coll.
h. ♂ ad. sk.	Belize, British Honduras ( <i>Blancaneux</i> ).	Salvin-Godman Coll.
i. Ad. sk.	Corosal, Brit. Hond. ( <i>Roe</i> ).	Salvin-Godman Coll.
j. ♀ ad. sk.	Southern pine-ridge, Brit. Hond., Jan. ( <i>Blancaneux</i> ).	Salvin-Godman Coll.
k-m. ♂ ad. sk.	Cayo, Western District, Brit. Hond., March ( <i>Blancaneux</i> ).	Salvin-Godman Coll.



<i>n-g.</i> ♂ ad.; <i>r.</i> ♀ ad. sk.	Coban, Guatemala, Nov. ( <i>O. Salvin</i> ).	Salvin-Godman, Selater, & Gould Colls.
<i>s.</i> ♂ ad. sk.	Choctum, Guatemala, Feb. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
<i>t, u.</i> ♂ ad. sk.	Guatemala ( <i>Skinner</i> ).	Gould Coll.
<i>v.</i> ♂ ad. sk.	Guatemala.	Tweeddale Coll.
<i>w-z.</i> ♂ ad. sk.	Guatemala? ( <i>Delattre</i> ).	Gould Coll.
<i>a'.</i> ♂ ad. sk.	Chontales, Nicaragua, Feb. ( <i>Belt</i> ).	Salvin-Godman Coll.

18. *Agyrtria tephrocephala*.

- Trochilus tephrocephalus*, *Vieill. N. Dict. d'Hist. N.* xxiii. p. 403;  
*id. Enc. Méth.* p. 560; *Less. Ind. Gén. Troch.* p. xxvi.
- Ornismya tephrocephalus*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxxii,  
182, pl. 62.
- Ornismya albiventris*, *Less. Hist. Nat. Ois.-Mouches*, ii. pp. xxxiv,  
209, pl. 76; *d'Orb. & Lafr. Syn. Av.* ii. p. 30.
- Trochilus albiventris*, *Less. Ind. Gén. Troch.* p. xxvi.
- Trochilus vulgaris*, *Wied. Beitr.* iv. p. 72.
- Thaumatias albiventris*, *Bp. Consp. Av.* i. p. 78; *id. Rev. Zool.* 1854,  
p. 255; *Gould, Mon. Troch.* v. pl. 301 (Sept. 1856); *id. Intr.*  
*Troch.* p. 153; *Elliot, Ibis*, 1877, p. 138; *Muls. Hist. Nat. Ois.-*  
*Mouches*, i. p. 244, iv. p. 176; *id. Ann. Soc. Linn. Lyon*, xxii. p. 205.
- Coeligena γ. Coeligena tephrocephala*, *Reich. Aufz. d. Col.* p. 7.
- Agyrtria thaumatias*, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.*  
p. 7, pl. 756. ff. 4738-9.
- Agyrtria albiventris*, *Reich. Troch. Enum.* p. 7, pl. 757. ff. 4744-5;  
*Cab. & Heine, Mus. Hein.* iii. p. 32; *Scl. Cat. Am. B.* p. 313;  
*Heine, J. f. Orn.* 1863, p. 183; *Burm. J. f. Orn.* 1865, p. 229;  
*Pelz. Orn. Bras.* p. 28.
- Coeligena tephrocephala*, *Reich. Troch. Enum.* p. 3, pl. 687. f. 4518.
- Leucochloris albiventris*, *Muls. & Verr. Class. Troch.* p. 32.
- Thaumatias tephrocephalus*, *Elliot, Ibis*, 1878, p. 48; *Eudes-Dest.*  
*Ann. Mus. Caen*, i. p. 381.
- Thaumasius albiventris*, *Scl. & Salv. P. Z. S.* 1879, p. 630.
- Agyrtria tephrocephala*, *Elliot, Syn. Troch.* p. 206; *Salv. Cat. Strickl.*  
*Coll.* p. 368; *Allen, Bull. Am. Mus. Nat. Hist.* ii. p. 260.

*Adult male.* Upper surface shining dark grass-green, duller on the crown and upper tail-coverts; under surface glittering grass-green, duller on the flanks; middle of the abdomen and under tail-coverts pure white; tail steel-blue, middle rectrices greener with dark tips, lateral faintly tipped with grey; maxilla brownish black; mandible flesh-colour, tip black. Total length about 4.3 inches, wing 2.4, tail 1.5, bill 1.

*Female.* Similar to the male, but with the tips of the lateral rectrices paler.

*Hab.* Brazil.

<i>a-c.</i> ♂ ad.; <i>d, e.</i> ♀ ad. sk.	Rio Brazil.	Gould Coll.
<i>f.</i> Ad. sk.	Brazil.	Salvin-Godman Coll.
<i>g.</i> Ad. sk.	"Demerara."	Gould Coll.

19. *Agyrtria nitidicauda*.

*Thaumatias nitidicauda*, *Elliot, Ibis*, 1878, p. 48; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 176; *Eudes-Dest. Ann. Mus. Caen*, i. p. 389. *Agyrtria nitidicauda*, *Elliot, Syn. Troch.* p. 208; *Sharpe in Gould's Mon. Troch. Suppl.* (Mar. 1885).

Upper part bright bronze-green, with a slight coppery tinge on the head; chin white; throat, breast, and sides of the neck bright metallic grass-green; flanks and abdomen dull green; middle of abdomen, vent, and under tail-coverts pure white; median rectrices bronze-green; lateral purplish black, the edges of the outer webs and tips bronze-green; wings purplish brown; bill flesh-colour (perhaps red in life) with a dark tip. Total length 3·5 inches, wing 3·12, tail 1·5, bill (culmen) 0·75." (*Elliot, l. s. c.*)

I do not recognize any specimens answering to this description in the Museum Collection. The pure white under tail-coverts indicate its relationship to *A. tephrocephala*.

*Hab.* Guiana.

20. *Agyrtria nigricauda*.

*Thaumatias nigricauda*, *Elliot, Ibis*, 1878, p. 47; *Eudes-Dest. Ann. Mus. Caen*, i. p. 388. *Agyrtria nigricauda*, *Elliot, Syn. Troch.* p. 208; *Sharpe in Gould's Mon. Troch. Suppl.* (Mar. 1885.)

*Adult male.* Very similar to that of *A. tephrocephala*, but decidedly smaller, and with the median rectrices darker above. As in *A. tephrocephala*, the middle of the abdomen and under tail-coverts are pure white. Total length about 3·4 inches, wing 2, tail 1·15, bill 0·72.

Mr. Elliot also gives as the habitat of this bird, Trinidad and Guiana. I have not seen skins from either place.

*Hab.* Brazil.

a-j. Ad. sk. Bahia, Brazil. Salvin-Godman & Gould Colls.

21. *Agyrtria compsa*.

*Agyrtria mellisuga*, *Cab. & Heine, Mus. Hein.* iii. p. 34; *Pelz. Orn. Bras.* pp. 29, 37. *Agyrtria compsa*, *Heine, J. f. Orn.* 1863, p. 185; *Elliot, Syn. Troch.* p. 204. *Thaumatias compsa*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 256; *id. Ann. Soc. Linn. Lyon*, xxii. p. 205; *Elliot, Ibis*, 1878, p. 45; *Eudes-Dest. Ann. Mus. Caen*, i. p. 376.

"*Similis A. brevirostri sed paulo minor, rostro longiore. Supra splendide aureo-viridis; subtus alba maculis nitidis aureo-viridibus varia, pectoris epigastriique lateribus unicoloribus, smaragdino-*

viridibus, abdomine medio unicolore albo, tectricibus caudæ inferioribus nitide smaragdineis; remigibus fuscis; rectricibus nigro-chalybeo-cyaneis; maxilla fusco-, mandibula brunnescenti-cornea; pedibus fuscis. Long. tota 3" 3"', al. 1" 10"', caud. 1" 11"', rostr. culm. 7½" (Heine, l. s. c.)

I do not know this species, which seems to be distinguished by its small size and green under tail-coverts.

Hab. Guiana.

## 22. *Agyrtria taczanowskii*.

*Thaumasius taczanowskii*, *Sel. P. Z. S.* 1879, p. 146; *Tacz. P. Z. S.* 1879, p. 239, 1880, p. 208; *id. Orn. Pér.* i. p. 405; *Sharpe in Gould's Mon. Troch. Suppl.* pl. 52 (Mar. 1885).

*Leucolia taczanowskii*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 359.

*Adult male*. Upper surface bronzy green; crown dark coppery brown; under surface pale grey, the feathers of the throat each with a pale green discal spot; flanks faintly tinged with green; tail pale olive-green, tinged with bronze towards the end, but without definite subterminal band; bill black. Total length about 4.6 inches, wing 2.65, tail 1.5, bill 1.

*Adult female*. Similar to the male.

Hab. Peru.

- |              |              |                                       |                     |
|--------------|--------------|---------------------------------------|---------------------|
| a. ♂ ad.;    | b. ♀ ad. sk. | Callacate, Peru ( <i>Stolzmann</i> ). | Selater Coll.       |
|              |              |                                       | (Types of species.) |
| c. ♂ ad. sk. |              | Callacate ( <i>Stolzmann</i> ).       | Salvin-Godman Coll. |

## 52. ARINIA.

Type.

*Arinia*, *Muls. "Ann. Soc. Linn. Lyon, 1877, Oct. 12"* \* A. boucardi.

Range. Costa Rica.

### 1. *Arinia boucardi*.

*Arinia boucardi*, *Muls. l. s. c.*; *Elliot, Syn. Troch.* p. 209; *Sharpe in Gould's Mon. Troch. Suppl.* (April 1885).

*Arena boucardi*, *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 194, pl. 121; *Eudes-Desl. Ann. Mus. Caen*, i. p. 484.

*Sapphironia boucardi*, *Bouc. P. Z. S.* 1878, p. 71.

"*Male*. Upper surface and flanks bronzy green, darkest on the head. Throat and breast shining bluish green. Abdomen and under tail-coverts pure white. Median pair of rectrices dark bronze-green, next bronze-green with black tip, remaining lateral feathers bronze-green at the base, rest black, the bronze-green decreasing in extent as it goes towards the external feather. All the lateral feathers edged with white at their tips. Maxilla black, mandible flesh-colour, tip black. Feet black. Total length 3½ inches, wing 2, tail 1½, culmen 1½.

\* Thus quoted in 'The Ibis' and 'Zool. Rec.' (1878) from a separate copy of the paper, but not published in the work alluded to.

"*Female*. Differs in having the middle of the throat and underparts pure white. Median rectrices bronzy green, lateral feathers green at the base, then black and tipped with grey. Rest like the male." (*Elliot, l. c.*)

*Hab.* Costa Rica.

Only known from specimens obtained near Punta Arenas in Costa Rica by Mons. Boucard.

### 53. CYANOMYIA.

Cyanomyia, *Bp. Rev. Zool.* 1854, p. 254.

Agyrtia  $\beta$ . Uranomitra, *Reich. Aufz. d. Col.* p. 10 (1854).

Uranomitra, *Cab. & Heine, Mus. Hein.* iii. p. 41.

*Range.* Southern Mexico, Guatemala, Honduras, and the Andes of Colombia and Peru.

Bonaparte's name *Cyanomyia* was for many years used for this genus, though of a few months' later date than Reichenbach's subgeneric or sectional name *Uranomitra*. Both are equally uncharacterized, and if either have claims to be adopted, the genus rather than the subgenus should have the preference. Cabanis and Heine raised Reichenbach's title to generic rank, and it has been adopted, wrongly I think, by Elliot and subsequent writers.

#### *Key to the Species.*

- a. Maxilla, except the apex, flesh-coloured; flanks nearly pure white.
- a'*. Tail shining olive-green; crown glittering blue or purple-blue. . . . . *verticalis*, p. 194.
- b'*. Tail shining bronzy reddish; crown glittering purple-blue. . . . . *violiceps*, p. 196.
- c'*. Tail shining golden green; crown dull dark bluish green. . . . . *viridifrons*, p. 196.
- b. Maxilla black; flanks shining green.
- d'*. Under tail-coverts bronzy red (*Elliot*) . . . . . *microrhyncha*, p. 197.
- e'*. Under tail-coverts grey, with white edges.
- a''*. Tail pale olive-green . . . . . *cianocephala*, p. 197.
- b''*. Tail darker bronzy green . . . . . *guatemalensis*, p. 198.
- f'*. Under tail-coverts white.
- e''*. Nape and sides of the neck glittering green. *francie*, p. 199.
- d''*. Nape and sides of the neck shining greenish blue . . . . . *cyaneicollis*, p. 199.

#### 1. *Cyanomyia verticalis*.

Trochilus quadricolor, *Vieill. Enc. Méth.* p. 573 (*nec 555!*) ??

Polytmus quadricolor, *Gray, Hand-l. B.* i. p. 133.

Trochilus verticalis, *Licht. Preis-Verz. Mex. Vög.* p. 1 (cf. *J. f. Orn.* 1863, p. 55).

Ornismya cyanocephala, *Less. Suppl. Ois.-Mouches*, p. 132, pl. 17.

Agyrtia  $\beta$ . Uranomitra quadricolor, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 7, pl. 761. ff. 4758-9.

*Agrytria*  $\beta$ . *Uranomyia cyancephala*, Reich. *Troch. Enum.* p. 7, pl. 760. ff. 4754-5.

*Cyanomyia verticalis*, Bp. *Rev. Zool.* 1854, p. 254.

*Cyanomyia quadricolor*, Bp. *Rev. Zool.* 1854, p. 254; Gould, *Mon. Troch.* v. pl. 284 (May 1855); *id. Intr. Troch.* p. 147; *Scl. P. Z. S.* 1859, p. 386; *A. Dugès, La Nat.* i. p. 141; *Villada, La Nat.* ii. p. 362; *de Oca, La Nat.* iii. p. 209; *Scl. Cat. Am. B.* p. 311; *Laur. Mem. Bost. Soc. N. H.* ii. p. 292; *Elliot, Ibis*, 1876, p. 312; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 169; *id. Ann. Soc. Linn. Lyon*, xxii. p. 204; *Eudes-Dest. Ann. Mus. Caen*, i. p. 340.

*Uranomyia quadricolor*, Cab. & Heine, *Mus. Hein.* iii. p. 41; *Elliot, Syn. Troch.* p. 196; *Berl. Pr. U.S. Nat. Mus.* xi. p. 561.

*Leucocolia quadricolor*, *Muls. & Verr. Class. Troch.* p. 31; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 215.

*Uranomyia ellioti*, *Berl. Pr. U.S. Nat. Mus.* xi. p. 562.

*Adult male.* Upper surface brownish olive with a greenish tinge, greener on the back of the neck, crown and sides of the neck glittering blue, the latter paler; under surface, including the under tail-coverts, pure white; the flanks under the wings tinged with greyish brown; tail shining olive-green, the lateral feathers very narrowly tipped with white; bill flesh-colour, the tip black. Total length about 4 inches, wing 2.2, tail 1.25, bill 1.05.

*Adult female.* Similar to the male, but with the crown less brilliant.

This species has long been known as *Cyanomyia* or *Uranomyia quadricolor* (Vieill.), a name which cannot be retained for it. In the first place Vieillot called two distinct species *Trochilus quadricolor*. The older of these (*N. Diet. d'Hist. N.* vii. p. 353, 1817) applies to a *Lampornis*; the other (*Enc. Méth.* p. 573, 1823) to a bird said to have come from Trinidad, the description suiting *Cyanomyia francie* much better than the present species. Anyhow, the previous use of the name *T. quadricolor* precludes its being employed for any species of *Cyanomyia*.

I therefore retain for this species Lichtenstein's title *T. verticalis*, which is, according to Cabanis and Heine, applicable to *C. quadricolor* of recent authors. I may, however, remark that I suspect that Deppe's specimens may prove to belong to the same form as Gould's *C. violiceps*, and in that case *C. verticalis* should supersede *C. violiceps*, and the present bird must be called *C. ellioti*.

*Hab.* Sierras of Durango and Jalisco to the Pacific coast of Mexico.

<i>a-f.</i> Ad. sk.	Mexico ( <i>Flores</i> ).	Salvin-Godman & Gould Colls.
<i>g.</i> ♂ ad. sk.	Mazatlan, Mexico, Dec. ( <i>A. Forrer</i> ).	Salvin-Godman Coll.
<i>h.</i> ♂ ad. sk.	San Blas, Mexico, March ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>i.</i> ♂ ad. sk.	Zapotlan, Jalisco, Mexico, Dec. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.

j. Juv. sk.	Lake Chapala, Mexico, Aug.	Salvin-Godman Coll. ( <i>W. B. R.</i> ).
<i>k-w.</i> ♂ ad.; <i>x-d'</i> ♂ ad. sk.	Bolaños, Mexico, Feb., Mar., April ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>e'</i> . ♂ ad. sk.	Sierra de Bolaños, Mexico, March ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>f'</i> . ♀ ad. sk.	Calvillo, Aguas Calientes, Mexico, Aug. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.

## 2 *Cyanomyia violiceps*.

*Cyanomyia violiceps*, *Gould, Mon. Troch.* v. pl. 285 (Sept. 1860); *id. Intr. Troch.* p. 147; *Scl. P. Z. S.* 1859, p. 386; *de Oca, La Nat.* iii. p. 208; *Laur. Bull. U.S. Nat. Mus.* no. 4, p. 32; *Elliot, Ibis*, 1876, p. 313; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 170; *id. Ann. Soc. Linn. Lyon*, xxii. p. 204; *Eudes-Desl. Ann. Mus. Caen*, i. p. 341.

*Uranomitra violiceps*, *Cab. & Heine, Mus. Hein.* iii. p. 41; *Elliot, Syn. Troch.* p. 196.

*Leucolia violiceps*, *Muls. & Verr. Class. Troch.* p. 31; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 213.

*Polytmus violiceps*, *Gray, Hand-l. B.* i. p. 133.

*Adult male.* Similar to that of *C. verticalis*, but the crown usually of a deeper purple tint and the tail a shining bronzy-reddish hue.

*Young birds* have a dark crown without blue lustrous feathers, and a slight tinge of buff on the sides of the neck and the flanks.

This bird is very closely allied to *C. verticalis*, but may be distinguished by the reddish-bronze colour of the tail; the sides, too, of the neck appear to be rather greener than in that bird.

*Hab.* Western Mexico, from the Sierra Madre del Sur to the State of Oaxaca.

<i>a, b.</i> ♂ ad.; <i>c.</i> Ad. sk.	Chilpancingo, Guerrero, Mex- ico, Aug. ( <i>Mrs. H. H.</i> <i>Smith</i> ).	Salvin-Godman Coll.
<i>d.</i> Ad. sk.	Venta de Zopilote, Guerrero, Mexico, Oct. ( <i>Mrs. H. H.</i> <i>Smith</i> ).	Salvin-Godman Coll.
<i>e.</i> Ad. sk.	Sierra Madre del Sur, Mexico ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
<i>f.</i> ♂ ad.; <i>g.</i> Juv. sk.	Oaxaca, Mexico ( <i>Sallé</i> ).	Gould Coll. (Types of the species.)
<i>h.</i> Ad. sk.	Atlixco, Mexico ( <i>Sallé</i> ).	Salvin-Godman Coll.
<i>i-k.</i> ♂ ad. sk.	Oaxaca, Mexico ( <i>Boucard</i> ).	Gould Coll.
<i>l.</i> Ad. sk.	Mexico ( <i>Boucard</i> ).	Slater Coll.
<i>m.</i> Ad. sk.	Mexico.	Salvin-Godman Coll.

## 3. *Cyanomyia viridifrons*.

*Cyanomyia viridifrons*, *Elliot, Ibis*, 1876, p. 314; *de Oca, La Nat.* iii. p. 304.

*Uranomitra viridifrons*, *Elliot, Syn. Troch.* p. 197; *Sharpe in Gould's Mon. Troch. Suppl.* pl. 49 (April 1885); *Berl. Pr. U.S. Nat. Mus.* xi. p. 562.

*Adult male.* Similar to that of *C. verticalis* in general coloration but the tail is coloured like that of *C. violiceps*. The crown is not glittering purple-blue as in these allied forms, but dark greenish on the vertex, shading into very dark greenish indigo on the forehead. The flanks under the wings are shining green.

Apparently a distinct form, having a similar range to *C. violiceps*.

*Hab.* Western Mexico, from the Sierra Madre del Sur to the State of Oaxaca.

a. Ad. sk.	Putla, W. Mexico ( <i>Rébouch</i> ).	Gould Coll. (A typical specimen.)
b. Juv. sk.	Oaxaca, Mexico ( <i>Fenochio</i> ).	Salvin-Godman Coll.
c. ♂ ad. sk.	Rincon, Guerrero, Mexico, Oct. ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
d, e. ♂ ad. sk.	Acaguizotla, Guerrero, Oct. ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
f, g. ♂ ad. sk.	Tierra Colorada, Guerrero, Oct. ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
h. ♂ ad. sk.	Tehuantepec, Mexico, Feb. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
i. ♂ ad. sk.	Tonala, Chiapas, Mexico, June ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.

#### 4. *Cyanomyia microrhyncha*.

*Cyanomyia microrhyncha*, *Elliot, Ibis*, 1876, p. 316; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 172, pl. 119; *Eudes-Desl. Ann. Mus. Caen*, i. p. 345.

*Uranomitra microrhyncha*, *Elliot, Syn. Troch.* p. 197; *Sharpe in Gould's Mon. Troch. Suppl.* (April 1885).

"*Adult.* Top of head and occiput dark metallic blue. Hind neck and mantle shining metallic green; rest of upper parts bronzy red. Throat, upper part of breast, and centre of abdomen white, with a few metallic green feathers scattered among the white ones. Flanks and under tail-coverts metallic bronzy red. Wings deep brown, slightly shaded with purple. Tail brilliant metallic bronze. Total length  $3\frac{1}{2}$  inches, wing  $2\frac{1}{4}$ , tail  $1\frac{1}{8}$ , culmen  $\frac{1}{2}$ ." (*Elliot, l. s. c.*)

*Hab.* "Honduras?"

Mr. Elliot's type is all that is known of this bird.

#### 5. *Cyanomyia cyanocephala*.

*Ornismya cyanocephalus*, *Less. Hist. Nat. Ois.-Mouches*, p. xlv, *Suppl.* p. 134, pl. 18.

*Trochilus cyanocephalus*, *Less. Ind. Gén. Troch.* p. xxii (partim).

*Agyrtia* β. *Uranomitra faustina*, *Reich. Troch. Enum.* p. 7, pl. 760, ff. 4756-7.

*Cyanomyia cyanocephala*, *Bp. Rev. Zool.* 1854, p. 254; *Gould, Mon. Troch.* v. pl. 286 (May 1856); *id. Intr. Troch.* p. 147; *Scl. P. Z. S.* 1859, p. 367; *de Oca, La Nat.* iii. p. 159; *Lawr. Bull. U.S. Nat.*

*Mus. no.* , p. 32; *Elliot, Ibis*, 1876, p. 314; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 170; *id. Ann. Soc. Linn. Lyon*, xxii. p. 204; *Eudes-Desl. Ann. Mus. Caen*, i. p. 342; *Salv. Cat. Strickl. Coll.* p. 368.

*Agyrtria*  $\beta$ . *Uranomitra cyanocephala*, *Reich. Aufz. d. Col.* p. 10.

*Uranomitra lessoni*, *Cab. & Heine, Mus. Heine*. iii. p. 41.

*Leucolia cyanocephala*, *Muls. & Verr. Class. Troch.* p. 31; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 219.

*Polytmus cyanocephalus*, *Gray, Hand-l. B.* i. p. 133.

*Uranomitra cyanocephala*, *Elliot, Syn. Troch.* p. 197; *Ferrari-Perez. Pr. U.S. Nat. Mus.* ix. p. 158.

*Adult male.* Upper surface shining bronzy green, crown glittering blue, sides of the neck glittering green; under surface white; flanks shining bronzy green, leaving a narrow white median ventral line; under tail-coverts olive, edged with white; maxilla black; mandible, except the tip, flesh-colour. Total length about 4 inches, wing 2.3, tail 1.35, bill 0.9.

*Adult female.* Like the male, but the crown rather greener duller blue.

*Hab.* Eastern Mexico, chiefly the States of Vera Cruz and the eastern side of the mountains of Oaxaca.

a. ♀ ad. sk.	Mexico ( <i>Flores</i> ).	Gould Coll.
b. ♂ ad. sk.	Jalapa, Mexico ( <i>de Oca</i> ).	Gould Coll.
c. ♂ ad.; d-f. ♀ ad.; g-i. Ad. sk.	Jalapa, Jan. to March ( <i>F. D. Godman</i> ).	Salvin-Godman Coll.
j. ♂ ad. sk.	Jalapa, May ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
k, l. ♂ ad.; m, n. ♀ ad. sk.	Coatepec (Jalapa), May, Aug., Oct. ( <i>F. Ferrari-Perez</i> ).	Salvin-Godman Coll.
o, p. ♂ ad.; q. ♀ ad. sk.	Coatepec, Oct., Nov. ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
r. Ad. sk.	Orizaba, Mexico, Dec. ( <i>F. D. G.</i> ).	Salvin-Godman Coll.
s. ♂ ad. sk.	Cordova, Mexico ( <i>Sallé</i> ).	Gould Coll.
t, u. ♂ ad. sk.	Oaxaca, Mexico ( <i>Sallé</i> ).	Gould Coll.
r-z. ♂ ad.; a'. ♀ ad. sk.	Chimalapa, Tehuantepec, Mexico, March, April ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.

## 6. *Cyanomyia guatemalensis*.

*Cyanomyia cyanocephala*, *ScL & Salv. Ibis*, 1859, p. 127; *Salv. Ibis*, 1860, pp. 39, 195, 261, 264, 269; *G. C. Taylor, Ibis*, 1860, p. 114.

*Cyanomyia guatemalensis*, *Gould, Intr. Troch.* p. 148; *ScL. Cat. Am. B.* p. 312; *Salv. Ibis*, 1866, p. 204; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 31; *Lavr. Pr. Bost. Soc. N. H.* xiv. p. 284; *Eudes-Desl. Ann. Mus. Caen*, i. p. 344.

*Uranomitra guatemalensis*, *Heine, J. f. Orn.* 1863, p. 195; *Berl. Pr. U.S. Nat. Mus.* xi. p. 562.

*Polytmus guatemalensis*, *Gray, Hand-l. B.* i. p. 133.

*Adult male.* Very similar to that of *C. cyanocephala*, but with the tail-feathers of a bronzy green rather than olive-green.

A form closely allied to the Mexican *C. cyanocephala*, but with its distinctive characters localized and recognizable.



*Hab.* British Honduras, Guatemalan Highlands.

a, b. ♂ ad.; c-e. ♀ ad. sk.	Southern Pine-ridge, Western District, Brit. Honduras, Jan., Apr. ( <i>F. Blancaneaux</i> ).	Salvin-Godman Coll.
f. ♂ ad. sk.	Pine-ridge of Poctun, Guatemala, March ( <i>O. S.</i> ).	Salvin-Godman Coll.
g, h. ♂ ad. sk.	Coban, Guatemala, Nov. ( <i>O. S.</i> ).	Salvin-Godman & Sclater Colls.
i. ♂ ad. sk.	Vera Paz ( <i>Haque</i> ).	Salvin-Godman Coll.
j. ♀ ad. sk.	Mountains of Chilasco, Guatemala, Jan. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
k, l. ♂ ad.; m. ♀ ad. sk.	Dueñas, Guatemala, Feb., July ( <i>O. S.</i> ).	Gould Coll. (Types of the species.)
n. ♀ ad. sk.	Dueñas ( <i>O. S.</i> ).	Salvin-Godman Coll.
o. ♂ ad. sk.	Dueñas ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
p. Ad.: q. Juv. sk.	Guatemala ( <i>Skinner</i> ).	Gould Coll.

### 7. *Cyanomyia franciæ*.

*Trochilus franciæ*, *Bowc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, ix. p. 324 (1846).

*Polytmus franciæ*, *Gray, Gen. B.* i. p. 109; *id. Hand-l. B.* i. p. 133.  
*Agyrtria β. Uranomitra franciæ*, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 7, pl. 761. ff. 4760-1.

*Cyanomyia franciæ*, *Bp. Rev. Zool.* 1854, p. 254; *Gould, Mon. Troch.* v. pl. 287 (Sept. 1860); *id. Intr. Troch.* p. 149; *Scl. Cat. Am. B.* p. 312; *Elliot, Ibis*, 1876, p. 316; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 204; *Scl. & Salv. P. Z. S.* 1879, p. 530; *Eudes-Desl. Ann. Mus. Cacu*, i. p. 346.

*Uranomitra franciæ*, *Cab. & Heine, Mus. Hein.* iii. p. 41; *Elliot, Syn. Troch.* p. 197; *Berl. J. f. Orn.* 1887, p. 331.

*Leucolia franciæ*, *Muls. & Ferr. Class. Troch.* p. 31; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 217.

*Adult male.* Upper surface shining grass-green, becoming more bronzy on the lower back and upper tail-coverts; crown glittering blue; hind neck and sides glittering green: under surface, including the under tail-coverts, pure white; flanks green; tail olive-green: maxilla black: mandible, except the tip, flesh-colour. Total length about 4 inches, wing 2.2, tail 1.45, bill 0.95.

*Female.* Similar to the male, the crown being less brilliant.

*Hab.* Colombia.

a. ♀ ad. sk.	Antioquia, Colombia ( <i>T. K. Salmon</i> ).	Sclater Coll.
b-h. ♂ ad.; i-n. ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.

### 8. *Cyanomyia cyaneicollis*.

*Trochilus* (—?) *cyaneicollis*, *Gould, P. Z. S.* 1853, p. 61.

*Agyrtria β. Uranomitra cyaneicollis*, *Reich. Aufz. d. Col.* p. 10.

*Cyanomyia cyaneicollis*, *Bp. Rev. Zool.* 1854, p. 254; *Gould, Mon. Troch.* v. pl. 288 (Sept. 1860); *id. Intr. Troch.* p. 149; *Elliot*,

- Ibis*, 1876, p. 316; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 173; *id. Ann. Soc. Linn. Lyon*, xxii. p. 204; *Eudes-Desl. Ann. Mus. Caen*, i. p. 348; *Tacz. P. Z. S.* 1882, p. 39.  
*Uranomitra cyanicollis*, *Cab. & Heine, Mus. Hein.* iii. p. 41; *Elliot, Syn. Troch.* p. 198; *Scl. & Salv. P. Z. S.* 1880, p. 208.  
*Leucolia cyanicollis*, *Muls. & Verr. Class. Troch.* p. 31; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 212.  
*Leucolia pelzelni*, *Tacz. P. Z. S.* 1879, p. 239.

*Adult male.* Similar to *C. francie*; but the crown less brilliant, the nape and sides of the neck also less bright and greenish blue instead of glittering green; the back and tail more uniform duller green, the bill shorter, &c.

The *female* or *young bird* has bluish-green crown, the feathers edged with rufous.

*Hab.* Peru.

- |  |   |                                     |
|--|---|-------------------------------------|
| <i>a, b.</i> ♂ ad. sk.                 | Peru ( <i>Warszewicz</i> ).                   | Gould Coll. (Types of the species.) |
| <i>c, d.</i> ♂; <i>e, f.</i> ♀ ad. sk. | Callacate, Peru, May ( <i>J. Stolzmann</i> ). | Salvin-Godman & Sclater Colls.      |

#### 54. LEUCIPPUS.

- |   |       |                          |
|---|-------|--------------------------|
| <i>Leucippus</i> , <i>Bp. Consp. Av.</i> i. p. 73 (1849) . . . . .  | Type. | <i>L. chionogaster</i> . |
| <i>Leucippus</i> ( <i>Talaphorus</i> ), <i>Muls. Hist. Nat. Ois.-Mouches</i> , i. p. 257 (1874) . . . . . |       | <i>L. chlorocercus</i> . |

*Range.* Andes of Peru and Bolivia, Upper Amazons valley and North-western Argentina.

#### Key to the Species.

- |  |   |
|--|---|
| <i>a.</i> Tail with white or grey at the base.   |   |
| <i>a'.</i> Inner web of lateral rectrices white at the base; throat pure white . . . . . | } <i>chionogaster</i> , p. 200.<br><i>pallidus</i> , p. 201.  |
| <i>b'.</i> Lateral rectrices grey at the base, throat indistinctly spotted . . . . .     |   |
| <i>b.</i> Tail uniform . . . . .   | <i>chlorocercus</i> , p. 201.<br><i>viridicauda</i> , p. 202. |

#### 1. *Leucippus chionogaster*.

- Trochilus* (*Lampornis*) *leucogaster*, *Tsch. in Wieg. Arch. f. Naturg.* 1844, i. p. 297 ( *nec T. leucogaster*, *Gm.*).  
*Trochilus chionogaster*, *Tsch. Faun. Pér.* p. 247, pl. 22. f. 2 (1844).  
*Trochilus* (— ?) *hypoleucus*, *Gould, P. Z. S.* 1846, p. 90.  
*Trochilus turneri*, *Bourc. Rev. Zool.* 1846, p. 313.  
*Leucippus turneri*, *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 8, pl. 779. f. 4811.  
*Thaumantias chionogaster*, *Bp. Rev. Zool.* 1854, p. 255.  
*Leucippus nigrirostris*, *Reich. Troch. Enum.* p. 8, pl. 779. f. 4812<sup>?</sup>  
*Leucippus chionogaster*, *Reich. Troch. Enum.* p. 8, pl. 780. ff. 4813-5; *Gould, Mon. Troch.* v. pl. 290 (May 1855); *id. Intr. Troch.* p. 150; *Cab. & Heine, Mus. Hein.* iii. p. 31; *Scl. Cat. Am.*

*B.* p. 312; *Scl. & Salv. P. Z. S.* 1879, p. 630; *Tacz. P. Z. S.* 1874, p. 542, 1882, p. 39; *id. Orn. Pér.* i. p. 400; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 259, iv. p. 178; *id. Ann. Soc. Linn. Lyon*, xxii. p. 205; *Elliot, Syn. Troch.* p. 199; *Eudes-Desl. Ann. Mus. Caen*, i. p. 350; *E. W. White, P. Z. S.* 1882, p. 616; *Scl. & Huds. Arg. Orn.* ii. p. 7.

*Leucolia chionogaster, Muls. & Ferr. Class. Troch.* p. 31.

*Polytmus chionogaster, Gray, Hand-l. B.* i. p. 129.

*Leucippus leucogaster, Elliot, Ibis*, 1876, p. 8.

*Adult male.* Upper surface bronzy green, duller on the crown; under surface white, the feathers of the sides of the neck and the flanks and the proximal under tail-coverts with green discal spots; inner webs and shafts of the lateral rectrices towards the base white, and a narrow white terminal edge; maxilla black; mandible flesh-colour, with the tip black. Total length about 4 inches, wing 2.25, tail 1.25, bill 1.

*Female.* Similar to the male.

*Hab.* Peru and Bolivia.

<i>a, b.</i> ♂ ad. sk.	Chuquisaca, Bolivia.	Gould Coll.
<i>c, d.</i> ♀ ad. sk.	Bolivia.	Gould Coll.
<i>e.</i> ♂ ad.; <i>f.</i> ♀ ad. sk.	Irupana, Bolivia ( <i>Buckley</i> ).	(Types of <i>T. hypoleucus</i> ) Salvin-Godman Coll.
<i>g, h.</i> ♂ ad.; <i>i.</i> ♀ ad. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.
<i>i.</i> ♂ ad. sk.	Fuerte de Andalгада, Catamarca, October ( <i>E. W. White</i> ).	Salvin-Godman Coll.
<i>k.</i> ♂ ad. sk.	Andalгада, Catamarca, Oct. ( <i>E. W. W.</i> ).	Sclater Coll.

## 2. *Leucippus pallidus*.

*Leucippus pallidus, Tacz. P. Z. S.* 1874, p. 542; *id. Orn. Pér.* i. p. 402; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 205.

“*L. capite supra fusco griseo plumis viridi terminatis et subgriseo marginatis; corpore supra pallide viridi, nitore aureo minimo; subtus sericeo albus, lateribus colli viridi maculatis; lateribus pectoris et hypochondriis maculis magnis pallide viridibus; cauda truncata, rectricibus mediis glauco viridibus, reliquis pogonio interno latissime albo.*” (*Taczanowski, l. s. e.*)

*Hab.* Peru, Huanta.

Mr. Elliot (*Ibis*, 1876, p. 9) considered *L. pallidus* to be simply a synonym of *L. chionogaster*; but Taczanowski (*Orn. Pér.*) has reasserted his opinion to the contrary. Without authentic specimens before me, I am unable to satisfy myself either way.

## 3. *Leucippus chlorocercus*.

*Leucippus chlorocercus, Gould, P. Z. S.* 1866, p. 194; *Scl. & Salv. P. Z. S.* 1867, p. 979, 1873, p. 288; *Muls. Hist. Nat. Ois.-Mouches*,

i. p. 257, iv. p. 178; *id.* *Ann. Soc. Linn. Lyon.* xxii. p. 205; *Elliot, Sym. Troch.* p. 199; *Endes-Desl. Ann. Mus. Cuen.* i. p. 352; *Tacz. Orn. Pér.* i. p. 399; *Sharpe in Gould's Mon. Troch. Suppl.* (Mar. 1887).

*Polytmus chlorocereus*, *Gray, Hand-l. B.* i. p. 129.

*Adult male.* Similar to that of *L. chionogaster*, but with shorter bill, the mandible of which is black to the base; the under surface is of a less pure white, and all the feathers of the throat have a pale greenish-brown discal spot; the central rectrices are brighter and the lateral ones are grey with an indistinct subterminal greenish band.

*Hab.* Upper Amazons Valley.

<i>a, b.</i> ♀ ad. sk.	Upper Ucayali, Amazons ( <i>E. Bartlett</i> ).	Gould Coll. (Types of species.)
<i>c.</i> ♂ ad. sk.	Upper Ucayali, June.	E. Bartlett [C.].
<i>d.</i> ♂ ad. sk.	Nauta, Amazons, April.	E. Bartlett [C.].
<i>e.</i> ♂ ad. sk.	Nauta, May ( <i>E. Bartlett</i> ).	Salvin-Godman Coll.
<i>f-h.</i> ♂ ad.; <i>i-l.</i> ♀ ad. sk.	Pebas, June, July ( <i>J. Hauxwell</i> ).	Salvin-Godman Coll.
<i>m.</i> ♀ ad. sk.	Elvira, Amazons ( <i>J. Hauxwell</i> ).	Salvin-Godman Coll.
<i>n.</i> ♂ ad. sk.	Yquitos, Amazons, Sept. ( <i>H. Whitely</i> ).	Gould Coll.

#### 4. *Leucippus viridicauda.*

*Leucippus chionogaster*, *Scl. & Salv. P. Z. S.* 1876, p. 17?

*Leucippus viridicauda*, *Berl. Ibis*, 1883, p. 493; *id.* in *Tacz. Orn. Pér.* i. p. 399; *Sharpe in Gould's Mon. Troch. Suppl.* (Mar. 1887).

“*L. supra aureo-viridis, subtus sericeo albus, gulae et colli lateribus maculis parvis, lateribus pectoris hypochondriisque aureo viridibus; subcaudalibus albis, minoribus macula centrali viridi aurea; rectricibus acuminatis glauco viridibus unicoloribus.*” (*Berlepsch*, in *Orn. Pér.*)

This bird appears to differ from its congeners by the uniform coloration of its tail. Count Berlepsch's specimen was obtained by Whitely at Huairo in Peru, and others from the same source were doubtless referred to *L. chionogaster* by Selater and Salvin in their list of Whitely's birds from that locality. One of these specimens, through Mr. Whitely's kindness, I have now before me, and it agrees with Count Berlepsch's description. The Peruvian skin sent to Gould by Warszewicz I believe to be the female of this species. It is a discoloured specimen. The tail is pale at the base, the lateral rectrices have whitish tips and a wide indefinite subterminal dark band.

*Hab.* Peru, Huairo.

<i>a.</i> ♂ ad. sk.	Huairo, Peru, June 12, 1874 ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
<i>b.</i> ♀ ad. sk.	Peru ( <i>Warszewicz</i> ).	Gould Coll.

## 55. AMAZILIA.

	Type.
Trochilus (Amazilis), <i>Less. Ind. Gén. Troch.</i> p. xxvii (1832) .....	A. pristina.
Amazilia, <i>Reich. Av. Syst.</i> pl. 39 (1849)?	
Amazilius, <i>Bp. Consp. Av.</i> i. p. 77 .....	A. pristina.
Pyrhophæna, <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 35.	A. pristina.
Hemithylaca, <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 37.	A. niveiventris.
Hemistilbon, <i>Gould, Intr. Troch.</i> p. 149 .....	A. ocai.
Eranna, <i>Heine, J. f. Orn.</i> 1863, p. 187 .....	A. cinnamomea.
Eratina, <i>Heine, J. f. Orn.</i> 1863, p. 190 .....	A. iodura.
Ariana, <i>Muls. &amp; Ferr. Class. Troch.</i> p. 36 .....	A. niveiventris.
Myletes, <i>Muls. Hist. Nat. Ois.-Mouches</i> , i. p. 284.	A. yucatanensis.
Saucerottia, <i>Bp. Compt. Rend.</i> xxx. p. 381 (1850).	A. erythronota.
Erythronota, <i>Gould, Mon. Troch.</i> v. (1860).....	A. erythronota.
Eratopis, <i>Heine, J. f. Orn.</i> 1863, p. 191 .....	A. elegans.
Erasuria, <i>Heine, J. f. Orn.</i> 1863, p. 191 .....	A. warszewiezi.
Ariana (Lisoria), <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 207 .....	A. warszewiezi.
Leucodora, <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 206 .....	A. edwardi.

*Range.* Tropical America from the northern frontiers of Mexico to Colombia, Ecuador, Venezuela, Guiana, Trinidad, and Tobago. Also the Andes of Peru.

*Key to the Species.*

- a. Middle of the breast more or less white.
  - a'. Rump and upper tail-coverts chestnut.
    - a''. Throat glittering emerald-green, white spot of the breast small ..... *pristina*, p. 205.
    - b''. Throat glittering golden green, white spot of the breast large ..... *leucophæa*, p. 205.
  - b'. Rump and upper tail-coverts olive or golden green.
    - c''. Lateral rectrices chestnut in the middle. *alticola*, p. 206.
    - d''. Lateral rectrices olive-green ..... *dumerili*, p. 206.
- b. Entire under surface rufous.
  - c'. Smaller; wing 2.25 ..... *cinnamomea*, p. 207.
  - d'. Larger; wing 2.65 ..... *graysoni*, p. 209.
- c. Throat and breast glittering green.
  - e'. Bases of the inner primaries and secondaries chestnut.
    - e''. Tail more or less chestnut, purple-chestnut, or steel-blue.
      - a'''. Tail purple-chestnut: under tail-coverts chestnut.
        - a<sup>t</sup>. Lower abdomen greyish chestnut; chestnut bases of wings more extensive ..... *beryllina*, p. 209.
        - b<sup>t</sup>. Lower abdomen glittering green; chestnut bases of wings less extensive ..... *devillii*, p. 211.

- b'''*. Tail, abdomen, and under tail-coverts rich chestnut, the first edged and tipped with bronze . . . . . *castaneiventris*, p. 212.  
*e'''*. Tail and under tail-coverts steel-blue. *cyanaura*, p. 212.  
*f''*. Tail shining bronzy olive-green or rich coppery bronze.  
*a'''*. Tail olive-green; throat white spotted with green . . . . . *ocai*, p. 213.  
*e'''*. Tail rich coppery bronze; throat wholly glittering green . . . . . *sumichrasti*, p. 213.  
*f'* Bases of the inner primaries and secondaries like the rest of those feathers, purplish brown.  
*g''*. Abdomen more or less chestnut; lores green.  
*f'''*. Bill flesh-colour, tip dark.  
*c<sup>1</sup>*. Abdomen and flanks chestnut . . . . . *yucatanensis*, p. 214.  
*d<sup>1</sup>*. Abdomen chestnut, flanks washed with green . . . . . *ceruiniventris*, p. 214.  
*g'''*. Bill black; base of mandible flesh-colour . . . . . *laurencii*, p. 215.  
*h''*. Lower abdomen grey.  
*h'''*. Lores rufous; tail chestnut; maxilla (except the tip) flesh-colour . . . . . *riefferi*, p. 216.  
*i'''*. Lores green; tail purple or bronzy chestnut; maxilla black.  
*e<sup>4</sup>*. Tail dark purple; under tail-coverts brown with chestnut edges . . . . . *viridiventris*, p. 219\*.  
*f<sup>4</sup>*. Tail bronzy chestnut; under tail-coverts chestnut . . . . . *cupreicauda*, p. 220.  
*i''*. Abdomen pure white.  
*j'''*. Tail rich reddish bronze . . . . . *edwardi*, p. 221.  
*k'''*. Tail purplish steel-blue . . . . . *niveiventris*, p. 221.  
*j''*. Whole abdomen glittering green.  
*i'''*. Crown green.  
*g<sup>1</sup>*. Tail steel-blue.  
*a<sup>2</sup>*. Rump green; upper tail-coverts steel-blue.  
*a<sup>3</sup>*. Tail lighter, brighter . . . . . *warszewiczi*, p. 222.  
*b<sup>3</sup>*. Tail darker. . . . . *saucerottii*, p. 223.  
*b<sup>5</sup>*. Rump purple; upper tail-coverts steel-blue. . . . . *sophia*, p. 224.  
*c<sup>5</sup>*. Rump and upper tail-coverts rufous purple.  
*e<sup>6</sup>*. Tail dark.  
*a<sup>7</sup>*. Larger; tail more forked. . . . . *tobaci*, p. 226.  
*b<sup>7</sup>*. Smaller; tail more rounded. . . . . *erythronota*, p. 225.  
*d<sup>7</sup>*. Tail lighter, brighter . . . . . *felicis*, p. 226.  
*h<sup>1</sup>*. Tail purplish bronze, long, more deeply forked . . . . . *elegans*, p. 227.  
*m'''*. Crown dark blue . . . . . *cyanifrons*, p. 227.

\* *A. iodura* (p. 219) and *A. lucida* (p. 220) belong near here.

1. *Amazilia pristina*.

- Orthorhynchus amazili*, *Less. Voy. Coq.* pl. 31. f. 3.  
*Ornismya amazili*, *Less. H. Nat. Ois.-Mouches*, pp. xxvii, 67, pls. 12, 13.  
*Trochilus (Amazilis) amazili*, *Less. Ind. Gén. Troch.* p. xxvii.  
*Trochilus (Lampornis) amazilia*, *Tsch. Faun. Per.* p. 246.  
*Polytmus amazili*, *Gray, Gen. B. i.* p. 108; *id. Hand-l. B. i.* p. 131.  
*Amazilius latirostris*, *Bp. Consp. Av. i.* p. 77 (*nec Sw.*).  
*Amazilia pristina*, *Gould, Mon. Troch.* v. pl. 303 (May 1857); *id. Intr. Troch.* p. 155; *Scl. Cat. Am. B.* p. 313; *id. P. Z. S.* 1871, p. 498; *Tacz. P. Z. S.* 1874, p. 543; *id. Orn. Pér.* i. p. 406; *Elliot, Syn. Troch.* p. 217; *Salv. P. Z. S.* 1883, p. 425.  
*Pyrrhophæna amazilia*, *Cab. & Heine, Mus. Hein.* iii. p. 35; *Heine, J. f. Orn.* 1863, p. 186.  
*Amazilia lessoni*, *Muls. & Ferr. Class. Troch.* p. 35; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 181; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206.  
*Amazilis amazili*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 395.

Upper surface shining greenish bronze, crown darker; rump and upper tail-coverts chestnut; throat emerald-green, each feather being white with a large green discal spot; middle of the chest and abdomen white, rest of the abdomen and flanks chestnut; under tail-coverts pale chestnut with whitish edges; tail chestnut, the central rectrices edged and tipped with bronzy green; bill flesh-colour at the base, the tip black. Total length about 4·2 inches, wing 2·3, tail 1·45, bill 0·8.

Sexes alike.

*Juv.* Under surface wholly chestnut, the green feathers of the throat gradually assumed.

*Hab.* Western Peru.

a-c. Ad.;	d, e.	Western Peru, probably from the vicinity of Lima.	Gould Coll.
Juv. sk.			(Types of the species.)
f. ♂ ad. sk.		Rimac Valley, N. Peru ( <i>A. H. Markham</i> ).	Salvin-Godman Coll.
g. Ad. sk.		Western Peru.	Salvin-Godman Coll.
h. Ad. sk.		Western Peru.	Sclater Coll.

2. *Amazilia leucophæa*.

- Amazilia leucophæa*, *Reich. Aufz. d. Col.* pp. 10, 24; *Gould, Mon. Troch.* v. pl. 306 (Sept. 1859); *id. Intr. Troch.* p. 156; *Muls. & Ferr. Class. Troch.* p. 35; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 291; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206; *Tacz. P. Z. S.* 1877, p. 337, 1879, p. 239, 1880, p. 208; *id. Orn. Pér.* i. p. 407; *Elliot, Syn. Troch.* p. 218.  
*Amazilia amazilicula*, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 8, pl. 777. ff. 4805-6.  
*Pyrrhophæna leucophæa*, *Cab. & Heine, Mus. Hein.* iii. p. 35; *Heine, J. f. Orn.* 1863, p. 186.  
*Amazilis leucophæa*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 399.

Similar to *A. pristina*, but rather smaller; the white spot on the breast is larger, and the green feathers of the throat more restricted; these latter are also of a golden rather than an emerald-green.

*Hab.* Western Peru.

<i>a, b.</i> Ad. sk.	Volcano of Arequipa, Peru ( <i>Warszewicz</i> ).	Gould Coll.
<i>c.</i> ♂ ad. sk.	Pacasmayo, Peru ( <i>Jelski</i> ).	Salvin-Godman Coll.
<i>d.</i> ♂ ad. sk.	Tumbez, Peru ( <i>Jelski</i> ).	Selater Coll.

### 3. *Amazilia alticola*.

*Amazilia alticola*, *Gould, P. Z. S.* 1860, p. 309; *id. Mon. Troch.* v. pl. 304 (Sept. 1861); *id. Intr. Troch.* p. 156; *Muls. & Ferr. Class. Troch.* p. 35; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 289; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206; *Elliot, Syn. Troch.* p. 218.  
*Pyrrhophæna alticola*, *Heine, J. f. Orn.* 1863, p. 187.  
*Amazilis alticola*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 399.

*Adult.* Upper surface shining greenish bronze, darker on the crown, more golden on the rump and upper tail-coverts; under surface white, the feathers of the chin and the sides of the throat with glittering golden-green discal spots; flanks chestnut; under tail-coverts pale chestnut edged with white; tail chestnut, the central rectrices nearly wholly, the lateral edged and tipped with shining golden green; bill flesh-colour, the tip black. Total length about 4 inches, wing 2·4, tail 1·4, bill 0·9.

Sexes alike.

*Hab.* Peru and Ecuador.

<i>a.</i> Ad. sk.	Puna district, Peru ( <i>Bourcier</i> ).	Gould Coll. (Type of species.)
<i>b-e.</i> Ad. sk.	Loxa, Ecuador.	Gould Coll.
<i>f.</i> Ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>g.</i> Ad. sk.	Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.

### 4. *Amazilia dumerili*.

*Ornismya dumerili*, *Less. Suppl. Ois.-Mouches*, p. 172, pl. 36.  
*Trochilus dumerili*, *Less. Ind. Gén. Troch.* p. xxvii.  
*Trochilus norrisi*, *Bourc. P. Z. S.* 1847, p. 47.  
*Polytmus norrisi*, *Gray, Gen. B.* i. p. 108.  
*Amazilius norrisi*, *Bp. Consp. Av.* i. p. 77; *id. Rev. Zool.* 1854, p. 254.  
*Amazilius dumerili*, *Bp. Consp. Av.* i. p. 77; *id. Rev. Zool.* 1854, p. 254.  
*Amazilia dumerili*, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 8, pl. 777. ff. 4803-4; *Gould, Mon. Troch.* v. pl. 305 (Sept. 1859); *id. Intr. Troch.* p. 156; *Scl. P. Z. S.* 1860, p. 253; *id. Cat. Am. B.* p. 314; *Lawr. Ann. Lyc. N. Y.* ix. p. 237; *Muls. & Ferr. Class. Troch.* p. 35; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 287; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206; *Elliot, Syn. Troch.* p. 218; *Berl. & Tacz. P. Z. S.* 1883, p. 568, 1885, p. 105.  
*Amazilis dumerili*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 397.  
*Amazilia norrisi*, *Cab. & Heine, Mus. Hein.* iii. p. 36.  
*Pyrrhophæna dumerili*, *Cab. & Heine, Mus. Hein.* iii. p. 36; *Heine, J. f. Orn.* 1863, p. 187.  
*Hemistilbon norrisi*, *Gould, Intr. Troch.* p. 150.  
*Thaumatias norrisi*, *Elliot, Ibis*, 1878, p. 44.  
*Leucodora norrisi*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 309, iv. p. 183.



*Polytmus dumerili*, Gray, *Hand-l. B. i.* p. 132.

*Agyrtria norrisi*, Elliot, *Syn. Troch.* p. 204.

*Adult.* Similar to *A. alticola*, but rather smaller; the upper surface of a shining olive- rather than a golden-green; the tail is uniform olive-green, without any chestnut on any of the rectrices.

Sexes alike.

*Juv.* Outer rectrices tipped with buff.

Gould represents the under tail-coverts of this bird as pale chestnut, but in the specimens before me they are nearly all pure white.

*Hab.* Western Ecuador.

<i>a, b.</i> Ad. sk.	Puna I., Gulf of Guayaquil, Ecuador ( <i>Villagomez</i> ).	Salvin-Godman Coll.
<i>c, d.</i> Ad. et juv. sk.	Guayaquil.	Gould Coll.
<i>e, f.</i> ♂ ad. sk.	Babahoyo, Ecuador ( <i>Fraser</i> ).	Gould Coll.
<i>g.</i> Ad. sk.	Babahoyo ( <i>Fraser</i> ).	Slater Coll.
<i>h.</i> Juv. sk.	—?	Gould Coll.
<i>i.</i> Ad. sk.	—?	Gould Coll.

(Type of *A. amazilicula*, Sauc. MS.)

### 5. *Amazilia cinnamomea*.

*Ornismya cinnamomea*, Less. *Rev. Zool.* 1842, p. 175.

*Ornismya rutila*, Delattre, *Echo du Monde Savant*, 1843, p. 1069.

*Trochilus corallirostris*, Bourc. & Muls. *Ann. Sc. Phys. et Nat. Lyon*, ix. p. 328 (1846).

*Amazilius erythrorhynchus et hæmatorhynchus*, Bp. *Compt. Rend.* xxx. p. 382 (1850).

*Amazilius corallirostris*, Bp. *Consp. Av. i.* p. 77; *id. Rev. Zool.* 1854, p. 254; *Scl. P. Z. S.* 1853, p. 353, 1859, p. 386.

*Amazilia corallirostris*, Reich. *Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 8, pl. 776. ff. 4809-1; *Gould. Mon. Troch.* v. pl. 307 (May 1857); *Scl. & Salv. Ibis*, 1859, p. 115; *Taylor, Ibis*, 1860, p. 115; *Salv. Ibis*, 1860, p. 268.

*Pyrrhophæna cinnamomea*, Gould, *Intr. Troch.* p. 156; *Salv. Ibis*, 1866, p. 204; *Lavr. Ann. Lyc. N. Y.* ix. p. 204; *id. Mem. Bost. Soc. N. H.* ii. p. 292; *id. Bull. U. S. Nat. Mus.* no. 4, p. 32.

*Amazilia cinnamomea*, *Scl. Cat. Am. B.* p. 314; *Salv. Ibis*, 1864, p. 380, 1870, p. 115; *Elliot, Syn. Troch.* p. 219; *Muls. & Verr. Class. Troch.* p. 35; *Muls. Hist. Nat. Ois.-Mouches.* i. p. 284, iv. p. 180; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206; *Bouc. P. Z. S.* 1878, p. 71, 1883, p. 451; *Elliot, Syn. Troch.* p. 219; *Ridgw. Pr. U.S. Nat. Mus.* iv. p. 26; *id. Man. N. Am. B.* p. 318; *Nutting, Pr. U.S. Nat. Mus.* vi. p. 386.

*Pyrrhophæna corallirostris*, Cab. & Heine, *Mus. Hein.* iii. p. 35.

*Polytmus cinnamomea*, Gray, *Hand-l. B. i.* p. 132.

*Amazilis cinnamomea*, Eudes-Desl. *Ann. Mus. Cuen*, i. p. 400.

*Adult male.* Upper surface shining bronzy green, duller and darker on the crown; lores and entire under surface cinnamon on pale chestnut, paler on the chin; tail chestnut, tipped and edged with dark bronze; bill flesh-colour (in life pale blood-red), tip black. Total length about 4.2 inches, wing 2.25, tail 1.3, bill 0.9.

*Adult female* like the male, but paler on the under surface.

*Hab.* Mexico, Guatemala, Costa Rica.

<i>a, b.</i> ♂ ad. : <i>c.</i> ♀ ad. sk.	Presidio de Mazatlan, Mexico, June, Dec. ( <i>Forrer</i> ).	Salvin-Godman Coll.
<i>d.</i> ♀ ad. sk.	Mazatlan, Dec. ( <i>Forrer</i> ).	Salvin-Godman Coll.
<i>e, f.</i> ♂ ad. ; <i>g, h.</i> ♀ ad. sk.	San Blas, Tepic, Mexico, April, May ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>i, j.</i> ♂ ad. sk.	Tacolapa, Colima, Mexico, May ( <i>W. Lloyd</i> ).	Salvin-Godman Coll.
<i>k.</i> ♂ ad. sk.	Culata, Colima, Mexico, June ( <i>W. Lloyd</i> ).	Salvin-Godman Coll.
<i>l.</i> ♀ ad. sk.	Plains of Colima, Jan. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>m.</i> ♀ ad. sk.	Tierra Colorada, Guerrero, Mexico, Oct. ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
<i>n.</i> ♂ ad. sk.	Rio Papagaio, Guerrero, Oct. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
<i>o.</i> ♂ ad. sk.	Acaguizotla, Guerrero, Oct. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
<i>p.</i> ♂ ad. sk.	La Venta, Guerrero, Sept. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
<i>q-s.</i> ♂ ad. sk.	Dos Arroyos, Guerrero, Sept., Oct. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
<i>t, u.</i> ♂ ad. sk.	Alto de Camaron, Guerrero, Oct. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
<i>v.</i> ♂ ad. sk.	Venta de Pelegrino, Guerrero, Oct. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
<i>w.</i> ♂ ad. sk.	Chimalapa, Tehuantepec, April ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>x.</i> ♂ ad. sk.	Tehuantepec ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>y.</i> ♂ ad. ; <i>z.</i> ♀ ad. sk.	Tonala, Chiapas, Mexico, June ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>a'</i> . Ad. sk.	Merida, Yucatan, Feb. ( <i>F. D. Godman</i> ).	Salvin-Godman Coll.
<i>b', c'.</i> ♂ ad. sk.	Merida, Yucatan, Dec. ( <i>G. F. Gaumer</i> ).	Salvin-Godman Coll.
<i>d'-g'.</i> ♂ ad. ; <i>h'.</i> ♀ ad. sk.	Holbox I., Yucatan, Dec. ( <i>G. F. Gaumer</i> ).	Salvin-Godman Coll.
<i>i.</i> ♂ ad. sk.	Belize, British Honduras ( <i>Blancaneau</i> ).	Salvin-Godman Coll.
<i>k'-m'.</i> ♂ ad. sk.	Orange Walk, British Honduras ( <i>Gaumer</i> ).	Salvin-Godman Coll.
<i>n', o'.</i> ♂ ad. ; <i>p'.</i> ♀ ad. ; <i>q'.</i> Juv. sk.	San Gerónimo, Guatemala, Dec. ( <i>O. Salvin</i> ).	Salvin-Godman & Gould Colls.
<i>r', s'.</i> ♂ ad. sk.	Escuintla, Guatemala, Jan. ( <i>O. S.</i> ).	Gould Coll.
<i>t'.</i> ♂ ad. sk.	Santana Mixtan, Guatemala, Mar. ( <i>O. S.</i> ).	Gould Coll.
<i>v'-z'.</i> ♂ ad. sk.	Retalhuleu, Guatemala, July ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>a'', b''.</i> ♂ ad. sk.	Retalhuleu, Guatemala, Sept. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
<i>e''-a''.</i> ♂ ad. sk.	Costa Rica ( <i>Carmirol</i> ).	Salvin-Godman Coll.

6. *Amazilia graysoni*.

*Amazilia* (*Pyrrhophæna*) *graysoni*, *Lavr. Ann. Lyc. N. Y.* viii. p. 404.

*Pyrrhophæna graysoni*, *Grayson, Pr. Bost. Soc. N. H.* xiv. p. 183; *Lavr. Mem. Bost. Soc. N. H.* ii. p. 292.

*Amazilia graysoni*, *Gould, Ibis*, 1867, p. 247; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 286, iv. p. 180; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206; *Elliot, Syn. Troch.* p. 219; *d'Hamouv. Bull. Soc. Zool. Fr.* xi. p. 313; *Sharpe in Gould's Mon. Troch. Suppl.* (March 1887).

*Amazilis graysoni*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 402.

*Adult.* Very similar to that of *A. cinnamomea* as regards the colour of its plumage, but much larger. Total length about 4·7 inches, wing 2·6, tail 1·7, bill 1·1.

*Hab.* Tres Marias Islands, Western Mexico.

*a, b.* ♂ ♀ ad. sk. Tres Marias Is., Mar. (*Forrer*). Salvin-Godman Coll.

7. *Amazilia beryllina*.

*Trochilus beryllinus*, *Licht. Preis-Verz. Mex., Vög.* p. 1 (*cf. J. f. Orn.* 1863, p. 55).

*Ornismya arsinoe*, *Less. Suppl. Ois.-Mouches*, p. 154, pls. 28, 29.

*Trochilus arsinoe*, *Less. Ind. Gén. Troch.* p. xxviii.

*Trochilus mariæ*, *Bourc. Ann. Sc. Phys. et Nat. Lyon*, ix. p. 319 (1846); *id. Rev. Zool.* 1846, p. 316.

*Hyllocharis mariæ*, *Gray, Gen. B.* i. p. 115; *Bp. Consp. Av.* i. p. 74.

*Amazilius arsinoe*, *Bp. Consp. Av.* i. p. 77; *id. Rev. Zool.* 1854, p. 254; *Sci. P. Z. S.* 1859, pp. 297, 367.

*Amazilia arsinoe*, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 8, pl. 774. ff. 4794-7; *Muls. & Verr. Class. Troch.* p. 35.

*Chlorestes β. Smaragditis mariæ*, *Reich. Aufz. d. Col.* p. 7.

*Saucerottia maria*, *Bp. Rev. Zool.* 1854, p. 254.

*Chlorestes mariæ*, *Reich. Troch. Enum.* p. 4, pl. 695. f. 4549.

*Pyrrhophæna beryllina*, *Cab. & Heine, Mus. Hein.* iii. p. 36; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 303, iv. p. 182; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206.

*Amazilia beryllina*, *Gould, Mon. Troch.* v. pl. 312 (July 1861);

*id. Intr. Troch.* p. 159; *Sci. Cat. Am. B.* p. 314; *id. P. Z. S.* 1864,

p. 177; *A. Dugès, La Nat.* i. p. 141; *Villada, La Nat.* ii. p. 364; *de Oca, La Nat.* iii. p. 23; *Elliot, Syn. Troch.* p. 221; *Ridgw. Man. N. Am. B.* p. 317.

*Eranna beryllina*, *Heine, J. f. Orn.* 1863, p. 188.

*Polytmus beryllinus*, *Gray, Hand-l. B.* i. p. 132.

*Amazilis beryllinus*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 410.

*Amazilia mariæ*, *Ferrari-Perez, Pr. U. S. Nat. Mus.* ix. p. 158.

*Adult male.* Upper surface shining golden green, becoming more golden on the crown, and passing through bronze on the rump to rich purple-bronze on the upper tail-coverts; under surface glittering grass-green, passing into greyish chestnut on the lower abdomen, and rich chestnut edged with buff on the under tail-coverts; tail shining purple-bronze: maxilla black; mandible flesh-colour, tip black. Total length about 4 inches, wing 2·1, tail 1·3, bill 0·85.

*Adult female.* Similar to the male, but the colours not quite so bright, and the lower abdomen more decidedly grey.

There is considerable variation in the colour of the tail in this species. In some specimens the upper tail-coverts as well as the central rectrices are of a deep violet-purple. I am unable to trace these variations to any definite localities, but the darker specimens, as a rule, are from the more northern parts of Western Mexico. This, however, is by no means universally the case. The range in altitude of this species extends from near the sea-level (San Blas) to the plateau of Mexico.

Mr. Elliot is quite wrong in referring *A. castaneiventris*, Gould, to this species.

*Hab.* Southern Mexico.

a. ♂ ad. sk.	Choix, Sinaloa, Mexico, June ( <i>W. Lloyd</i> ).	Salvin-Godman Coll.
b. ♂ ad. sk.	San Blas, Tepic, Mexico, May ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
c-g. ♂ ad.; h. ♀ juv. sk.	Tepic, May ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
i, j. ♂ ad.; k. Juv.; l. ♀ ad. sk.	Huayimo, Sierra de Tepic, June ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
m. ♂ ad. sk.	Bolaños, Jalisco, July ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
n. o. ♀ ad. sk.	Sierra de Tepic, June ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
p. ♂ ad. sk.	Zapotlan, Jalisco, Dec. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
q-s. ♂ ad.; t. ♀ ad. sk.	Tonila, Jalisco, June ( <i>W. Lloyd</i> ).	Salvin-Godman Coll.
u. Ad. sk.	San Marcos, Jalisco, May ( <i>W. Lloyd</i> ).	Salvin-Godman Coll.
v, w. ♂ ad. sk.	Beltran, Jalisco, April, May ( <i>Lloyd</i> ).	Salvin-Godman Coll.
x-c'. ♂ ad. sk.	Volcan de Colima, Jan. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
d', e'. ♂ ♀ ad. sk.	Chilpancingo, Guerrero, Aug. ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
f'. ♂ ad.; g'. ♀ ad. sk.	Xantipa, Guerrero, July ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
h'-l'. ♂ ad.; m'. ♀ ad. sk.	Amula, Guerrero, Aug. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
n'-r'. ♂ ad.; s'. ♀ ad. sk.	Omilteme, Guerrero, July, Aug. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
t'. ♂ juv. sk.	Tetelco, Valley of Mexico, July ( <i>Ferrari-Perez</i> ).	Salvin-Godman Coll.
u'. ♂ ad. sk.	Valley of Mexico.	Salvin-Godman Coll.
v'. ♂ ad. sk.	Cofre de Perote, Mexico, July ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
w'-y'. ♂ ad. st.; z', a'' ♀ ad. sk.	Jalapa, Mexico, Mar., May ( <i>M. T.</i> ).	Salvin-Godman Coll.
b''-d''. ♂ ad. sk.	Jalapa ( <i>de Oca</i> ).	Gould Coll.
e''. ♂ juv. sk.	Coatepec, Vera Cruz, Sept. ( <i>Ferrari-Perez</i> ).	Salvin-Godman Coll.
f'', g''. ♀ juv. sk.	Coatepec, Oct., Nov. ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
h''. Juv. sk.	Orizaba, Mexico ( <i>Botteri</i> ).	Gould Coll.

<i>i</i> '.	♂ ad.; <i>j</i> '.	Cordova ( <i>Sallé</i> ).	Salvin-Godman & Gould Colls.
	♀ ad. sk.		
<i>k</i> '.	♂ ad. sk.	Villa Alta, Mexico, Mar. ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
<i>l</i> '.	♂ ad.; <i>m</i> '.	Totontepec, Mexico, Feb. ( <i>M. T.</i> ).	Salvin-Godman Coll.
	♀ ad. sk.		
<i>n</i> '.	♀ ad. sk.	Oaxaca.	Gould Coll.
<i>p</i> '.	♀ ad. sk.	Oaxaca ( <i>Fernochio</i> ).	Salvin-Godman Coll.
<i>q</i> '- <i>u</i> '.	♂ ad.; <i>v</i> '.	Mexico ( <i>Delattre</i> ?).	Gould Coll.
	♀ ad. sk.		
<i>w</i> '.	♂ ad.; <i>y</i> '.	Mexico ( <i>Floresi</i> ).	Gould Coll.
	♀ ad.; <i>z</i> '.		
	Juv. sk.		
<i>a</i> <sup>3</sup> .	♀ skeleton.		Gould Coll.
<i>b</i> <sup>3</sup> , <i>c</i> <sup>3</sup> .	♂ juv. sk.	Chimalapa, Tehuantepec, April ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.

8. *Amazilia devillii*.

*Trochilus devillii*, *Bourc. Rev. Zool.* 1848, p. 272.  
*Amazilia devillii*, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 8, pl. 778. ff. 4807-8; *Gould, Mon. Troch.* v. pl. 313 (May 1860); *id. Intr. Troch.* p. 158; *Scl. Cat. Am. B.* p. 315; *Muls. & Ferr. Class. Troch.* p. 35; *Salv. Cat. Strickl. Coll.* p. 369; *Boucard, P. Z. S.* 1883, p. 451.

*Amazilius devillii*, *Bp. Rev. Zool.* 1854, p. 254.

*Amazilia arsinoe*, *Salv. Ibis*, 1860, p. 195.

*Amazilia dumerili*, *Salv. Ibis*, 1860, pp. 263, 270.

*Pyrrhophæna devillii*, *Salv. Ibis*, 1866, p. 204; *Lawr. Ann. Lyc.*

*N. Y.* no. 4, p. 33; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 305, pl. 27; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206.

*Eranna devillii*, *Heine, J. f. Orn.* 1863, p. 188.

*Amazilia marie*, *Elliot, Syn. Troch.* p. 222; *Ridgw. Man. N. Am. B.* p. 317.

*Amazilis devillii*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 412.

*Adult male.* Similar to that of *A. beryllina*, but with the chestnut colour at the bases of the inner primaries and secondaries more restricted in extent, and with the glittering green of the under surface spread over nearly the whole abdomen to the crissum.

Bourcier's name *Trochilus marie* was doubtfully referred to the same author's *T. devillii* by Gould, and substituted for it without hesitation by Mr. Elliot. On carefully comparing the two descriptions, I feel pretty confident that *T. marie* refers to *A. beryllina* rather than to *T. devillii*, and have therefore placed it as a synonym of the former species. Regarding the application of *T. devillii* there can be no doubt, as it was based on Guatemalan specimens, and one from that country was compared by Gould with the type. *T. marie* was ascribed to Venezuela most probably in error.

*Hab.* Guatemala.

<i>a-e</i> .	♂ ad.; <i>f, g</i> .	Dueñas, Guatemala, July, Aug., Sept. ( <i>O. Salvin</i> ).	Salvin-Godman, Gould, & Sclater Colls.
	♀ ad. sk.		
<i>h</i> .	♂ ad. sk.	Volcan de Fuego, Guatemala, Sept. ( <i>O. Salvin</i> ).	Salvin-Godman Coll.

i. ♀ ad. sk.	La Trinidad, Volcan de Fuego, Oct. ( <i>O. Salvin</i> ).	Salvin-Godman Coll.
j. ♂ ad. sk.	Choctum, Guatemala, Feb. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
k. ♂ ad. sk.	Guatemala.	Gould Coll. (Compared with type.)
l, m. ♀ ad. sk.	Guatemala.	Gould Coll.

### 9. *Amazilia castaneiventris*.

*Amazilia castaneiventris*, *Gould, P. Z. S.* 1856, p. 150; *id. Mon. Troch.* v. pl. 310 (Sept. 1861); *Muls. & Ferr. Class. Troch.* p. 35.

*Pyrrhophæna castaneiventris*, *Gould, Intr. Troch.* p. 157; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 300, iv. p. 182; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206; *d'Hamonv. Bull. Soc. Zool. Fr.* xi. p. 314; *Berl. J. f. Orn.* 1887, p. 331.

*Eranna castaneiventris*, *Heine, J. f. Orn.* 1863, p. 187.

*Amazilis castaneiventris*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 409.

*Adult male.* Upper surface shining reddish bronze, duller on the head; rump and upper tail-coverts greyish, with a slight bronzy lustre; under surface, as far as and including the breast, glittering green; abdomen, flanks, and under tail-coverts rich chestnut; tail chestnut, edged and tipped with shining bronze: maxilla brown; mandible flesh-colour, tip black. Total length about 3.5 inches, wing 2.15, tail 1.15.

*Hab.* Colombia.

a. Ad. sk.	Colombia (Bogota make) ( <i>Mark</i> ).	Gould Coll. (Type of species.)
b, c. Ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.

### 10. *Amazilia cyanura*.

*Amazilia cyanura*, *Gould, Mon. Troch.* v. pl. 315 (Sept. 1859); *Salv. Ibis*, 1873, p. 239; *Elliot, Syn. Troch.* p. 223; *Berl. Pr. U. S. Nat. Mus.* xi. p. 563.

*Hemithylaca cyanura*, *Cab. & Heine, Mus. Hein.* iii. p. 38.

*Pyrrhophæna cyanura*, *Gould, Intr. Troch.* p. 160; *Salv. Ibis*, 1866, p. 195; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 307; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206.

*Eratina cyanura*, *Heine, J. f. Orn.* 1863, p. 191.

*Ariana cyanura*, *Muls. & Ferr. Class. Troch.* p. 36.

*Polytmus cyanurus*, *Gray, Hand-l. B.* i. p. 132.

*Saucerottia cyanura*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 417.

*Adult male.* Upper surface shining grass-green, becoming more glittering on the crown when viewed from in front, more purple on the lower back and steel-blue on the upper tail-coverts; entire under surface glittering grass-green; under tail-coverts and tail steel-blue: maxilla black; mandible flesh-colour, tip black. Total length about 3.6 inches, wing 2.1, tail 1.3, bill 0.85.

*Hab.* Guatemala and Nicaragua.

<i>a, b.</i> ♂ ad. sk.	Retalhuleu, Guatemala, Sept. ( <i>O. Salvin</i> ).	Salvin-Godman & Gould Colls.
<i>c-j.</i> ♂ ad.; <i>k.</i> ♂ juv.; <i>l.</i> ♀ ad. sk.	Retalhuleu, Guatemala, July ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>m, n.</i> ♂ ad. sk.	Pie de la Cuesta, San Marcos, Guatemala, Nov. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>o, p.</i> ♂ ad. sk.	Realejo, Nicaragua ( <i>Sir E. Belcher</i> ).	Gould Coll. (Types of the species.)
<i>q.</i> ♂ ad. sk.	Chontales, Nicaragua ( <i>Belt</i> ).	Salvin-Godman Coll.

11. *Amazilia ocai*.

*Amazilia ocai*, *Gould, Mon. Troch.* v. pl. 289 (July 1861); *de Oca, La Nat.* iii. p. 16, pl. —; *Muls. & Ferr. Class. Troch.* p. 35; *Elliot, Syn. Troch.* p. 221.

*Pyrrhophæna ocai*, *Cab. & Heine, Mus. Hein.* iii. p. 36; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 301, iv. p. 182; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206.

*Hemistilbon ocai*, *Gould, Intr. Troch.* p. 150.

*Thaumatias lerdi*, *de Oca, La Nat.* iii. p. 24?

*Amazilis ocai*, *Eudes-Desl. Ann. Mus. Cuen*, i. p. 415.

*Adult male.* Upper surface shining golden green, crown glittering grass-green, lower back and upper tail-coverts greenish bronze; throat and breast glittering grass-green, each feather being white with a green discal spot, those of the throat being small and the white of the feathers appearing; middle of the abdomen grey, flanks washed with golden green; under tail-coverts pale greenish bronze, broadly edged with dull white; tail bronzy olive-green, the lateral rectrices with the shafts and outer webs towards the base chestnut: bill black, mandible towards the base flesh-colour. Total length about 4 inches, wing 2·3, tail 1·35, bill 0·85.

*Thaumatias lerdi*, *de Oca*, from Paso del Macho, near Vera Cruz, Mexico, may have been based upon a female of this species. The dimensions agree exactly, and the coloration is apparently similar.

*Hab.* Mexico.

<i>u.</i> ♂ ad. sk.	Jalapa, Mexico ( <i>de Oca</i> ).	Gould Coll. (Type of species.)
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12. *Amazilia sumichrasti*. (Plate VII. fig. 2.)

*Adult male.* Upper surface shining grass-green, darker on the head, more golden bronze on the rump and upper tail-coverts; throat and breast glittering grass-green, the white bases of the feathers hardly showing anywhere; abdomen and flanks shining grass-green; under tail-coverts rufous; tail rich lustrous coppery bronze; bases of the inner primaries and secondaries chestnut: maxilla black; mandible flesh-colour, the tip black. Total length about 3·8 inches, wing 2·1, tail 1·2, bill 0·9.

In some respects this species resembles *A. ocai*, but the richer more coppery colour of the tail, the dull-coloured crown, and uni-

form green throat readily distinguish it. I am indebted to M. Boucard for the specimen now described.

*Hab.* Southern Mexico.

- a. ♂ ad. sk. Santa Efigenia, Isthmus of Tehu- Salvin-Godman Coll.  
antepec, Dec. (*F. Sumichrast*).

### 13. *Amazilia yucatanensis*.

- Trochilus yucatanensis*, *Cabot, Proc. Bost. Soc. N. H.* 1845, p. 74.  
*Amazilia yucatanensis*, *Gould, Mon. Troch.* v. pl. 308 (Sept. 1861);  
*Muls. & Ferr. Class. Troch.* p. 35; *de Oca, La Nat.* iii. p. 303;  
*Muls. Hist. Nat. Ois.-Mouches*, i. p. 295, iv. p. 181; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206; *Elliot, Syn. Troch.* p. 219 (partim);  
*Ridgw. Pr. U.S. Nat. Mus.* iv. p. 25; *id. Man. N. Am. B.* p. 317;  
*Boucard, P. Z. S.* 1883, p. 451.  
*Pyrrhophæna yucatanensis*, *Gould, Intr. Troch.* p. 157.  
*Eranna yucatanensis*, *Heine, J. f. Orn.* 1863, p. 187.  
*Pyrrhophæna cerviniventris*, *Salv. Ibis*, 1866, p. 195 (*acc Gould*).  
*Amazilis yucatanensis*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 402.

*Adult male.* Upper surface shining bronzy green, darker on the crown; throat and breast glittering green; abdomen, flanks, and under tail-coverts rich chestnut; tail chestnut, edged and tipped with bronze; bill flesh-colour, the tip black. Total length 4 inches, wing 2·2, tail 1·5, bill 0·95.

*Adult female.* Similar to the male, but with the abdomen paler, and the central rectrices bronze to the base.

*Hab.* Yucatan and adjoining parts of Guatemala.

- a. ♂ ad. sk. Northern Yucatan (*G. F. Salvin-Godman Coll.*  
*Gaumer*).  
b, c. ♂ ad. sk. Merida, Yucatan, Feb. (*F. D. Salvin-Godman Coll.*  
*G.*).  
d, e. ♂ ad.; f. ♀ Santana Peten, April (*O. S.*) Salvin-Godman Coll.  
ad. sk.

### 14. *Amazilia cerviniventris*.

- Amazilis cerviniventris*, *Gould, P. Z. S.* 1856, p. 150; *Sci. P. Z. S.* 1856, p. 287, 1857, p. 17.  
*Amazilia cerviniventris*, *Gould, Mon. Troch.* v. pl. 319 (May 1857);  
*Sci. Cat. Am. B.* p. 314; *Muls. & Ferr. Class. Troch.* p. 35; *de Oca, La Nat.* iii. p. 209; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 296, iv. p. 182; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206; *Merrill, Bull. Nutt. Orn. Club*, ii. p. 26; *Coues & Sennett, Bull. U.S. Geogr. Surv.* iv. p. 35; *Ridgw. Pr. U.S. Nat. Mus.* iv. p. 25; *id. Man. N. Am. B.* p. 317.  
*Pyrrhophæna cerviniventris*, *Cab. & Heine, Mus. Hein.* iii. p. 36;  
*Gould, Intr. Troch.* p. 157.  
*Eranna cerviniventris*, *Heine, J. f. Orn.* 1863, p. 187.  
*Polytmus cerviniventris*, *Gray, Hand-l. B.* i. p. 132.  
*Amazilia yucatanensis*, *Ridgw. Pr. U.S. Nat. Mus.* i. p. 148 (partim); *Elliot, Syn. Troch.* p. 157 (partim).  
*Amazilis cerviniventris*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 404.



*Adult male.* Similar to that of *A. yucatanensis*, but with the abdomen and under tail-coverts paler, the flanks and upper portion of the abdomen are washed with shining green, so that the glittering green of the breast and the chestnut of the abdomen do not meet in a sharply defined line.

*Female.* Similar to the male.

*Hab.* Eastern Mexico, from the mouth of the Rio Grande to the southern extremity of the State of Vera Cruz.

a-h. ♂ ad.; i-l. ♀ ad. sk.	Brownsville, Texas, April and May ( <i>F. B. Armstrong</i> ).	Salvin-Godman Coll.
m. ♀ ad. sk.	Presas de Aldama, Tamaulipas, Mexico, March ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
n. ♂ ad. sk.	Altamira, Tamaulipas, March ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
o-s. ♂ ad.; t, u. ♀ juv. sk.	Tampico, Tamaulipas, Feb. March, June ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
v. ♂ juv. sk.	Tantina, Vera Cruz, June ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
w. ♂ ad. sk.	Valles, San Luis Potosi, Mex., May ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
x, y. ♀ ad. sk.	Misantla, Vera Cruz, Mar. ( <i>F. D. G.</i> ).	Salvin-Godman Coll.
z, a'. ♂ ad. sk.	Colipa, Vera Cruz, March ( <i>F. D. G.</i> ).	Salvin-Godman Coll.
b'. Juv. sk.	Vega del Casadero, Vera Cruz, Dec. ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
c'. ♂ juv. sk.	Tomatla, June ( <i>M. T.</i> ).	Salvin-Godman Coll.
d'. ♂ ad. sk.	Jalapa, Vera Cruz ( <i>de Oca</i> ).	Gould Coll.
e'. ♂ ad. sk.	Tlacotalpam, Vera Cruz ( <i>Sallé</i> ).	Selater Coll.
f', g'. ♂ ad.; h'. ♀ ad. sk.	Cordova, Vera Cruz, Nov. ( <i>Sallé</i> ).	Gould Coll. (Types of the species.)
i'-l'. ♂ ad. sk.	Vera Cruz, Feb. ( <i>F. D. G., W. B. R.</i> ).	Salvin-Godman Coll.
m'. ♀ ad. sk.	Laguna, Vera Cruz, Feb. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
n', o'. ♂ ad.; p'. ♀ ad. sk.	Vera Cruz ( <i>Boucard</i> ).	Salvin-Godman Coll.
q'. ♂ ad. sk.	San Andres, Tuxtla, Vera Cruz.	A. Sallé [C.].
r'. ♀ ad. sk.	Xochiapa, Vera Cruz, June ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.

### 15. *Amazilia lawrencii*.

*Amazilia lawrencii*, *Elliot, Auk*, vi. p. 209.

“Crown of head, neck, back, upper wing-coverts, and upper tail-coverts dull bronzy-green. Wings purple; base of primaries and secondaries blackish. Throat, sides of neck and breast glittering grass-green; lower part of flanks and abdomen very dark chestnut-brown; under tail-coverts cinnamon. Tail bright chestnut; tips and edges of both webs bluish black, most extensive on lateral tail-feathers, reaching on outer webs nearly to their base. Maxilla

black; mandible black, with a slight indication of flesh-colour at the base. Feet black. Length of wing  $2\frac{1}{2}$  inches, tail  $1\frac{1}{2}$ , bill  $\frac{9}{12}$ . Total length of skin  $3\frac{5}{12}$  inches, but as it has been very much shortened in making it up, it is probable the real length would be nearer four inches.

"Hab. Bogota? (Elliot," *l. s. c.*)

I do not recognize any skin answering to this description in the Museum series. The bird seems to belong to the *A. riefferi* section of the genus, and the type is probably, to judge from the darkness of the bill, the skin of a female bird.

### 16. *Amazilia riefferi*.

- Trochilus fuscicaudatus*, *Fraser, P. Z. S.* 1840, p. 17 ?  
*Trochilus riefferi*, *Bourc. Ann. Sc. Phys. et Nat. Lyon*, vi. p. 45 (1843); *id. Rev. Zool.* 1843, p. 103.  
*Hylocharis fuscicauda*, *Gray, Gen. B.* i. p. 114.  
*Polytmus riefferi*, *Gray, Gen. B.* i. p. 132.  
*Trochilus aglaiae*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, ix. p. 329 (1846); *id. Rev. Zool.* 1846, p. 316.  
*Amazilius riefferi*, *Bp. Consp. Av.* i. p. 78; *id. Rev. Zool.* 1854, p. 254; *Sci. P. Z. S.* 1859, p. 145.  
*Amazilius aglaiae*, *Bp. Consp. Av.* i. p. 71.  
*Trochilus dubusi*, *Bourc. Ann. Sc. Phys. et Nat. Lyon*, (2) iv. p. 141 (1852).  
*Chlorestes*  $\gamma$ . *Saucerotia fuscicaudata*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 4, pl. 606. ff. 4552-3.  
*Amazilia riefferi*, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 8, pl. 778. ff. 4798-9; *Sci. & Salv. Ibis*, 1859, p. 130; *id. P. Z. S.* 1864, p. 365, 1879, p. 530; *Gould, Mon. Troch.* v. pl. 311 (May 1860); *Sci. P. Z. S.* 1860, pp. 94, 253, 296; *id. Cat. Am. B.* p. 314; *Salv. Ibis*, 1860, pp. 195, 270, 1872, p. 320; *id. P. Z. S.* 1867, p. 156, 1870, p. 210; *id. Cat. Strickl. Coll.* p. 369; *Lawr. Ann. Lyc. N. Y.* vii. p. 292; *Muls. & Ferr. Class. Troch.* p. 35; *Wyatt, Ibis*, 1871, p. 378; *Merrill, Bull. Nutt. Orn. Club*, i. p. 88; *Berl. J. f. Orn.* 1884, p. 311.  
*Amazilia dubusi*, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 8, pl. 778. ff. 4809-10.  
*Chlorestes*  $\gamma$ . *Saucerotia aglaiae*, *Reich. Aufz. d. Col.* p. 8.  
*Amazilius dubusi*, *Bp. Rev. Zool.* 1854, p. 254; *Sci. P. Z. S.* 1859, p. 386.  
*Pyrrhophæna dubusi*, *Cab. & Heine, Mus. Hein.* iii. p. 36; *Cab. J. f. Orn.* 1862, p. 163.  
*Pyrrhophæna riefferi*, *Cab. & Heine, Mus. Hein.* iii. p. 35; *Gould, Intr. Troch.* p. 158; *Lawr. Ann. Lyc. N. Y.* viii. p. 184, ix. p. 127; *id. Bull. U.S. Nat. Mus.* no. 4, p. 33; *v. Frantz, J. f. Orn.* 1869, p. 317; *Sci. & Salv. P. Z. S.* 1870, p. 803; *Boucard, P. Z. S.* 1878, p. 71; *Berl. J. f. Orn.* 1887, p. 334.  
*Pyrrhophæna saavis*, *Cab. & Heine, Mus. Hein.* iii. p. 38.  
*Eranna dubusi*, *Heine, J. f. Orn.* 1863, p. 188.  
*Hemithylax aglaiae*, *Cab. & Heine, Mus. Hein.* iii. p. 38.  
*Eranna saavis*, *Heine, J. f. Orn.* 1863, p. 188.  
*Eranna jucunda*, *Heine, J. f. Orn.* 1863, p. 188.  
*Eranna riefferi*, *Heine, J. f. Orn.* 1863, p. 188.

- Ariana riefferi*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 316, iv. p. 184; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206.  
*Amazilia fuscicaudata*, *Ridgw. Pr. U.S. Nat. Mus.* i. p. 147, x. p. 591; *id. Man. N. Am. B.* p. 317; *Elliot, Spn. Troch.* p. 220; *Nutting, Pr. U.S. Nat. Mus.* v. p. 398, vi. p. 406.  
*Amazilia fuscicaudatus*, *Eudes-Desl. Ann. Mus. Cuen.* i. p. 405.

*Adult male.* Upper surface shining bronzy-green, darker on the crown; upper tail-coverts chestnut; under surface glittering green, passing into shining green on the upper abdomen and flanks; lower abdomen fuscous, lores and under tail-coverts chestnut; tail chestnut, tipped and edged with bronze: bill flesh-colour, the tip black. Total length about 4 inches, wing 2.3, tail 1.35, bill 0.93.

*Adult female.* Similar to the male, but with the maxilla darker, the base only flesh-colour.

*Young.* Very similar to the adult, the glittering discal spots of the throat and breast-feathers replaced by shining green.

This species passed as *A. riefferi*, until Mr. Ridgway and Mr. Elliot substituted Fraser's title *T. fuscicaudatus* for it. The latter name was included amongst the synonyms of *A. riefferi* by Gould, but its locality wrongly stated to be Honduras. Count Berlepsch has recently questioned the propriety of the change of name, and suggested that Fraser's type should be re-examined. This I have attempted to do with the following result, the so-called type having kindly been lent me by the authorities of the Liverpool Museum. Fraser, when describing his *T. fuscicaudatus*, gave its locality as "Chachapoyas, Peru;" but the so-called type specimen bears the following inscription in Fraser's handwriting:—"Trochilus fuscicaudatus, Fraser, Orig. of desc. in Proc. Zool. Soc. Feb. 1840. From St. Fé de Bogota." It follows that either the original locality was wrongly given, or that this bird is not the type. Comparing the latter with the description, I find the following discrepancies:—The tail being slightly forked, cannot well be called "subrotundata." The feathers of the under surface can hardly be said to be "albido marginatis," though the throat-plumes have the whitish fringe of freshly moulted feathers. The crissum, as distinguished from the anal feathers, is said to be "fuseum," whereas the under tail-coverts in the Bogota bird are chestnut, the same colour as the base of the tail, the latter being called "submetallice castanea."

I much doubt the Bogota bird being the type of the description, notwithstanding Fraser's statement, and therefore I doubt the propriety of superseding *A. riefferi* by *A. fuscicaudatus*.

The series before me (about 90 specimens) shows on the whole that this species is very constant throughout its range, and exhibits no localized races that I can trace. It follows that the names *dubusi* (Honduras), *suavis* (Cartagena), *juvencula* (W. Ecuador), and *aglaia* (ex patria ignota) fall as synonyms of *A. riefferi*.<sup>2</sup>

The chestnut lores are a distinguishing feature in this bird.

*Hab.* Eastern Mexico, from the Rio Grande Valley, Central America, Colombia and Ecuador.

a. ♂ ad. sk.	Tampico, Mexico ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
b. ♂ ad. sk.	Cordoba, Vera Cruz, Jan. ( <i>Sallé</i> ).	Gould Coll.
c, d. ♂ ad. sk.	Playa Vicente, Vera Cruz, Dec. ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
e, f. ♂ ad. ; g. ♀ ad. sk.	Xochiapa, Vera Cruz, Jan. ( <i>M. T.</i> ).	Salvin-Godman Coll.
h-j. ♂ ad. ; k, l. ♀ ad. sk.	Teapa, Tabasco, March ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
m. ♂ ad. ; n-p. ♀ ad. sk.	Orange Walk, Brit. Honduras ( <i>G. F. Gaumer</i> ).	Salvin-Godman Coll.
q, r. ♂ ad. ; s. ♀ ad. sk.	Corosal, Brit. Honduras ( <i>Roe</i> ).	Salvin-Godman Coll.
t. ♂ ad. sk.	Belize, Brit. Honduras ( <i>Blancaneaux</i> ).	Salvin-Godman Coll.
u. ♂ ad. ; v-x. ♀ ad. sk.	Cayo, Brit. Honduras ( <i>Blancaneaux</i> ).	Salvin-Godman Coll.
y. ♂ ad. sk.	Santana, Peten, April ( <i>O. S.</i> ).	Salvin-Godman Coll.
z. ♂ ad. ; a'. ♀ ad. sk.	Choctum, Guatemala, Feb. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
b', c'. Juv. sk.	Lanquin, Guatemala, March ( <i>O. S.</i> ).	Salvin-Godman Coll.
d'. ♂ ad. ; e'. ♀ ad. sk.	Coban, Guatemala, Jan., Nov. ( <i>O. S.</i> ).	Gould & Selater Colls.
f'-h'. ♂ ad. ; i'-k'. ♀ ad. sk.	Guatemala.	Gould Coll.
l. ♀ ad. sk.	Honduras ( <i>Bourcier</i> ).	Gould Coll. (Type of <i>T. dubusi</i> .)
m'. ♂ ad. ; n'. ♀ ad. sk.	Chontales, Nicaragua ( <i>Belt</i> ).	Salvin-Godman Coll.
o'. ♂ ad. sk.	Orosi, Costa Rica ( <i>Kramer</i> ).	Salvin-Godman Coll.
p'. ♀ ad. sk.	Irazu, Costa Rica ( <i>Rogers</i> ).	Salvin-Godman Coll.
q'. ♂ ad. sk.	Tucurriqui, Costa Rica ( <i>Arcé</i> ).	Salvin-Godman Coll.
r', s'. ♂ ad. ; t'. ♀ ad. sk.	Costa Rica ( <i>Carmirol, Endres</i> ).	Gould Coll.
u'. ♂ ad. sk.	David, Panama ( <i>Warszewicz</i> ).	Gould Coll.
v'. ♀ ad. sk.	Chitra, Panama.	Arcé [C.]
w'. ♀ ad. sk.	Boquete de Chitra ( <i>Arcé</i> ).	Gould Coll.
x'. ♂ ad. ; y'. ♀ ad. sk.	Calovevora, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
z'. ♂ ad. ; a''. ♀ ad. sk.	Lion Hill, Panama ( <i>O. S., McLeanman</i> ).	Salvin-Godman Coll.
b''. ♀ ad. sk.	Paraiso, Panama ( <i>Hughes</i> ).	Salvin-Godman Coll.
c''. ♂ ad. sk.	Baranquilla, Colombia ( <i>Rippon</i> ).	Sclater Coll.
d''. ♂ ad. sk.	Medellin, Colombia ( <i>Salmon</i> ).	Gould Coll.
e''-h''. ♂ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
i'', j''. ♂ ad. sk.	Gorgona ( <i>Kellett &amp; Wood</i> ).	Salvin-Godman & Gould Colls.
k''. ♂ ad. sk.	Esmeraldas, Ecuador ( <i>Fraser</i> ).	Sclater Coll.
l''. ♂ ad. sk.	Guayaquil, Ecuador.	Gould Coll.
m''. ♂ ad. sk.	Peruche, Ecuador, March ( <i>Fraser</i> ).	Gould Coll.
n''. ♂ ad. sk.	Pallatanga, Ecuador ( <i>Fraser</i> ).	Gould Coll.
o''. ♂ ad. ; p''. ♀ ad. sk.	Quito, Ecuador.	Gould Coll.

<i>q''</i> , <i>q'''</i> . ♂ ad. sk.	Santa Rita, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>s''</i> , <i>s'''</i> . Juv. sk.	Monji, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>u''</i> . ♀ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>v''-x''</i> . ♂ ad. sk.	Citado, Ecuador ( <i>Buckley</i> ).	Gould Coll.

17. *Amazilia viridiventris*.

*Trochilus viridigaster*, *Bourc. Ann. Sc. Phys. et Nat. Lyon*, vi. p. 42 (1843); *id. Rev. Zool.* 1843, p. 103.

*Hylocharis viridigaster*, *Gray, Gen. B.* i. p. 115; *Bp. Consp. Av.* i. p. 74.

*Chlorestes*  $\gamma$ . *Saucerotia viridiventris*, *Reich. Aufz. d. Col.* p. 8.

*Saucerotia viridigaster*, *Bp. Rev. Zool.* 1854, p. 255.

*Chlorestes viridiventris*, *Reich. Troch. Enum.* p. 4, pl. 699. ff. 4564-5.

*Amazilia viridigaster*, *Gould, Mon. Troch.* v. pl. 314 (Sept. 1860).

*Hemithylaca viridiventris*, *Cab. & Heine, Mus. Hein.* iii. p. 38.

*Pyrrhophæna viridigaster*, *Gould, Intr. Troch.* p. 159.

*Amazilia viridiventris*, *Sci. Cat. Am. B.* p. 315; *Wyatt, Ibis*, 1871, p. 378; *Elliot, Syn. Troch.* p. 220.

*Eratina viridiventris*, *Heine, J. f. Orn.* 1863, p. 191.

*Ariana viridigaster*, *Muls. & Ferr. Class. Troch.* p. 36; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 320, iv. p. 185; *id. Ann. Soc. Linn. Lyon*, xxii. p. 207.

*Polytmus viridigaster*, *Gray, Hand-l. B.* i. p. 132.

*Saucerotia viridigaster*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 419.

*Pyrrhophæna viridiventris*, *Berl. J. f. Orn.* 1887, p. 332.

*Adult male.* Upper surface shining bronzy green, browner on the rump, and shading into purple on the upper tail-coverts; under surface glittering grass-green, shading into greyish brown on the abdomen; under tail-coverts brown or greyish rufous with lighter edges; tail dark shining purple-violet: maxilla black; mandible flesh-colour, the tip black. Total length about 3.5 inches, wing 2.1, tail 1.2, bill 0.8.

*Female.* Similar to the male.

The colour of the tail seems to vary much in this bird, as in *A. beryllina*, from violet to reddish bronze. All occur in Bogota skins, and I cannot localize the various forms.

*Hab.* Colombia and Venezuela.

<i>a-h</i> . Ad. sk.	Colombia (Bogota make).	Gould [type], Salvin-Godman, & Selater Colls.
<i>i</i> . ♂ ad. sk.	Tachiro, Venezuela ( <i>Goering</i> ).	Salvin-Godman Coll.

18. *Amazilia iodura*.

*Trochilus iodurns*, *Saucerotte, MS.* (*vide Cab.*).

*Chlorestes*  $\gamma$ . *Saucerotia iodura*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 4, pl. 698. ff. 4560-1.

*Hemithylaca iodura*, *Cab. & Heine, Mus. Hein.* iii. p. 39.

*Pyrrhophæna iodura*, *Gould, Intr. Troch.* p. 159; *Muls. Hist. Nat.*

- Ois.-Mouches*, i. p. 299; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206; *Berl. J. f. Orn.* 1887, p. 332.  
*Eratina iodura*, *Heine, J. f. Orn.* 1863, p. 190.  
*Amazilia iodura*, *Elliot, Syn. Troch.* p. 223; *Sharpe in Gould's Mon. Troch. Suppl.* (March 1887).  
*Saucerottia iodura*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 418.

“Capite, collo, pectore, dorso superiore tectricibusque alarum splendide virescentibus, gula paululum alba intermixtis; alis cæruleo-virescentibus latissime pallide fulvescente-limbatis; cauda splendide purpureo-violacea: abdomine fulvescente; crisso albedo. Long. tota 3" 3"', al. 2", caud. 1" 2"', rostr. culm. 9'''.

“*Hab.* Colombia.” (*Cab. & Heine, l. s. c.*)

Unknown to me.

### 19. *Amazilia lucida*.

- Amazilia lucida*, *Elliot, Ann. & Mag. N. H.* 1877, xx. p. 404; *id. Syn. Troch.* p. 223; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 183; *Sharpe in Gould's Mon. Troch. Suppl.* (March 1887).  
*Pyrhophæna lucida*, *Berl. J. f. Orn.* 1887, p. 332.  
*Amazilis lucidus*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 408.

“*Adult.* Crown of the head dark metallic grass-green; upper surface shining grass-green, lighter than the head; upper tail-coverts golden bronze. Throat, breast, abdomen, and flanks metallic grass-green; a light mouse-coloured spot on the lower part of the abdomen. Thighs white, feathers fluffy. Under tail-coverts dark bronzy brown edged with white. Wings dark purple. Tail reddish bronze, darkest in the centre along the shafts, with the tips of the lateral rectrices bluish black, their edges reddish bronze. This bluish-black colour almost resolves itself into a subterminal bar, and is especially conspicuous on the underside of the tail. Bill brownish red, flesh-colour in life, tip black. Total length 3·5 inches, wing 2·12, tail 1·25, culmen 3·75.

“*Hab.* Colombia.” (*Elliot, l. s. c.*)

I am unacquainted with this bird, which from the description seems allied to *A. viridiventris*.

### 20. *Amazilia cupreicauda*.

- Amazilia cupreicauda*, *Salv. & Godm. Ibis*, 1884, p. 452; *Salv. Ibis*, 1885, p. 483; *Sharpe in Gould's Suppl. Troch.* pl. 56 (March 1887).

*Adult male.* Upper surface shining coppery bronze, becoming more coppery on the rump and upper tail-coverts; crown and under surface glittering grass-green, becoming duller on the abdomen; under tail-coverts dark cinnamon or chestnut; tail chestnut, washed with purple-bronze: maxilla black; mandible flesh-colour, the tip black. Total length about 3·5 inches, wing 2, tail 1·15, bill 0·8.

*Female.* Similar to the male.

*Hab.* Guiana.

Allied to *A. viridiventris*, but with the upper surface more coppery, the tail chestnut washed with bronze, not dark violet-blue, and more rounded, &c.

- a-c.* ♂ ad.; *d, e.* Roraima, Brit. Guiana, Feb., Salvin-Godman Coll.  
 ♀ ad. sk. June, July, Dec. (*H. Whitely*). (Types of the species.)  
*f.* ♀ ad. sk. Merumé Mts., Brit. Guiana, Salvin-Godman Coll.  
 July (*H. W.*).  
*g.* ♂ ad. sk. Quonga, Brit. Guiana, Oct. Salvin-Godman Coll.  
 (*H. W.*).

## 21. *Amazilia edwardi*.

- Trochilus edwardi*, *Delattre & Bourc. Rev. Zool.* 1846, p. 308.  
*Polytmus edwardsii*, *Gray, Gen. B.* i. p. 109; *id. Hand-l. B.* i.  
 p. 132.  
*Amazilius edwardi*, *Bp. Consp. Av.* i. p. 78.  
*Chlorestes* γ. *Saucerotia edwardsii*, *Reich. Aufz. d. Col.* p. 8.  
*Thaumantias edwardi*, *Bp. Rev. Zool.* 1854, p. 255.  
*Chlorestes edwardsii*, *Reich. Troch. Enum.* p. 4, pl. 698. ff. 4558-9.  
*Erythronota edwardi*, *Gould. Mon. Troch.* v. pl. 318 (May 1858); *id.*  
*Intr. Troch.* p. 161; *Lawn. Ann. Lyc. N. Y.* vii. p. 292, ix. p. 127.  
*Hemithylaca edwardi*, *Cab. & Heine, Mus. Hein.* iii. p. 37.  
*Eratina edwardi*, *Heine, J. f. Orn.* 1863, p. 191.  
*Saucerotia edwardi*, *Scl. & Salv. P. Z. S.* 1864, p. 365; *Eudes-Desl.*  
*Ann. Mus. Caen*, i. p. 427.  
*Leucodora edwardi*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 311, iv.  
 p. 184; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206.  
*Amazilia edwardi*, *Muls. & Ferr. Class. Troch.* p. 35; *Elliot, Syn.*  
*Troch.* p. 221.

*Adult male.* Upper surface shining reddish coppery, duller on the lower back and rump, greener on the back of the neck and crown; throat and breast glittering grass-green; abdomen white; under tail-coverts dusky, edged with greyish white; tail shining reddish bronze: maxilla black; mandible flesh-colour, the tip black. Total length about 3·5 inches, wing 2, tail 1·2, bill 0·9.

*Female.* Similar to the male.

*Hab.* Panama.

- a-c.* ♂ ad.; *d-f.* Lion Hill, Panama (*McLean-* Salvin-Godman,  
 ♀ ad. sk. *nai*). Gould, & Sclater  
 Colls.  
*g, h.* ♂ ad. sk. Paraiso Station, Panama Salvin-Godman Coll.  
 (*Hughes*).  
*i-k.* ♂ ad.; *l.* ♂ Line of Panama Railway Salvin-Godman &  
 juv. sk. (*Arcé*). Sclater Colls.  
*m.* ♂ ad. sk. Panama? (*Delattre?*). Purchased.

## 22. *Amazilia niveiventris*.

- Trochilus* (—?) *niveiventer*, *Gould, P. Z. S.* 1850, p. 164.  
*Chlorestes* γ. *Saucerotia niveiventer*, *Reich. Aufz. d. Col.* p. 8.  
*Thaumantias niveiventer*, *Bp. Rev. Zool.* 1854, p. 255.  
*Chlorestes niveiventer*, *Reich. Troch. Enum.* p. 4, pl. 700. ff. 4566-7.

- Erythronota niveiventris*, *Gould, Mon. Troch.* v. pl. 319 (May 1858);  
*id. Intr. Troch.* p. 161; *Salv. P. Z. S.* 1867, p. 155, 1870, p. 210.  
*Hemithylaca niveiventris*, *Cab. & Heine, Mus. Hein.* iii. p. 37; *Heine, J. f. Orn.* 1863, p. 192.  
*Saucerottia niveiventris*, *Scl. & Sa'v. P. Z. S.* 1864, p. 365; *Eudes-Desl. Ann. Mus. Caen*, i. p. 429.  
*Ariana niveiventris*, *Muls. & Verr. Class. Troch.* p. 36.  
*Leucodora niveiventris*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 313, iv. p. 184; *id. Ann. Soc. Linn. Lyon*, xxii. p. 206.  
*Amazilia niveiventris*, *Elliot, Syn. Troch.* p. 222.  
*Polytmus niveiventris*, *Gray, Hand-l. B.* i. p. 133.

*Adult male.* Similar to that of *A. edwardi*, but with the tail purplish steel-blue instead of reddish bronze.

*Female.* Similar to the male; the lateral rectrices tipped with bronze.

*Hab.* Costa Rica and the State of Panama.

<i>a, b.</i> ♂ ad. sk.	Costa Rica.	Gould Coll.
♂ ad. sk.	Near David, Chiriqui ( <i>Warszewicz</i> ).	Gould Coll. (Type of the species.)
<i>d.</i> ♂ ad. sk.	Chitra, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>e-g.</i> ♂ ad. sk.	Chiriqui ( <i>Arcé</i> ).	Salvin-Godman & Selater Colls.
<i>h, i.</i> ♂ ad. sk.	Veraguas ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
<i>j.</i> Juv. sk.	Cordillera del Chucu ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>k, l.</i> ♂ ad.; m. Juv. sk.	Calovevora, Panama ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
<i>n.</i> ♂ ad. sk.	Lion Hill, Panama ( <i>McLeanan</i> ).	Salvin-Godman Coll.
<i>o.</i> ♂ ad. sk.	Panama? ( <i>Seemann</i> ?).	Gould Coll.
<i>p.</i> Skeleton.		Gould Coll.

### 23. *Amazilia warszewiezi*.

- Hemithylaca warszewiezi*, *Cab. & Heine, Mus. Hein.* iii. p. 38; *Heine, J. f. Orn.* 1863, p. 193.  
*Saucerottia warszewiezi*, *Gould, Intr. Troch.* p. 163; *Wyatt, Ibis*, 1871, p. 378; *Salv. & Godm. Ibis*, 1880, p. 173; *Eudes-Desl. Ann. Mus. Caen*, i. p. 423.  
*Hemithylaca caligata*, *Cab. & Heine, Mus. Hein.* iii. p. 39?  
*Hemithylaca braccata*, *Heine, J. f. Orn.* 1863, p. 193?  
*Ariana warszewiezi*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 327, iv. p. 185; *id. Ann. Soc. Linn. Lyon*, xxii. p. 207.  
*Polytmus warszewiezi*, *Gray, Hand-l. B.* i. p. 131.  
*Amazilia warszewiezi*, *Elliot, Syn. Troch.* p. 235; *Sharpe in Gould's Mon. Troch. Suppl.* (March 1887).

*Adult male.* Upper surface shining dark grass-green; longer upper tail-coverts and tail bright steel-blue; under surface glittering grass-green; under tail-coverts steel-blue, more or less edged with white; maxilla blackish; mandible flesh-colour, the tip black.

*Female.* Similar to the male.

Cabanis and Heine described this species from two specimens said to have been obtained by Warszewiez in Veragua; but Gould



tells us that his examples (no longer in the collection) from the same source came from the "Banks of the Magdalena;" and I have little doubt all Warszewicz's examples were from the latter locality, and none from Veragua.

The specimens from Merida, given us by Count von Berlepsch, are labelled *A. warszewiezi braccata* (Heine).

*Hab.* Northern Colombia, Magdalena Valley, Sierra de Santa Marta, &c.

<i>a-g.</i> Ad. sk.	Santa Marta, Colombia.	Gould Coll.
<i>h.</i> Ad. sk.	Sierra de Santa Marta ( <i>F. Simons</i> ).	Salvin-Godman Coll.
<i>i.</i> ♂ ad.; <i>j.</i> ♀ ad. sk.	Minca, Sierra de Santa Marta, Feb., Mar. ( <i>F. S.</i> ).	Salvin-Godman Coll.
<i>k.</i> Ad. sk.	Atanques, Sierra de Santa Marta, Feb. ( <i>F. S.</i> ).	Salvin-Godman Coll.
<i>l.</i> ♂ ad. sk.	Valencia, Sierra de Santa Marta, May ( <i>F. S.</i> ).	Salvin-Godman Coll.
<i>m.</i> Ad. sk.	Manauare, Colombia, May ( <i>F. S.</i> ).	Salvin-Godman Coll.
<i>n.</i> Ad. sk.	Herradura, Colombia ( <i>Wyatt</i> ).	Sclater Coll.
<i>o, p.</i> Ad. sk.	Prov. Santander, Colombia ( <i>Wyatt</i> ).	Salvin-Godman Coll.
<i>q-s.</i> ♂ ad.; <i>t, u.</i> Juv. sk.	Merida, Venezuela ( <i>S. Briceño</i> ) ( <i>e don. H. v. Berlepsch</i> ).	Salvin-Godman Coll.
<i>v.</i> ♂ ad. sk.	—?	Gould Coll.

#### 24. *Amazilia saucerottii*.

*Trochilus saucerottii*, *Bourc. & Delattre, Rev. Zool.* 1846, p. 311.

*Saucerottia typica*, *Ep. Consp. Av.* i. p. 77; *id. Rev. Zool.* 1854, p. 255; *Gould, Intr. Troch.* p. 162; *Sci. & Salv. P. Z. S.* 1879, p. 530.

*Chlorestes γ. Saucerottia typica*, *Reich. Aufz. d. Col.* p. 7.

*Chlorestes typica*, *Reich. Troch. Enum.* p. 4, pl. 701. ff. 4569-70.

*Hemithylaca saucerottii*, *Cab. & Heine, Mus. Hein.* iii. p. 38; *Heine, J. f. Orn.* 1863, p. 192.

*Erythronota typica*, *Gould, Mon. Troch.* v. pl. 321 (Sept. 1861).

*Ariana saucerottii*, *Muls. & Ferr. Class. Troch.* p. 36; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 331, iv. p. 185; *id. Ann. Soc. Linn. Lyon*, xxii. p. 207.

*Amazilia saucerottii*, *Elliot, Syn. Troch.* p. 225.

*Saucerottia warszewiezi*, *Sci. & Salv. P. Z. S.* 1879, p. 530?

*Saucerottia saucerottii*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 424.

*Pyrrhophæna saucerottii*, *Berl. J. f. Orn.* 1887, p. 332.

*Adult male.* Very similar to that of *A. warszewiezi*, but with a duller darker tail and upper tail-coverts; under tail-coverts dusky, washed with greenish and edged with white.

The types of this species were obtained by Delattre near Cali, in the Cauca Valley, Colombia.

*Hab.* Colombia, Cauca Valley.

<i>a, b.</i> Ad. sk.	Cali, Colombia ( <i>Delattre</i> ).	Gould Coll. (Typical specimens.)
<i>c-e.</i> Ad. sk.	Prov. Antioquia, Colombia ( <i>Salmon</i> ).	Salvin-Godman & Sclater Colls.

25. *Amazilia sophiæ*.

- Trochilus sophiæ*, Bourc. & Muls. *Ann. Sc. Phys. et Nat. Lyon*, ix. p. 318 (1846); *id. Rev. Zool.* 1846, p. 316.  
*Trochilus caligatus*, Gould, *P. Z. S.* 1848, p. 14.  
*Amazilius sophiæ*, Bp. *Consp. Av.* i. p. 78.  
*Saucerottia caligata*, Bp. *Consp. Av.* i. p. 78.  
*Chlorestes γ. Saucerottia sophiæ*, Reich. *Aufz. d. Col.* p. 8.  
*Chlorestes γ. Saucerottia caligata*, Reich. *Aufz. d. Col.* p. 8.  
*Saucerottia sophiæ*, Bp. *Rev. Zool.* 1854, p. 255; Gould, *Intr. Troch.* p. 162; *Sci. Cat. Am. B.* p. 315; *Lawr. Ann. Lyc. N. Y.* ix. p. 127; *Boucard, P. Z. S.* 1878, p. 71; *Eudes-Desl. Ann. Mus. Caen*, i. p. 425.  
*Chlorestes sophiæ*, Reich. *Troch. Enum.* p. 4, pl. 697. ff. 4554-5.  
*Erythronota sophiæ*, Gould, *Mon. Troch.* v. pl. 322 (July 1861).  
*Hemithylaca sophiæ*, Cab. & Heine, *Mus. Hein.* iii. p. 38; Heine, *J. f. Orn.* 1863, p. 192.  
*Hemithylaca hoffmanni*, Cab. & Heine, *Mus. Hein.* iii. p. 38; Cab. *J. f. Orn.* 1862, p. 163.  
*Ariana sophiæ*, Muls. & Verr. *Class. Troch.* p. 36; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 328, pl. 28, iv. p. 185; *id. Ann. Soc. Linn. Lyon*, xxii. p. 207.  
*Amazilia sophiæ*, Elliot, *Syn. Troch.* p. 224.  
*Polytmus sophiæ*, Gray, *Hand-l. B.* i. p. 131.

*Adult male.* Similar to those of *A. warszewiezi* and *A. saucerottii*, but rather larger. It has steel-blue under tail-coverts like the former, but differs from both in having the lower back bronzy green, shading into purple on the proximal upper tail-coverts. Total length about 4 inches, wing 2.2, tail 1.2, bill 0.85.

*Young birds* are dusky on the under surface, the glittering green feathers of the throat appearing first in the middle and then spreading to the sides; the under tail-coverts are dusky.

The type of *T. sophiæ*, Bourc. & Muls., is said to have come from Bogota; but the name has of late been strictly associated with the Costa Rica bird, the description applying best to it, rather than to either *A. warszewiezi* or *A. saucerottii*, both of which are Colombian species. Gould compared named examples of his *T. caligatus*, *T. sophiæ*, and *Hemithylaca hoffmanni*, and failed to find any difference between them.

*Hab.* Costa Rica.

- |                                  |   |                       |
|----------------------------------|---|-----------------------|
| <i>a, b.</i> ♂ ad. ; <i>c.</i>   | Bebedero, Costa Rica ( <i>Arcé</i> ).   | Salvin-Godman Coll.   |
| Juv. sk.                         |   |                       |
| <i>d.</i> ♂ ad. sk.              | Tuenrriqui, Costa Rica ( <i>Arcé</i> ). | Salvin-Godman Coll.   |
| <i>e-j.</i> ♂ ad. ; <i>k, l.</i> | Costa Rica ( <i>Endres</i> ).           | Gould Coll.           |
| Juv. sk.                         |   |                       |
| <i>m, n.</i> ♂ ad. sk.           | —? ( <i>Delattre?</i> ).                | Gould & Slater Colls. |
| <i>o, p.</i> ♂ ad. ; <i>q.</i>   | —?                                      | Gould & Slater Colls. |
| Juv. sk.                         |   |                       |
| <i>r.</i> Skeleton.              |   | Gould Coll.           |

26. *Amazilia erythronota*.

- Ornismya erythromotos*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxxii, 181, pl. 61; *id. Rev. Zool.* 1839, p. 19.  
*Trochilus erythronotus*, *Less. Ind. Gén. Troch.* p. xxviii.  
*Polytmus erythronotus*, *Gray, Gen. B.* i. p. 108; *id. Hand-l. B.* i. p. 132; *Léot. Ois. Trin.* p. 137.  
*Saucerotia erythronota*, *Bp. Consp. Av.* i. p. 77; *id. Rev. Zool.* 1854, p. 255; *Scl. Cat. Am. B.* p. 315; *Eudes-Desl. Ann. Mus. Cuen.* i. p. 421.  
*Chlorestes*  $\gamma$ . *Saucerotia erythronota*, *Reich. Aufz. d. Col.* p. 8.  
*Chlorestes erythronota*, *Reich. Troch. Enum.* p. 4, pl. 689, ff. 4562-3.  
*Erythronota antiqua*, *Gould, Mon. Troch.* v. pl. 316 (May 1860); *id. Intr. Troch.* p. 160; *E. C. Taylor, Ibis*, 1863, p. 92.  
*Hemithylaca erythronota*, *Cub. & Heine, Mus. Hein.* iii. p. 37; *Heine, J. f. Orn.* 1863, p. 192; *Finsch, P. Z. S.* 1870, p. 562.  
*Ariana erythronota*, *Muls. & Ferr. Class. Troch.* p. 36; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 323; *id. Ann. Soc. Linn. Lyon*, xxii. p. 207.  
*Amazilia erythronota*, *Elliot, Syn. Troch.* p. 224; *Salv. Cat. Strickl. Coll.* p. 369.

*Adult.* Upper surface shining reddish coppery, becoming deeper on the rump and reddish purple on the longer tail-coverts; crown and under surface glittering grass-green; under tail-coverts reddish brown or dusky, edged with pale grey; tail dark steel-blue; maxilla black; mandible flesh-colour, the tip black. Total length about 3·6 inches, wing 1·95, tail 1·15, bill 0·8.

*Female.* Similar to the male (?).

It has long been a question whether there is more than one form of this bird—that is to say, whether *A. erythronota*, *A. feliciæ*, and the bird from the island of Tobago are sufficiently distinct to be accurately defined. Gould admits two species, and mainly relies on the colour of the upper surface to distinguish *A. erythronota* from *A. feliciæ*\*. Elliot speaks of the upper tail-coverts of *A. feliciæ*

\* I find, however, that this character is most variable and untrustworthy, and that if these two birds are to be separated at all, the darker colour of the tail in the Trinidad specimens (*A. erythronota*) alone serves to distinguish it from the lighter-tailed continental (*A. feliciæ*). The difference is very trifling. The colour of the under tail-coverts, at first sight, appears to afford grounds for separation; but this character, too, is most variable, and due perhaps to sex, perhaps to age or season. The birds with chestnut-red under tail-coverts seem more prevalent in Venezuela. There remains the Tobago Is. bird, which, as Gould says, is larger, with a more deeply forked tail. There can, I think, be little doubt that this is the "Tobago Humming-bird" of Latham (*T. tobaci*, Gm.). In Gould's collection there is one of Kirk's specimens from Tobago, and two others perhaps from the same source. For the present I think it advisable to keep this bird distinct, and to admit of the distinctness of the Trinidad from the Venezuelan bird; but I must say that questions of such nicety can only be settled by an examination of very different materials from those before me. Many specimens, with exact localities, with sexes properly determined and date of capture recorded, are essential for their discrimination, and not a mass of trade skins with none of this necessary information.

Should it prove that only one species can be admitted, this should bear the name of *A. tobaci* (Gm.), notwithstanding Elliot's application of the title to an *Aggrivra*. Count Berlepsch has already dissented from this determination, and I quite agree with him on this point.

as "bluish black," which indicates that specimens of some other species were before him.

*Hab.* Trinidad.

<i>a-c.</i> Ad. sk.	Trinidad.	Salvin-Godman, Gould, & Selater Colls.
<i>d h.</i> Ad. sk.	(Skins of Trinidad make.)	Gould Coll.

### 27. *Amazilia tobaci*.

Tobago Humming Bird, *Lath. Gen. Syn.* i. (2) p. 781.

*Trochilus tobaci*, *Gm. Syst. Nat.* i. p. 498 (*nee* *Agyrtria tobaci*, *Elliot*).

*Trochilus tobagensis*, *Lath. Ind. Orn.* p. 316.

*Trochilus erythronotus*, *Jard. Ann. & Mag. N. H.* xx. p. 374.

*Adult.* Very similar to that of *A. erythronota*, but rather larger, the bill longer, and the tail more deeply forked: upper tail-coverts rich purple; proximal under tail-coverts purple with bronzy-green tips, distal purple, all with dusky edges. Total length about 4 inches, wing 2.1, tail 1.4, bill 0.85.

Very doubtfully distinct from *A. erythronota*, but now kept separate pending the receipt of additional specimens.

*Hab.* Tobago.

<i>a.</i> Ad. sk.	Tobago ( <i>Kirk</i> ).	Gould Coll.
<i>b. c.</i> Ad. sk.	Tobago ?	Gould Coll.

### 28. *Amazilia feliciæ*.

*Ornismya feliciæ*, *Less. Rev. Zool.* 1840. p. 72.

*Ornismya feliciæ*, *Less. Rev. Zool.* 1844. p. 433.

*Chlorestes γ. Saucerottia feliciæ*, *Reich. Aufz. d. Col.* p. 7.

*Saucerottia feliciæ*, *Bp. Rev. Zool.* 1854. p. 255.

*Chlorestes feliciæ*, *Reich. Troch. Enum.* p. 4, pl. 697. ff. 4556-7.

*Erythronota feliciæ*, *Gould, Mon. Troch.* v. pl. 317 (Sept. 1849); *id.*

*Intr. Troch.* p. 161; *Sci. & Salv. P. Z. S.* 1868, p. 629; *Eudes-Dest. Ann. Mus. Caen*, i. p. 422.

*Hemithylaca feliciæ*, *Cab. & Heine, Mus. Hein.* iii. p. 38; *Heine, J. f. Orn.* 1863, p. 192.

*Ariana feliciæ*, *Muls. & Verr. Class. Troch.* p. 36; *Muls. Hist. Nat.*

*Ois.-Mouches*, i. p. 325, iv. p. 185; *id. Ann. Soc. Linn. Lyon*, xxii. p. 207.

*Polytmus feliciæ*, *Gray, Hand-l. B.* i. p. 132.

*Amazilia feliciæ*, *Elliot, Syn. Troch.* p. 234 (?).

*Adult.* Similar to *A. erythronota*, but with the tail rather brighter steel-blue.

Most of Dyson's specimens, and one marked "Orinoco" by Gould, have the under tail-coverts reddish chestnut; but one of the former has a feather reddish on one side of the shaft and purple on the other! This shows how little value can be attached to this character. Another specimen (without locality) has the outermost

rectrix but one on one side only *purple*, the rest being of the normal colour. This feather I suppose to be an old one, altered by exposure to light.

The colour of the back in this bird varies from reddish coppery to green, and it is quite the exception to find a specimen as green as represented in Gould's plate. The lighter brighter tail alone seems to separate *A. felicie* from *A. erythronota*; but the difference is so slight that it is more than probable that both these birds and *A. tobaci* will have to be placed under one specific name.

The specimen mentioned by Gould as having purple tips to the lateral rectrices is immature.

*Hab.* Venezuela.

<i>a, b.</i> Ad. sk.	Venezuela.	E. Byson [C.].
<i>c-e.</i> Ad. sk.	Venezuela ( <i>Dyson</i> ).	Gould Coll.
<i>f.</i> Ad. sk.	Venezuela.	Gould Coll.
<i>g.</i> Juv. sk.	Orinoco.	Gould Coll.
<i>h-j.</i> Ad. sk.	Caracas, Venezuela ( <i>Lansberg</i> ).	Gould Coll.
<i>k.</i> Ad. sk.	Santa Cruz de Orinoco, Prov. Barcelona, Venezuela.	Gould Coll.
<i>l.</i> Ad. sk.	Venezuela ( <i>Goering</i> ).	Salvin-Godman Coll.
<i>m.</i> Ad. sk.	Venezuela.	Selater Coll.
<i>n, o.</i> Ad. sk.	— ?	Gould Coll.

### 29. *Amazilia elegans*.

*Erythronota* ? *elegans*, *Gould, P. Z. S.* 1860, p. 307.

*Erythronota elegans*, *Gould, Mon. Troch.* v. pl. 320 (Sept. 1861);  
*id. Intr. Troch.* p. 162.

*Erasinia elegans*, *Heine, J. f. Orn.* 1863, p. 191.

*Arania elegans*, *Muls. & Ferr. Class. Troch.* p. 36.

*Sporadinus incertus*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 76; *Eudes-Desl. Ann. Mus. Carn.* i. p. 505.

*Amazilia elegans*, *Elliot, Syn. Troch.* p. 226; *Sharpe in Gould's Mon. Troch. Suppl.* (March 1887).

*Adult.* Similar to that of *A. erythronota*, but of a brighter, more golden glittering green; bill shorter and more slender; tail dark purple-bronze (not steel-blue) and more deeply forked; under tail-coverts bronzy green edged with dusky white.

*Hab.* Unknown.

<i>a.</i> Ad. sk.	— ?	Gould Coll. (Type of the species.)
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### 30. *Amazilia cyanifrons*.

*Trochilus cyanifrons*, *Bourc. Ann. Sc. Phys. et Nat. Lyon*, vi. p. 42 (1843); *id. Rev. Zool.* 1843, p. 100.

*Thalurania cyanifrons*, *Bp. Consp. Av.* i. p. 77.

*Chlorestes*  $\gamma$ . *Saucerottia cyanifrons*, *Reich. Aufz. d. Col.* p. 8.

*Saucerottia cyanifrons*, *Bp. Rev. Zool.* 1854, p. 355; *Gould, Mon.*

- Troch.* v. pl. 323 (Sept. 1856); *Scl. Cat. Am. B.* p. 315; *Wyatt, Ibis*, 1871, p. 378; *Eudes-Dest. Ann. Mus. Cuen*, i. p. 430.  
*Chlorestes cyanifrons*, *Reich. Troch. Enum.* p. 4, pl. 701. ff. 4571-2.  
*Hemithylaca cyanifrons*, *Cab. & Heine, Mus. Hein.* iii. p. 39; *Gould, Intr. Troch.* p. 163.  
*Eratopis cyanifrons*, *Heine, J. f. Orn.* 1863, p. 191.  
*Ariana cyanifrons*, *Muls. & Ferr. Class. Troch.* p. 36; *Muls. Hist. Nat. Ois.-Mouche*s, i. p. 332, iv. p. 185; *id. Ann. Soc. Linn. Lyon*, xxii. p. 207.  
*Polytmus cyanifrons*, *Gray, Hand-l. B.* i. p. 131.  
*Amazilia cyanifrons*, *Elliot, Syn. Troch.* p. 225; *Berl. J. f. Orn.* 1884, p. 312.  
*Pyrrophæna cyanifrons*, *Berl. J. f. Orn.* 1887, p. 332.

*Adult male.* Upper surface shining bronzy green, shading into dusky on the rump and shorter tail-coverts, and then into steel-blue on the longer coverts; crown shining dark blue; under surface glittering grass-green; under tail-coverts dusky, washed with a shade of blue and edged with whitish; tail steel-blue: maxilla black; mandible flesh-colour, the tip black. Total length about 3.7 inches, wing 2.2, tail 1.3, bill 7.05.

*Female.* Similar to the male, but with the crown duller blue and the under surface duller green.

*Hab.* Colombia.

- a, b.* ♀ ad. sk. Herradura, Colombia (*Wyatt*). Salvin-Godman Coll.  
*c-l.* ♂ ad.: *m-p.* Colombia (Bogota make). Salvin-Godman &  
 ♀ ad. sk. Gould Colls.

## 56. FLORICOLA.

Type.

- Floricola, *Elliot, Syn. Troch.* p. 82 (1879) ..... *F. longirostris*.  
*Heliomaster, auct., nec Bp.*  
*Heliomastes, Bp. Rev. Zool.* 1854, p. 251.

*Range.* Southern Mexico, Central America, Colombia, Venezuela, Trinidad, Amazons Valley, Guiana.

### Key to the Species.

- a.* Crown glittering bluish green.  
     *a'.* Under tail-coverts brownish black tipped with white ..... *longirostris*, p. 229.  
     *b'.* Under tail-coverts greyish white ..... *albicrissa*, p. 231.  
*b.* Crown bronzy green like the back.  
     *c'.* Glittering fiery spot of the throat wide, chin narrowly black ..... *constanti*, p. 231.  
     *d'.* Glittering fiery spot of the throat narrow, chin broadly black ..... *leocardia*, p. 232.

1. *Floricola longirostris*.

- Oiseaux-Mouche à long Bec, *Aud. Ois. Dor.* i. p. 123, pl. 59.  
*Trochilus longirostris*, *Viell. N. Dict. d'Hist. N.* vii. p. 366; *id. Enc. Méth.* p. 566; *Gray, Hand-l. B.* i. p. 137.  
*Trochilus superbus*, *Shaw, Nat. Misc.* xiii. pl. 517; *id. Gen. Zool.* viii. p. 323, pl. 41. f. 2; *id. Pl. Col.* 299. f. 1; *Less. Ind. Gén. Troch.* p. xix.  
*Ornismya superba*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxv, 40, pl. 2; *id. Suppl. Ois.-Mouches*, p. 164, pl. 33.  
*Ornismya longirostris*, *d'Orb. & Lafr. Syn. Av.* ii. p. 29.  
*Heliomaster longirostris*, *Bp. Consp. Av.* i. p. 79; *Gould, Mon. Troch.* iv. pl. 259 (May 1853); *id. Intr. Troch.* p. 138; *id. P. Z. S.* 1870, p. 803; *Sci. P. Z. S.* 1856, p. 140, 1857, p. 16; *id. Cat. Am. B.* p. 310; *Salv. Ibis*, 1860, pp. 195, 263, 276, 1869, p. 316, 1885, p. 435; *id. P. Z. S.* 1867, p. 155, 1870, p. 210; *Cub. & Heine, Mus. Hein.* iii. p. 54; *E. C. Taylor, Ibis*, 1863, p. 92; *Pelz. Orn. Bras.* p. 31; *Lawr. Ann. Lyc. N. Y.* ix. p. 126; *Finsch, P. Z. S.* 1870, p. 562; *Sci. & Salv. P. Z. S.* 1867, pp. 753, 979, 1873, p. 288, 1879, p. 530; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 215; *Elliot, Ibis*, 1877, p. 138; *Tacz. P. Z. S.* 1882, p. 38; *Berl. J. f. Orn.* 1887, p. 321.  
*Selasphorus*  $\gamma$ . *Heliomaster longirostris*, *Reich. Aufz. d. Col.* p. 13.  
*Heliomastes longirostris*, *Bp. Rev. Zool.* 1854, p. 251; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 271, iv. p. 211.  
*Heliomaster selateri*, *Cub. & Heine, Mus. Hein.* iii. p. 54; *Sci. Cat. Am. B.* p. 310; *Gould, Intr. Troch.* p. 139; *Lawr. Ann. Lyc. N. Y.* viii. p. 4, ix. p. 126.  
*Heliomaster pallidiceps*, *Gould, Intr. Troch.* p. 139; *Sci. Cat. Am. B.* p. 310; *Salv. Ibis*, 1866, p. 205, 1869, p. 316, 1872, p. 320; *id. Cat. Strickl. Coll.* p. 367; *Lawr. Ann. Lyc. N. Y.* ix. p. 126; *id. Bull. U.S. Nat. Mus.* no. 4, p. 32; *de Oca, La Nat.* iii. p. 27; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 275, iv. p. 211; *id. Ann. Soc. Linn. Lyon*, xxii. p. 215.  
*Heliomaster stewartæ*, *Lawr. Ann. Lyc. N. Y.* vii. p. 291; *Gould, Ibis*, 1860, p. 309; *id. Intr. Troch.* p. 138; *Sci. Cat. Am. B.* p. 310; *Sci. & Salv. P. Z. S.* 1864, p. 365.  
*Trochilus stewartæ*, *Gray, Hand-l. B.* i. p. 137.  
*Mellisuga longirostris*, *Léotaud, Ois. Trin.* p. 147.  
*Trochilus pallidiceps*, *Gray, Hand-l. B.* i. p. 137.  
*Floricola longirostris*, *Elliot, Syn. Troch.* p. 83.

*Adult male.* Upper surface shining grass-green, tinged with bronze on the nape and upper tail-coverts; an irregular white patch on the lower back; crown glittering bluish green, a post-ocular spot, rictal stripe, a patch on the flanks, and middle of the abdomen pure white; chin black; a large gular patch glittering rosy red; breast and sides of the abdomen grey, flanks tinged with shining green; under tail-coverts greyish at the base, a wide sub-terminal greenish-black band, and tips white; tail, central rectrices bronzy green, rest greenish at the base, steel-blue towards the end, and tipped with white; bill black. Total length about 4.6 inches, wing 2.3, tail 1.25, bill 1.45.

*Female.* Crown like the back. rictal stripe wider, throat black,

each feather edged with white, and sometimes interspersed with glittering red feathers.

*Young males* are like the female, the rosy-red feathers of the throat gradually increase in number, and generally become fully developed before the glittering feathers of the crown appear.

Of the names given to this bird *H. longirostris* applies to that of Venezuela, Trinidad, and the whole of the Amazons region and Guiana, *H. stewarti* to that of Colombia, *H. sclateri* to that of Costa Rica, and *H. pallidiceps* to that of Mexico. The only one of these that appears to have any substantial claims to recognition is the last. The paler green, less blue crown are said to distinguish it, and certainly the Mexican birds have this distinctive character when compared with others of the typical Trinidad form. But the transition between one and the other seems complete.

*Hab.* Mexico, southwards to Colombia, Venezuela, Guiana, and the Amazons Valley.

a. ♂ ad. sk.	Jalapa, Mexico ( <i>de Oca</i> ).	Gould Coll.
	(Type of <i>H. pallidiceps</i> , Gould.)	
b. ♂ ad. sk.	Oaxaca, Mexico ( <i>Boucard</i> ).	Gould Coll.
c. ♂ juv. sk.	Mexico.	Gould Coll.
d, e. ♂ ad. sk.	Sierra de San Domingo, Tehuantepec, Mexico, April ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
f. ♀ ad. sk.	Santana, Peten, April 1862 ( <i>O. S.</i> ).	Salvin-Godman Coll.
g, h. ♂ ad. sk.	Las Salinas, Guatemala ( <i>O. S.</i> ).	Salvin-Godman & Sclater Colls.
i, j. ♂ ad. ; k, l. ♀ ad. sk.	Retalhuleu, Guatemala, Sept. ( <i>O. S.</i> ).	Salvin-Godman Coll.
m. ♂ ad. ; n. ♀ ad. sk.	Dueñas, Guatemala, Nov. ( <i>O. S.</i> ).	Salvin-Godman Coll.
o-g. ♂ ad. sk.	Guatemala.	Gould Coll.
r, s. ♂ ad. ; t. ♂ juv. sk.	Chontales, Nicaragua ( <i>T. Belt</i> ).	Salvin-Godman Coll.
u. ♂ juv. sk.	Bebedero, Nicoya, Costa Rica ( <i>Arcé</i> ).	Salvin-Godman Coll.
v. ♂ ad. ; w. ♀ ad. sk.	Tueurriqui, Costa Rica ( <i>Arcé</i> ).	Salvin-Godman Coll.
x, y. ♂ ad. sk.	Chiriqui ( <i>Arcé</i> ).	Salvin-Godman Coll.
z. ♂ ad. ; a'. ♂ juv. sk.	Cordillera del Chucu, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
b'. ♂ ad. sk.	Laguna de Castillo, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
c'. ♀ ad. sk.	Chitra, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
d'. ♂ juv. sk.	Cordillera de Tole, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
e', f'. ♂ ad. sk.	Calovevora, Panama ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
g'. ♂ juv. sk.	Santa Fé, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
h', i' ♂ ad. sk.	Veraguas ( <i>Warszewicz</i> ).	Gould Coll.
j'-l' ♂ juv. sk.	Lion Hill, Panama ( <i>McLeannan</i> ).	Salvin-Godman & Sclater Colls.
m'. ♂ ad. sk.	Panama Railway ( <i>Arcé</i> ).	Salvin-Godman Coll.
n'. ♂ ad. sk.	Paraiso Station, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.



<i>o'</i> . ♂ ad. sk.	Chepo, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>p'</i> . ♂ ad. ; <i>q'</i> . ♀ ad. sk.	Baranquilla, Colombia ( <i>Rippon</i> ).	Slater Coll.
<i>r'-u'</i> . ♂ ad. ; <i>v'</i> . ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman, Gould, & Slater Colls.
<i>w'</i> . ♀ ad. sk.	Balzar Mts., W. Ecuador ( <i>Illingworth</i> ).	Salvin-Godman Coll.
<i>x'</i> . ♂ juv. sk.	Canelos, Ecuador ( <i>Buckley</i> ).	Gould Coll.
<i>y'</i> , <i>z'</i> . ♂ juv. sk.	Napo, Ecuador ( <i>Jameson</i> ).	Gould Coll.
<i>a''-c''</i> . ♂ ad. sk.	Pebas, Amazons, 20 April ( <i>J. Haunwell</i> ).	Salvin - Godman & Gould Colls.
<i>d''</i> . ♂ juv. sk.	Iquitos, Amazons, Oct. ( <i>H. Whiteley</i> ).	Salvin-Godman Coll.
<i>e''</i> . ♂ juv. sk.	Engenho do Gama, Matto Grosso, Sept. ( <i>J. Natterer</i> ).	Salvin-Godman Coll.
<i>f''</i> ♀ ad. sk.	Merumé Mts., Brit. Guiana, July ( <i>H. Whiteley</i> ).	Salvin-Godman Coll.
<i>g''</i> , <i>h''</i> . ♂ ad. sk.	Roraima, Brit. Guiana, Oct. & Nov. ( <i>H. W.</i> ).	Salvin-Godman Coll.
<i>i''-l''</i> ♂ ad. ; <i>m''</i> . ♂ juv. sk.	Trinidad.	Savin - Godman & Gould Colls.

## 2. *Floricola albicrissa*.

*Heliomaster albicrissa*, *Gould, P. Z. S.* 1871, p. 504; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 215; *Tacz. P. Z. S.* 1877, p. 745; *Berl. & Tacz. P. Z. S.* 1883, p. 567, 1885, p. 105; *Sharpe in Gould's Mon. Troch. Suppl.* (April 1885).

*Heliomastes albicrissa*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 274.

*Floricola albicrissa*, *Elliot, Syn. Troch.* p. 83.

Very similar to *F. longirostris*, but with the crown paler glittering bluish green, almost as in Mexican specimens; the gular spot redder, less rosy, and the under tail-coverts greyish white.

*Hab.* Ecuador.

<i>a</i> . ♂ ad. sk.	Citádo, Ecuador ( <i>Buckley</i> ).	Gould Coll. (Type of the species.)
<i>b</i> . ♂ ad. sk.	Ecuador.	Purchased.
<i>c</i> . ♂ juv. sk.	Ecuador.	Salvin-Godman Coll.

## 4. *Floricola constanti*.

*Trochilus constanti*, *Delattre, Echo du Monde Savant*, 1843, p. 1069.

*Selasphorus γ. Heliomaster constanti*, *Reich. Aufz. d. Col.* p. 13.

*Heliomastes constanti*, *Bp. Rev. Zool.* 1854, p. 251; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 269, pl. 57, iv. p. 210.

*Heliomaster constanti*, *Gould, Mon. Troch.* iv. pl. 260 (May 1853); *id. Intr. Troch.* p. 140; *Sci. & Saltr. Ibis*, 1859, p. 129; *Saltr. Ibis*, 1860, p. 263; *id. Cat. Strickl. Coll.* p. 367; *Cab. & Heine, Mus. Hein.* iii. p. 54; *Muls. & Verr. Class. Troch.* p. 26; *Laur. Ann. Lyc. N. Y.* ix. p. 126; *id. Bull. U.S. Nat. Mus.* no. 4, p. 32; *v. Frantz. J. f. Orn.* 1869, p. 317; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 26.

*Floricola constanti*, *Elliot, Syn. Troch.* p. 84.

*Adult male.* Upper surface, including the crown, shining bronzy

green; an irregular white patch on the rump; a white rectal stripe on either side of a glittering fiery-red throat; chin black, the feathers as well as those of the gular spot edged with dusky white; middle of the abdomen white; rest of the under surface grey, flanks tinged with shining green and with a white patch; under tail-coverts dusky brown tipped with white, central rectrices bronzy green, lateral with a wide subterminal black band, white tips, and greyish at the base on the inner webs; bill black. Total length about 5 inches, wing 2.7, tail 1.45, bill 1.5.

*Female*. Like the male, but the bright gular spot either smaller or altogether absent.

*Hab.* Central America, from Guatemala to Costa Rica.

<i>a.</i> ♀ ad. sk.	San Gerónimo, Guatemala,	Salvin-Godman Coll.
	Nov. 1860 ( <i>O. S.</i> ).	
<i>b-d.</i> ♂ ad.; <i>e.</i> Juv. sk.	Guatemala.	Salvin-Godman & Gould Colls.
<i>f, g.</i> ♂ ad.; <i>h, i.</i> Juv. sk.	Bebedero, Nicoya, Costa Rica ( <i>Arce</i> ).	Salvin-Godman & Sclater Colls.

#### 4. *Floricola leocardia*.

*Trochilus leocardia*, *Bourc. Ann. Sc. Phys. et Nat. Lyon*, (2) iv. p. 141 (1852).

*Heliomaster pinicola*, *Gould, Mon. Troch.* iv. pl. 261 (May 1853); *de Oca, La Nat.* i. p. 299.

*Selasphorus γ. Heliomaster pinicola*, *Reich. Aufz. d. Col.* p. 13.

*Heliomastes leocardia*, *Bp. Rev. Zool.* 1854, p. 251.

*Heliomaster leocardia*, *Gould, Intr. Troch.* p. 140; *Sci. Cat. Am. B.* p. 310; *Muls. & Verr. Class. Troch.* p. 26; *Lavr. Mem. Bost. Soc. N. H.* ii. p. 292; *id. Bull. U.S. Nat. Mus.* no. 4, p. 32; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 26.

*Floricola leocardia*, *Elliot, Syn. Troch.* p. 84.

*Heliomastes leocardia*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 276.

Very like *F. constanti*, but with the fiery gular spot much smaller, the black of the chin spreading further down.

*Hab.* Mexico, chiefly on the western side.

<i>a.</i> ♂ juv. sk.	Sierra de Alamos, Sonora,	Salvin-Godman Coll.
	May ( <i>W. Lloyd</i> ).	
<i>b.</i> ♂ ad. sk.	Presidio de Mazatlan,	Salvin-Godman Coll.
	Mexico, Feb. ( <i>A. Forrer</i> ).	
<i>c, d.</i> ♂ juv.; <i>e, f.</i> ♀ ad.; <i>g, h.</i> Juv. sk.	Bolaños, Jalisco, Feb. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>i.</i> ♂ ad. sk.	Valley of Mexico ( <i>Le Strange</i> ).	Salvin-Godman Coll.
<i>j, k.</i> ♂ ad. sk.	Dos Arroyos, Guerrero, Sept. & Oct. ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
<i>l.</i> ♂ ad. sk.	Rio Papagaio, Guerrero, Oct. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
<i>m.</i> ♂ ad. sk.	Alto de Camaron, Guerrero, Oct. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
<i>n.</i> ♂ ad. sk.	Venta de Pelegrino, Guerrero, Oct. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.

- o. ♂ ad.; p. ♂ juv.; Mexico (*Floresi*). Gould Coll.  
 q. ♀ ad. sk. (Types of *H. pinicola*, Gould.)  
 r. ♂ ad.; s-u. ♂ Mexico (*Floresi*). Gould Coll.  
 juv. sk.  
 v. ♂ juv. sk. Chimalapa, Tehuantepec, Salvin-Godman Coll.  
 Mar. (*W. B. Richardson*).

## 57. CYANOPHAIA.

Type.

Cyanophaia, *Reich. Aufz. d. Col.* p. 10 (1854).Lepidopyga, *Reich. Troch. Enum.* p. 7.Chlorolampis (Emilia), *Muls. & Ferr. Class. Troch.* p. 41

(1865)..... C. goudoti.

*Range.* Colombia, including the State of Panama; Costa Rica.*Key to the Species.*

- a. Throat and chest, glittering violet-blue; abdomen shining green ..... *cæruleigularis*, p. 233.  
 b. Throat, chest, and abdomen glittering golden or bluish green.  
 a'. Under surface glittering golden green; under tail-coverts green, edged with white. *goudoti*, p. 234.  
 b'. Under surface glittering bluish green; under tail-coverts dark green, edged with grey.. *luminosa*, p. 235.

1. *Cyanophaia cæruleigularis*.Trochilus (—?) *cæruleigularis*, *Gould, P. Z. S.* 1850, p. 163.Trochilus duchaissingii, *Bourc. Compt. Rend.* xxxii, p. 187 (1851).Hylocharis β. *Cyanophaia duchaissingi*, *Reich. Aufz. d. Col.* p. 10.Agyrtia δ. *Cyanochloris cæruleigularis*, *Reich. Aufz. d. Col.* p. 10.Hylocharis β. *Cyanophaia cærulescens*, *Reich. Aufz. d. Col.* p. 10;  
*id. Troch. Enum.* p. 8, pl. 770. f. 4785.Sapphironia duchaissingi, *Bp. Rev. Zool.* 1854, p. 256.Sapphironia cæruleigularis, *Bp. Rev. Zool.* 1854, p. 256; *Gould, Mon. Troch.* v. pl. 346 (May 1860); *id. Intr. Troch.* p. 172; *Scl. & Salv. P. Z. S.* 1864, p. 365; *Salv. P. Z. S.* 1867, p. 156, 1870, p. 211, 1883, p. 425; *Lawr. Ann. Lyc. N. Y.* ix, p. 128; *Wyatt, Ibis*, 1871, p. 378.Agyrtia γ. *Lepidopygia cæruleogularis*, *Reich. Troch. Enum.* p. 7, pl. 764. ff. 4768-70.Thalurania cælina, *Bourc. Rev. Zool.* 1856, p. 552.Lepidopygia cæruleigularis, *Cab. & Heine, Mus. Hein.* iii, p. 40;  
*Muls. Hist. Nat. Ois.-Mouches*, ii, p. 68, iv, p. 197; *id. Ann. Soc. Linn. Lyon*, xxii, p. 208.Hylocharis cæruleigularis, *Muls. & Ferr. Class. Troch.* p. 38.Polytmus cæruleogularis, *Gray, Hand-l. B.* i, p. 131.*Cyanophaia cæruleigularis*, *Elliot, Syn. Troch.* p. 238; *Eudes-Desl. Ann. Mus. Caen*, i, p. 494.*Adult male.* Upper surface shining grass-green; throat and chest glittering violet-blue, shading into glittering green on the sides;

abdomen shining green; under tail-coverts shining green, edged with white; tail steel-blue, the middle rectrices bronzy green; maxilla black; mandible flesh-colour, the tip black. Total length about 4 inches, wing 1.9; tail, central rectrices 1, lateral 1.35; bill 0.85.

*Female.* Upper surface shining green, crown darker; under surface white, sides of the neck washed with bluish green, the chest and flanks with green; under tail-coverts nearly white, with indistinct greenish discs; tail steel-blue, the lateral rectrices tipped with greyish white, the middle rectrices above green like the back.

*Hab.* Northern Colombia, Panama, and Costa Rica.

a. ♂ ad. sk.	Costa Rica.	Gould Coll. (Type of species.)
b. ♂ ad. sk.	Laguna del Castillo, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
c, d. ♂ ad. sk.	Castillo ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
e. ♀ ad. sk.	Cordillera del Chueu ( <i>Arcé</i> ).	Salvin-Godman Coll.
f-i. ♂ ad. sk.	Calobre ( <i>Arce</i> ).	Salvin-Godman & Gould Colls.
j. ♀ ad. sk.	Santa Fé ( <i>Arcé</i> ).	Salvin-Godman Coll.
k. ♂ ad. sk.	Veraguas ( <i>Warszewicz</i> ).	Gould Coll.
l. ♂ ad. sk.	Paraiso Station, Panama ( <i>Hughes</i> ).	Salvin-Godman Coll.
m. ♂ ad. sk.	Lion Hill Station ( <i>McLeanan</i> ).	Salvin-Godman Coll.
n. ♀ ad. sk.	Colon ( <i>A. H. Markham</i> ).	Salvin-Godman Coll.
o. ♂ ad. sk.	—?	Gould Coll.

## 2. *Cyanophaia goudoti*.

*Trochilus goudoti*, *Bourc. Rev. Zool.* 1843, p. 100; *id. Ann. Sc. Phys. et Nat. Lyon*, vi. p. 47 (1843).

*Saucerottia goudoti*, *Bp. Consp. Av.* i. p. 77.

*Agyrtria* ♂. *Chalybura goudoti*, *Reich. Aufz. d. Col.* p. 10.

*Hylocharis goudoti*, *Bp. Rev. Zool.* 1854, p. 255.

*Agyrtria* γ. *Lepidopygia goudoti*, *Reich. Troch. Enum.* p. 7, pl. 763. ff. 4765-6.

*Sapphironia goudoti*, *Gould, Mon. Troch.* v. pl. 345 (May 1860); *id. Intr. Troch.* p. 172.

*Lepidopygia goudoti*, *Cub. S. Heine, Mus. Hein.* iii. p. 41; *Sci. Cat. Am. B.* p. 317; *Berl. J. f. Orn.* 1887, p. 333.

*Chrysolampis* (*Emilia*) *goudoti*, *Muls. S. Ferr. Class. Troch.* p. 41.

*Emilia goudoti*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 64; *id. Ann. Soc. Linn. Lyon*, xxii. p. 208.

*Polytmus goudoti*, *Gray, Hand-l. B.* i. p. 131.

*Cyanophaia goudoti*, *Elliot, Syn. Troch.* p. 239; *Ewles-Desl. Ann. Mus. Cuen*, i. p. 496.

*Adult male.* Upper surface shining golden green; under surface glittering golden green, the middle of the throat tinged with bluish green; under tail-coverts shining green, edged with white; tail steel-blue, the middle rectrices above bronzy green; maxilla black;

mandible flesh-colour, the tip black. Total length about 3·6 inches, wing 2; tail, central rectrices 0·9, lateral 1·3.

*Female?* Similar to the male, but with the middle of the abdomen white, and the under tail-coverts nearly pure white.

I am not sure that the birds described as females may not be immature males. If so, the true female of this species is unknown to me.

*Hab.* Colombia.

*a-l.* ♂ ad.; *m.* ♂ juv.; Colombia (Bogota make). Salvin-Godman & Gould Colls.  
*n, o.* ♀ ad. sk.

### 3. *Cyanophaia luminosa.*

*Sapphironia luminosa*, *Lawr. Ann. Lyc. N. Y.* vii. p. 458.

*Lepidopygia luminosa*, *Heine, J. f. Orn.* 1863, p. 194; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 87.

*Cyanophaia luminosa*, *Elliot, Syn. Troch.* p. 339; *Eudes-Desl. Ann. Mus. Caen*, i. p. 498; *Berl. Pr. U.S. Nat. Mus.* xi. p. 563.

*Emilia luminosa*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 208.

*Cyanophaia caeruleigularis*, *Ridgw. Pr. U.S. Nat. Mus.* iii. p. 319 (partim, *fide Berlepsch*).

“Upper plumage glittering grass-green, inclining to golden on the rump, the crown not so bright and of a very deep green; entire under surface of a very brilliant bluish green, the sides of the neck golden-orange; tail forked and of a rich steel-blue, the two middle feathers green like the rump, the next feather bronzed on the outer web at the end; wings dull purple; under tail-coverts deep green, very narrowly edged with bluish white; thighs clothed with greyish-white feathers; upper mandible black, under yellowish, with the end black; feet and claws black. Length 3·75 inches, wing 1·85, bill 0·73, tail 1·25.

“*Hab.* Colombia.” (*Lawrence, l. s. c.*)

I am unacquainted with this bird, which appears to be closely related to *C. goudoti*, but recognized as distinct by Count v. Berlepsch.

### 58. DAMOPHILA.

*Cœligena* β. *Damophila*, *Reich. Aufz. d. Col.* p. 7. . . . . Type.  
*Juliamya*, *Bp. Rev. Zool.* 1854, p. 255. D. juliaë.

*Range.* Panama, Colombia, and Ecuador.

*Damophila* has been applied by Elliot and others to *Trochilus amabilis*, Gould; but, on the whole, it seems better to keep it for this genus and use Heine's title *Polyerata* for *T. amabilis*. The question may be argued either way, but I prefer to use these names in the same sense as Count Berlepsch.

## Key to the Species.

- a. Crown glittering green like the throat . . . . . *juliæ*, p. 236.  
 b. Crown shining green like the back. . . . . *panamensis*, p. 237.

1. *Damophila juliæ*.

- Ornismyia juliæ*, *Bourc. Rev. Zool.* 1842, p. 373; *id. Ann. Sc. Phys. et Nat. Lyon*, v. p. 315, pl. 21 (1842).  
*Ornismyia felicianæ*, *Less. Rev. Zool.* 1844, p. 433.  
*Cœligena* β. *Damophila juliæ*, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* p. 3, pl. 681, ff. 4494-5.  
*Juliamyia typica*, *Bp. Rev. Zool.* 1854, p. 255; *Gould, Mon. Troch.* v. pl. 337 (Sept. 1859); *id. Intr. Troch.* p. 168; *Sci. P. Z. S.* 1860, pp. 253, 296; *Sci. & Salv. P. Z. S.* 1879, p. 530; *Berl. Pr. U.S. Nat. Mus.* xi. p. 563.  
*Juliamyia juliæ*, *Cass. Pr. Ac. Philad.* 1860, p. 194; *Eudes-Desl. Ann. Mus. Caen*, i. p. 463.  
*Damophila juliæ*, *Cab. & Heine, Mus. Hein.* iii. p. 40; *Sci. Cat. Am. B.* p. 316; *Heine, J. f. Orn.* 1863, p. 194; *Wyatt, Ibis*, 1871, p. 378; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 56, pl. 34, iv. p. 193; *id. Ann. Soc. Linn. Lyon*, xxii. p. 208; *Berl. J. f. Orn.* 1884, p. 312, 1887, p. 333.  
*Juliamyia felicianæ*, *Gould, Intr. Troch.* p. 168; *Berl. & Tacz. P. Z. S.* 1883, p. 565, 1884, p. 306; *Elliot, Syn. Troch.* p. 233; *Eudes-Desl. Ann. Mus. Caen*, i. p. 466.  
*Damophila felicianæ*, *Sci. Cat. Am. B.* p. 316; *Heine, J. f. Orn.* 1863, p. 193; *Muls. & Ferr. Class. Troch.* p. 38; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 60, iv. p. 193; *id. Ann. Soc. Linn. Lyon*, xxii. p. 208.  
*Hylocharis felicianæ*, *Gray, Hand-l. B.* i. p. 151.  
*Hylocharis juliæ*, *Gray, Hand-l. B.* i. p. 151.

*Adult male.* Upper surface shining green, shading into bronzy green on the lower back and upper tail-coverts: crown and throat glittering grass-green; entire abdomen glittering violet-blue; under tail-coverts and tail steel-blue; maxilla black; mandible flesh-colour, the tip black. Total length about 3.2 inches, wing 1.65, tail 1.2, bill 0.65.

*Female.* Upper surface shining grass-green; under surface greyish white; under tail-coverts dusky; tail steel-blue, lateral rectrices tipped with grey.

*Hab.* Colombia, Isthmus of Darien, and Ecuador.

- a, b. ♂ ad.; c. ♀ ad. sk. Colombia (Bogota make). Salvin-Godman & Gould Colls.  
 d, e. ♂ ad. sk. Balzar Mts., Ecuador (*Illingworth*). Salvin-Godman Coll.  
 f. ♂ ad.; g. ♂ juv.; h. ♀ ad. sk. Guayaquil, Ecuador (*Delattre*). Salvin-Godman & Gould Colls.  
 i, j. ♂ ad.; k. ♀ ad. sk. Babahoyo, Ecuador (*Fraser*). Gould & Sclater Colls.  
 l. n. ♂ ad. sk. [Ecuador.] Gould Coll.

2. *Damophila panamensis*.

*Juliamyia typica*, *Laur. Ann. Lyc. N. Y.* vii. p. 292 (*nec Bp.*), ix. p. 128; *Elliot, Syn. Troch.* p. 233.

*Damophila juliae*, *Scl. & Salv. P. Z. S.* 1864, p. 365; *Salv. P. Z. S.* 1870, p. 211 (*nec Bourc.*).

*Damophila panamensis*, *Berl. J. f. Orn.* 1884, p. 313; *id. Pr. U.S. Nat. Mus.* xi. p. 563.

*Adult male.* Very similar to that of *D. juliae*, but with the crown shining green like the back, not glittering like the throat.

*Hab.* Isthmus of Panama.

<i>a-d.</i> ♂ ad.; <i>e, f.</i> ♀ ad. sk.	Lion Hill, Panama ( <i>McLeannan</i> ).	Salvin-Godman, Sclater, & Gould Colls.
<i>g.</i> ♂ ad.; <i>h.</i> ♀ ad. sk.	Paraiso Station, Panama ( <i>Hughes</i> ).	Salvin-Godman Coll.
<i>i, j.</i> ♂ ad.; <i>k.</i> ♀ ad. sk.	Line of Railway, Panama ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
<i>l.</i> ♂ ad. sk.	Chepo, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.

## 59. POLYERATA.

Type.

*Polyerata*, *Heine, J. f. Orn.* 1863, p. 194 . . . . . *P. amabilis*.

*Cœligena* β. *Damophila*, *Reich. Aufz. d. Col.* p. 7 (partim).

*Damophila*, *Gould, Mon. Troch.* v. pl. 341 (1859); *Elliot, Syn. Troch.* p. 233.

*Range.* Costa Rica, Panama, Colombia, Ecuador.

*Key to the Species.*

- a.* Bill short; crown glittering green; upper tail-coverts purple-bronze . . . . . *amabilis*, p. 237.
- b.* Bill longer; crown and nape glittering green; upper tail-coverts dark shining green . . . . . *decora*, p. 238.

1. *Polyerata amabilis*.

*Trochilus* (—?) *amabilis*, *Gould, P. Z. S.* 1851, p. 115.

*Cœligena* β. *Damophila amabilis*, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.* p. 3, pl. 681. ff. 4496-7.

*Juliamyia amabilis*, *Bp. Rev. Zool.* 1854, p. 255; *Scl. P. Z. S.* 1860, p. 296.

*Damophila amabilis*, *Gould, Mon. Troch.* v. p. 341 (Sept. 1859); *id. Intr. Troch.* p. 170; *Cab. & Heine, Mus. Hein.* iii. p. 40; *Laur. Ann. Lyc. N. Y.* vii. p. 292, ix. p. 128; *Scl. & Salv. P. Z. S.* 1864, p. 365, 1879, p. 530; *Muls. & Ferr. Class. Troch.* p. 38; *Bouc. P. Z. S.* 1878, p. 71; *Elliot, Syn. Troch.* p. 234; *Eudes-Desl. Ann. Mus. Caen*, i. p. 467.

*Polyerata amabilis*, *Heine, J. f. Orn.* 1863, p. 194; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 52, iv. p. 193; *id. Ann. Soc. Linn. Lyon*, xxii. p. 208; *Berl. J. f. Orn.* 1884, p. 312, 1887, p. 333.

*Hylocharis amabilis*, *Gray, Hand-l. B.* i. p. 150.

*Adult male.* Upper surface shining grass-green; upper tail-

coverts purple-bronze; crown and sides of the throat glittering green, middle of the throat black; breast glittering blue; abdomen grey; flanks green; under tail-coverts dark fuscous, edged with whitish grey, central rectrices reddish bronze, lateral steel-blue; maxilla black; mandible, except the tip, flesh-colour. Total length about 3.6 inches, wing 2.1, tail 1.15, bill 0.8.

*Adult female.* Upper surface, including the crown, shining grass-green; upper tail-coverts and central rectrices as in the male; under surface greyish white, each feather of the throat with a green discal spot; lateral rectrices tipped with greyish white.

*Hab.* Costa Rica and Panama (except Chiriqui); Colombia and Ecuador.

<i>a, b.</i> ♂ ad.; <i>c.</i> ♀ ad. sk.	Costa Rica ( <i>Endres</i> ).	Salvin-Godman & Gould Colls.
<i>d, e.</i> ♂ ad. sk.	Line of Railway, Panama ( <i>Arce</i> ).	Salvin-Godman Coll.
<i>f, g.</i> ♂ ad.; <i>h,</i> <i>i.</i> ♀ ad. sk.	Lion Hill, Panama ( <i>Arce</i> ).	Salvin-Godman, Gould, & Selater Colls.
<i>j, k.</i> ♂ ad. sk.	Paraiso Station, Panama ( <i>Hughes</i> ).	Salvin-Godman Coll.
<i>l.</i> ♂ ad.; <i>m.</i> ♀ ad. sk.	Chepo, Panama ( <i>Arce</i> ).	Salvin-Godman Coll.
<i>n.</i> ♂ ad. sk.	Antioquia, Colombia ( <i>Sal-</i> <i>mon</i> ).	Salvin-Godman Col.
<i>o.</i> ♂ ad. sk.	Quindiu Mts., Colombia ( <i>Warszewicz</i> ).	Gould Coll.
<i>p-t.</i> ♂ ad.; <i>n.</i> ♂ juv.; <i>v, w.</i> ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>x, y.</i> ♂ ad. sk.	Esmeraldas, Ecuador ( <i>Fraser</i> ).	Gould Coll.
<i>z.</i> ♂ ad. sk.	Balzar Mts., Ecuador ( <i>Illing-</i> <i>worth</i> ).	Salvin-Godman Coll.

## 2. *Polyerata decora.*

*Damophila amabilis*, *Salv. P. Z. S.* 1870, p. 211 (*nec Gould*).

*Adult male.* Similar to that of *P. amabilis*, but the bill longer, the glittering feathers of the crown extended to the nape, and the upper tail-coverts and central rectrices dark shining green, without reddish or purple shade. Length of bill 1.1 inch.

*Adult female* has also a long bill, and upper tail-coverts and central rectrices dark green without purple shade.

I have long hesitated to separate this bird from *P. amabilis*, but am now convinced of its distinctness. Its range is probably very restricted, and confined to the western slopes of the Volcano of Chiriqui. On the eastern side the range of *P. amabilis* is probably continuous from Costa Rica to Panama.

*Hab.* Chiriqui.

<i>a, b.</i> ♂ ad.; <i>c.</i> ♀ ad. sk.	Volcan de Chiriqui ( <i>Arce</i> ).	Salvin-Godman Coll. (Types of species.)
<i>d, e.</i> ♂ ad. sk.	Bugaba, Chiriqui ( <i>Arce</i> ).	Gould Coll.



## 60. EUCEPHALA.

	Type,
Hylocharis $\gamma$ . Eucephala, <i>Reich. Aufz. d. Col.</i> p. 10 .....	E. grayi.
Chlorestes, <i>Reich. Aufz. d. Col.</i> p. 7 .....	E. cærulea.
Chrysolampis (Italia), <i>Muls. &amp; Ferr. Class. Troch.</i> p. 41..	E. cærulea.
Ulysses, <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 208; <i>id.</i> <i>Hist. Nat. Ois.-Mouches</i> , ii. p. 41 .....	E. grayi.

*Range.* Tropical South America.

*Key to the Species.*

- a. Crown glittering blue ..... *grayi*, p. 239.  
 b. Crown glittering greenish blue.  
   *a'*. Throat and breast glittering green ..... *smaragdinea*, p. 240.  
   *b'*. Throat and breast glittering bluish green.. *pyropygia*, p. 241.  
 c. Crown glittering green..... *chlorocephala*, p. 241.  
   *c'*. Under surface glittering golden green.  
     *a''*. Larger ..... *cærulea*, p. 241.  
     *b''*. Smaller ..... *cyanogenys*, p. 243.  
 d. Crown dull dark green.  
   *d'*. Throat and breast glittering bluish green.  
     *c''*. Central rectrices steel-blue; sides of the  
       interscapulum blue ..... *scapulata*, p. 243.  
     *d''*. Central rectrices purple-bronze; inter-  
       scapulum wholly green ..... *cæruleo-lavata*, p. 244.  
   *e'*. Throat and breast glittering blue.  
     *e''*. Upper tail-coverts reddish bronze..... *hypocyanea*, p. 244.  
     *f''*. Upper tail-coverts dull green ..... *subcærulea*, p. 244.

## 1. Eucephala grayi.

*Trochilus grayi*, *Delattre & Bourc. Rev. Zool.* 1846, p. 307.

*Hylocharis grayi*, *Bp. Consp. Av.* i. p. 74; *Muls. & Ferr. Class. Troch.* p. 38; *Gray, Hand-l. B.* i. p. 148.

*Hylocharis*  $\gamma$ . *Eucephala grayi*, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 8, pl. 772. ff. 4789-91.

*Sapphironia grayi*, *Bp. R. Z.* 1854, p. 256.

*Eucephala grayi*, *Gould. Mon. Troch.* v. pl. 320 (Sept. 1857); *id. Intr. Troch.* p. 166; *Cub. & Heine, Mus. Hein.* iii. p. 43; *Scl. Cat. Am. B.* p. 316; *Elliot, Ibis*, 1874, p. 88; *id. Syn. Troch.* p. 228; *Eudes-Desl. Ann. Mus. Caen*, i. p. 451.

*Ulysses grayi*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 41, iv. p. 192; *id. Ann. Soc. Linn. Lyon*, xxii. p. 208.

*Adult male.* Upper surface shining golden green; crown and entire head glittering blue; rest of the under surface glittering golden green; under tail-coverts dull green, edged with greyish white; tail steel-blue; bill flesh-colour at the base, black at the tip. Total length about 4 inches, wing 2.35, tail 1.3, bill 1.1.

*Female.* Upper surface shining golden green, dull on the crown; under surface greyish white, the feathers of the sides of the neck and flanks with shining green discs; under tail-coverts greyish

white; tail steel-blue, the lateral feathers with greyish-white tips; maxilla black, mandible flesh-colour at the base.

*Hab.* Ecuador.

a. ♂ ad.;	b. ♀ ad. sk.	Popayan, Colombia ( <i>Delattre</i> ).	Gould Coll.
c. ♂ ad.;	d. ♀ ad. sk.	Near Pasto, Colombia ( <i>Lehmann</i> ).	Salvin-Godman Coll.
e. ♂ ad. sk.		Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
f. g. ♂ ad. sk.		Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
h. ♂ ad.;	i. ♀ ad. sk.	Ecuador ( <i>Villagomez</i> ).	Salvin-Godman Coll.
j, k. ♂ ad.;	l- n. ♂ juv. sk.	Ecuador.	Salvin-Godman & Gould Colls.

## 2. *Eucephala smaragdinea*.

*Augasma smaragdineum*, *Gould, P. Z. S.* 1860, p. 305.

*Eucephala smaragdo-cærulea*, *Gould, Mon. Troch.* v. pl. 331 (July 1861); *id. Intr. Troch.* p. 166; *Heine, J. f. Orn.* 1863, p. 195; *Elliot, Ibis*, 1874, p. 88; *id. Syn. Troch.* p. 229.

*Chrysolampis (Eucephala) smaragdocærulea*, *Muls. & Ferr. Class. Troch.* p. 41.

*Eucephala smaragdinea*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 37, iv. p. 101; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 458.

*Timolia lerchi*, *Salv. & Godm. Ibis*, 1881, p. 596 (*nec Muls. & Ferr.*?); *Sharpe in Gould's Mon. Troch. Suppl.* pl. 57 (April 1885)\*.

*Adult male.* Upper surface shining golden green, rather darker and more bronzy on the lower back; crown glittering greenish blue; under surface glittering green, slightly bluer on the chin; under tail-coverts dark shining green; tail steel-blue; maxilla black; mandible flesh-colour, tip black. Total length about 4 inches, wing 2.1; tail, central rectrices 1.15, lateral 1.4; bill 0.85.

*Female.* Upper surface shining grass-green; crown reddish bronze; under surface, including the under tail-coverts, grey, flanks washed with golden green; lateral rectrices tipped with grey, central pair green with a terminal dark bar.

*Young male.* Central rectrices tipped with green, the lateral with grey.

*Hab.* Brazil.

### \* TIMOLIA LERCHI.

*Thalaurania lerchi*, *Muls. & Ferr. Ann. Soc. Linn. Lyon*, xviii. p. 109 (1870-71); *Salv. & Elliot, Ibis*, 1873, p. 360.

*Timolia lerchi*, *Muls. & Ferr. Cat. Ois.-Mouches*, p. 23; *Elliot, Syn. Troch.* p. 232.

*Eucephala lerchi*, *Elliot, Ibis*, 1874, p. 264; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 191, pl. 120; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 459.

I believe this bird to be the same as *Eucephala smaragdinea*, but hesitate to unite them from the evidence of the specimens before me. That the specimen described in 'The Ibis' (1881, p. 596), and afterwards figured by Sharpe as *Timolia lerchi*, belongs to *E. smaragdinea* I am certain, having now compared it with the type of the latter; but I am not so confident that the first determination was correct.

a. ♂ ad. sk.	[Brazil.]	Salvin-Godman Coll.
b. ♂ juv. sk.	Novo Fribourgo, Prov. Rio, Brazil ( <i>Reeves</i> ).	Gould Coll. (Type of species.)
c. ♀ ad. sk.	Brazil.	Gould Coll.

### 3. *Eucephala pyropygia*.

*Eucephala pyropygia*, *Salv. & Godm. Ibis*, 1881, p. 596, pl. 16; *Sharpe in Gould's Mon. Troch. Suppl.* (Jan. 1883).

*Adult male*. Upper surface shining golden green, shading into reddish bronze on the rump and purple-bronze on the upper tail-coverts; crown glittering bluish green; breast glittering blue, shading into green on the sides of the neck and middle of the abdomen; flanks shining green; under tail-coverts coppery green; tail steel-blue; bill black. Total length about 3·4 inches, wing 1·9, tail (nearly even) 1·1, bill 0·9.

*Hab.* — ?

a. ♂ ad. sk.	— ?	Salvin-Godman Coll. (Type of species.)
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### 4. *Eucephala chlorocephala*.

*Hylocharis chlorocephalus*, *Bourc. Rev. Zool.* 1854, p. 457; *Bp. Rev. Zool.* 1854, p. 255.

*Agyrtria chlorocephala*, *Reich. Troch. Enum.* p. 7.

*Lepidopygia chlorocephala*, *Cab. & Heine, Mus. Hein.* iii. p. 40.

*Eucephala chlorocephala*, *Gould, Mon. Troch.* v. pl. 332 (July 1861); *id. Intr. Troch.* p. 166; *Elliot, Ibis*, 1874, p. 88; *id. Syn. Troch.* p. 231; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 29, iv. p. 189; *id. Ann. Soc. Linn. Lyon*, xxii. p. 208; *Eudes-Desl. Ann. Mus. Caen*, i. p. 452.

*Chrysolampis* (*Eucephala*) *chlorocephala*, *Muls. & Verr. Class. Troch.* p. 41.

*Adult male*. Upper surface shining green, upper tail-coverts slightly tinged with bronze; crown glittering green, slightly tinged with blue; under surface glittering grass-green; longer under tail-coverts dingy white, with dark shafts; shorter coverts dingy white, with green discs; tail steel-blue; bill brown, base of the mandible flesh-colour. Total length about 4 inches, wing 2·1; tail, central rectrices 1·1, lateral 1·4; bill 0·95.

*Hab.* Ecuador?

a. ♂ ad. sk.	"Guaranda, Ecuador" ( <i>J. Bourcier</i> ).	Gould Coll. (Type of species.)
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### 5. *Eucephala cærulea*.

L'Oiseau-Mouche à goisier bleu, *Aud. Ois. Dor.* i. p. 99, pl. 40.

*Trochilus cæruleus*, *Vieill. N. Dict. d'Hist. N.* vii. p. 361; *id. Enc. Méth.* p. 563.

*Ornismya audeberti*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxx, 164, pl. 51.

*Trochilus audeberti*, *Less. Ind. Gén. Troch.* p. xxxvii; *Wied, Beitr.* iv. p. 67.

*Hylocharis cærulea*, *Gray, Gen. B. i. p. 114; id. Hand-l. B. i. p. 148; Léot. Ois. Trin. p. 150 (1866); Pelz. Orn. Bras. p. 33.*

*Thaumatias cæruleus*, *Bp. Consp. Av. i. p. 78.*

*Chlorestes cærulea*, *Reich. Aufz. d. Col. p. 7; id. Troch. Enum. p. 4, pl. 69. ff. 4534-5; Cub. & Heine, Mus. Hein. iii. p. 46; Heine, J. f. Orn. 1863, p. 196.*

*Hylocharis audeberti*, *Burm. Syst. Ueb. ii. p. 349.*

*Eucephala cærulea*, *Gould, Mon. Troch. v. pl. 335 (Sept. 1857); id. Intr. Troch. p. 167; Cassin, Pr. Ac. Phil. 1860, p. 194; Sel. Cat. Am. B. p. 316; E. C. Taylor, Ibis, 1863, p. 92; Sel. & Salv. P. Z. S. 1866, p. 195, 1867, pp. 584, 753, 979, 1873, p. 289; Layard, Ibis, 1873, p. 388; Elliot, Ibis, 1874, p. 89; id. Syn. Troch. p. 230; Muls. Hist. Nat. Ois.-Mouches, ii. p. 31, iv. p. 189; id. Ann. Soc. Linn. Lyon, xxii. p. 208; Eudes-Desl. Ann. Mus. Caen, i. p. 453; Forbes, Ibis, 1881, p. 348; Tacz. P. Z. S. 1882, p. 40; id. Orn. Pér. i. p. 410.*

*Chrysolampis (Halia) cærulea*, *Muls. & Ferr. Class. Troch. p. 41.*

*Adult male.* Upper surface dark shining green; under surface glittering golden green, with a shade of blue on the chin; under tail-coverts shining green; tail steel-blue; bill black, mandible, except the tip, flesh-colour. Total length about 4 inches, wing 1·9, tail 1·25, bill 0·8.

*Female.* Under surface white, each feather of the throat with a green discal spot, which becomes smaller towards the chin; flanks green; outer rectrix tipped with grey.

*Hab.* South America generally from Eastern Ecuador, Venezuela, and Guiana to Eastern Brazil; Trinidad and Tobago.

<i>a.</i> ♂ ad. sk.	Ecuador.	Gould Coll.
<i>b.</i> ♂ ad. sk.	Chanicuros, Amazons ( <i>Hauv-well</i> ).	Gould Coll.
<i>c-g.</i> ♂ ad.; <i>h, i.</i> ♀ ad. sk.	Pebas, Amazons, Feb., June, July ( <i>Hauvwell</i> ).	Salvin-Godman & Gould Colls.
<i>j-l.</i> ♂ ad.; <i>m.</i> ♂ juv.; <i>n.</i> ♀ ad. sk.	Pebas ( <i>Lemert</i> ).	Salvin-Godman & Gould Colls.
<i>o-s.</i> ♂ ad.; <i>t.</i> ♀ ad. sk.	Iquitos, Amazons, March, April, May, Sept. ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
<i>u, v.</i> ♂ ad.; <i>w.</i> ♀ ad. sk.	Para, Amazons ( <i>A. R. Wallace</i> ).	Salvin-Godman & Gould Colls.
<i>x, y.</i> ♂ ad.; <i>z.</i> ♀ ad. sk.	Para, Jan. ( <i>E. L. Layard</i> ).	Tweeddale Coll.
<i>a'.</i> ♂ ad. sk.	Cayenne.	H. C. Rothery [P.].
<i>b', c'.</i> ♂ ad.; <i>d', e'.</i> ♀ ad. sk.	Cayenne.	Gould & Selater Colls.
<i>f', g'.</i> ♂ ad.; <i>h'.</i> ♀ ad. sk.	Bartica Grove, Brit. Guiana, April, Aug., Oct. ( <i>H. Whitely</i> ).	Salvin-Godman & Selater Colls.
<i>i'.</i> ♂ ad. sk.	Tobago.	Gould Coll.
<i>j', k.</i> ♂ ad. sk.	Trinidad.	Salvin-Godman & Gould Colls.
<i>l'.</i> ♂ ad.; <i>m'.</i> ♀ juv. sk.	Venezuela ( <i>Dyson</i> ).	Gould Coll.
<i>n'.</i> ♂ ad. sk.	Caracas.	E. Dyson [C.].

<i>o'</i> , <i>p'</i> . ♂ ad. sk.	Parahyba do Norte, Brazil ( <i>W. A. Forbes</i> ).	Slater Coll.
<i>q'</i> , <i>r'</i> . ♂ ad. sk.	Pernambuco ( <i>W. A. F.</i> ).	Salvin-Godman Coll.
<i>s'-u'</i> . ♂ ad. ; <i>v'</i> . ♀ ad. sk.	Bahia, Brazil.	Gould Coll.
<i>w'</i> . ♂ ad. sk.	Rio Claro, Brazil ( <i>Joyner</i> ).	Salvin-Godman Coll.

6. *Eucephala cyanogenys*.

- Trochilus cyanogenys*, *Wied, Beitr.* iv. p. 70.  
*Ornismya wiedi*, *Less. Suppl. Ois.-Mouches*, p. 150, pl. 26.  
*Trochilus wiedi*, *Less. Ind. Gén. Troch.* p. xxxix.  
*Saucerottia cyanogenys*, *Bp. Consp. Av.* i. p. 77.  
*Chlorestes cyanogenys*, *Reich. Aufz. d. Col.* p. 7; *id. Troch. Enum.*  
 p. 4, t. 692. ff. 4536-7; *Cab. & Heine, Mus. Hein.* iii. p. 46; *Heine,*  
*J. f. Orn.* 1863, p. 196.  
*Hylocharis wiedi*, *Bp. Rev. Zool.* 1854, p. 255.  
*Eucephala cyanogenys*, *Gould, Intr. Troch.* p. 167; *Elliot, Ibis*, 1874,  
 p. 89; *id. Syn. Troch.* p. 231; *Eudes-Desl. Ann. Mus. Caen*, i.  
 p. 455; *Allen, Bull. Am. Mus. N. H.* ii. p. 259.  
*Chrysolampis (Eucephala) wiedi*, *Muls. & Ferr. Class. Troch.* p. 41.  
*Eucephala wiedi*, *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 189.  
*Hylocharis cyanogenys*, *Gray, Hand-l. B.* i. p. 148.

Lesson describes the plumage of this bird as follows:—"Tout le plumage sur le corps et la tête brille d'un vert cuivré éclatant. Un vert d'émeraude s'étend de sa base du bec à la région anale, qui est blanche; mais une teinte bleu-lapis règne sur la gorge et s'unit au vert du corps en se dégradant de manière à ne paraître que dans certaines positions."

His figure, apparently taken from the type, represents a bird very like *E. carulea*, but smaller. The type has been lost, and no specimens exactly answering to the description have since been obtained.

*Hab.* Eastern Brazil.

7. *Eucephala scapulata*.

- Eucephala scapulata*, *Gould, Intr. Troch.* p. 166; *Elliot, Ibis*, 1874,  
 p. 88; *id. Syn. Troch.* p. 229; *Muls. Hist. Nat. Ois.-Mouches*, ii.  
 p. 34, iv. p. 190; *id. Ann. Soc. Linn. Lyon*, xxii. p. 208; *Eudes-*  
*Desl. Ann. Mus. Caen*, i. p. 456.  
*Hylocharis scapulata*, *Muls. & Ferr. Class. Troch.* p. 38.

*Adult male.* Upper surface dark shining bluish green, darker on the middle of the back and head, shading into bronze on the upper tail-coverts; sides of the interscapulum blue; under surface glittering bluish green; abdomen blackish, washed with blue; under tail-coverts bronzy brown; tail steel-blue; bill black, the base of the mandible flesh-colour. Total length about 3.7 inches, wing 2; tail, central rectrices 1, lateral 1.3; bill 0.85.

*Hab.* Guiana.

*a.* ♂ ad. sk. Oyapoc, Cayenne. Gould Coll. (Type of species.)

8. *Eucephala cæruleo-lavata*.

*Eucephala cæruleo-lavata*, *Gould*, *P. Z. S.* 1860, p. 306; *id. Mon. Troch.* v. pl. 333 (July 1861); *id. Intr. Troch.* p. 166; *Elliot, Ibis*, 1874, p. 88; *id. Syn. Troch.* p. 229; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 39, iv. p. 191; *id. Ann. Soc. Linn. Lyon*, xxii. p. 208; *Eudes-Dest. Ann. Mus. Caen*, i. p. 459.

*Hylocharis cæruleo-lavata*, *Muls. & Ferr. Class. Troch.* p. 38.

*Adult male*. Upper surface shining grass-green, darker on the crown, where a few blue feathers appear, shading into golden bronze on the upper tail-coverts; under surface glittering bluish green, nearly black on the middle of the abdomen, and shining green on the flanks; under tail-coverts purple-bronze; tail steel-blue, with a shade of purple, central rectrices above purple-bronze; bill black, flesh-coloured at the base. Total length about 3·8 inches, wing 2·1; tail, central rectrices 1·1, lateral 1·45; bill 0·8.

*Hab.* Brazil.

a. ♂ ad. sk. S. Paolo, Brazil (*Reeves*). Gould Coll. (Type of species.)

9. *Eucephala hypocyanea*.

*Eucephala hypocyanea*, *Gould*, *P. Z. S.* 1860, p. 306; *id. Mon. Troch.* v. pl. 334 (July 1861); *id. Intr. Troch.* p. 166; *Sci. & Salv. P. Z. S.* 1867, p. 584; *Elliot, Ibis*, 1874, p. 88; *id. Syn. Troch.* p. 230; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 36, iv. p. 190; *id. Ann. Soc. Linn. Lyon*, xxii. p. 208; *Eudes-Dest. Ann. Mus. Caen*, i. p. 457.

*Hylocharis hypocyanea*, *Muls. & Ferr. Class. Troch.* p. 38.

*Adult male*. Upper surface shining grass-green, becoming more golden on the lower back and reddish bronze on the upper tail-coverts; under surface glittering blue, becoming greener on the sides of the neck and flanks; under tail-coverts bronzy green; tail steel-blue: bill black, base of the mandible flesh-colour. Total length about 3·6 inches, wing 1·8, tail 1·2, bill 0·7.

*Adult female*. Under surface greyish white; the lateral rectrices tipped with grey

*Hab.* Amazons Valley.

a. ♂ ad. sk. [Brazil.] Gould Coll. (Type of species.)

b. ♀ ad. sk. Cobati, Rio Negro (*A. R. Wallace*). Sclater Coll.

10. *Eucephala subcærulea*.

*Eucephala subcærulea*, *Elliot, Ibis*, 1874, p. 87; *id. Syn. Troch.* p. 230; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 35, pl. 32, iv. p. 190; *id. Ann. Soc. Linn. Lyon*, xxii. p. 208; *Eudes-Dest. Ann. Mus. Caen*, i. p. 457.

*Adult*. "Upper part of head and back dull green, rest of back

and upper tail-coverts dark green, with a rufous tinge dispersed over all those parts; throat, breast, and centre of abdomen beautiful metallic cærulean blue; flanks shining grass-green. Lower part of abdomen covered by fluffy white feathers. Under tail-coverts metallic green. Wings purple. Tail bluish black. Maxilla black; mandible yellow (in life possibly red) for its entire length, save the tip, which is black. Feet brownish black. Thighs buffy white. Total length 3.25 inches, wing 2, tail 1.375, culmen 0.625.

“*Hab. Brazil?*” (*Elliot, l. s. c.*)

A species unknown to me, but apparently closely allied to *E. hypocyanea*.

### 61. HYLOCHARIS.

*Hylocharis, Boie, Isis, 1831, p. 546* . . . . . *Type.*  
H. sapphirina.

*Range.* Tropical South America from Guiana to South Brazil.

#### *Key to the Species.*

- a.* Chin and under tail-coverts chestnut . . . . . *sapphirina*, p. 245.  
*b.* Chin glittering blue.  
*a'.* Crown glittering blue; under tail-coverts dull steel-blue . . . . . *cyanea*, p. 246.  
*b'.* Crown bronzy green; under tail-coverts white, with dark discs . . . . . *lactea*, p. 247.

#### 1. *Hylocharis sapphirina*.

- Trochilus sapphirinus, Gm. Syst. Nat. i. p. 496; Lath. Ind. Orn. i. p. 313; Vieill. N. Dict. d'Hist. Nat. vii. p. 373; id. Enc. Méth. p. 570; Less. Ind. Gén. Troch. p. xxxviii.*  
*Trochilus fulvifrons, Lath. Ind. Orn. Suppl. ii. p. 172; Vieill. N. Dict. d'Hist. Nat. vii. p. 349; id. Enc. Méth. p. 554.*  
*Le Saphir, Aud. Ois. Dor. i. p. 89, pl. 35.*  
*Le jeune Saphir, Aud. Ois. Dor. i. p. 127, pl. 58.*  
*Ornismya sapphirina, Less. Hist. Nat. Ois.-Mouches, pp. xxix, 172, pls. 55, 57.*  
*Trochilus latirostris, Wied. Beitr. iv. p. 64.*  
*Hylocharis latirostris, Reich. Aufz. d. Col. p. 10.*  
*Hylocharis sapphirina, Gray, Gen. B. i. p. 113; id. Hand-l. B. i. p. 148; Bp. Consp. Av. i. p. 74; Gould, Mon. Troch. v. pl. 342 (May 1852); id. Intr. Troch. p. 171; Reich. Aufz. d. Col. p. 10; id. Troch. Enum. p. 7, pl. 767. ff. 4780-2; Burm. Syst. Ueb. ii. p. 346; Sel. Cat. Am. B. p. 317; Cab. & Heine, Mus. Hein. iii. p. 43; Muls. & Verr. Class. Troch. p. 38; Sel. & Salv. P. Z. S. 1867, pp. 584, 753, 979, 1873, p. 289; Reinh. Vidensk. Medd. Nat. For. Kjöb. 1870, p. 113; Pelz. Orn. Bras. p. 33; Muls. Hist. Nat. Ois.-Mouches, ii. p. 16, iv. p. 188; id. Ann. Soc. Linn. Lyon, xxii. p. 207; Durnford, Ibis, 1877, p. 184; Elliot, Syn. Troch. p. 236; Eudes-Desl. Ann. Mus. Caen, i. p. 470; Salv. Cat. Strickl. Coll. p. 369; id. Ibis, 1885, p. 436; Sel. & Huds. Arg. Orn. ii. p. 8; Allen, Bull. Am. Mus. N. H. ii. p. 259.*  
*Sapphironia sapphirina, Bp. Rev. Zool. 1854, p. 256.*

*Adult male.* Upper surface shining green, with a tinge of blue on the middle of the back; upper tail-coverts rich bronze; chin and under tail-coverts chestnut; throat and breast glittering sapphire-blue; abdomen and flanks dark shining green; tail rich bronze; bill flesh-colour, the tip black. Total length about 3·8 inches, wing 2·05, tail 1·2, bill 0·8.

*Female.* Upper surface shining golden green; upper tail-coverts and tail rich bronze; under surface greyish white; chin rufous; discs of the throat-feathers shining blue; flanks shining green; under tail-coverts greyish white; maxilla black; mandible flesh-colour, the tip black.

*Hab.* Guiana, Amazonia, and South-eastern Brazil.

a. ♂ ad. sk.	Bartica Grove, Brit. Guiana,	Salvin-Godman Coll.
	April ( <i>H. Whitely</i> ).	
b. ♂ ad.; c. ♀ ad. sk.	Merumé Mts., June, July ( <i>H. W.</i> ).	Salvin-Godman Coll.
d. ♂ juv. sk.	Camacusa, Feb. ( <i>H. W.</i> ).	Salvin-Godman Coll.
e. ♂ ad. sk.	Roraima, July ( <i>H. W.</i> ).	Salvin-Godman Coll.
f. ♂ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
g. ♂ ad. sk.	Canelos ( <i>Buckley</i> ).	Gould Coll.
h. ♂ ad. sk.	Upper Amazons ( <i>E. Bartlett</i> ).	Gould Coll.
i-k. ♂ ad.; l. ♀ ad. sk.	Pebas, Amazons, Feb., July ( <i>J. Hauvwell</i> ).	Salvin-Godman & Gould Colls.
m. ♂ ad.; n. ♀ ad. sk.	Para ( <i>Wallace</i> ).	Salvin-Godman & Gould Colls.
o, p. ♂ ad.; q. ♀ ad. sk.	Bahia, Brazil ( <i>Wucherer</i> ).	Salvin-Godman Coll.
r. ♂ ad.; s. ♂ juv.; t. ♀ ad. sk.	Bahia.	Gould Coll.
u. ♂ ad. sk.	Rio.	Gould Coll.
v. ♂ ad. sk.	[Trinidad.]	Gould Coll.

## 2. *Hylocharis cyanea*.

Le Saphir, *Aud. Ois. Dor.* i. p. 126, pl. 57.

*Trochilus cyaneus*, *Vieill. N. Dict. d'Hist. N.* xxiii. p. 426; *id. Enc. Méth.* p. 558; *Less. Ind. Gén. Troch.* p. xl.

*Ornismya cyanea*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxxi, 199, pl. 71; *id. Suppl. Ois.-Mouches*, p. 143, pl. 23.

*Ornismya bicolor*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxix, 161, pls. 49, 50.

*Trochilus bicolor*, *Less. Ind. Gén. Troch.* p. xxxviii.

*Hylocharis cyanea*, *Gray, Gen. B.* i. p. 113; *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 7, pl. 768, ff. 4777-9; *Gould, Mon. Troch.* v. pl. 344 (May 1852); *id. Intr. Troch.* p. 171; *Cab. & Heine, Mus. Hein.* iii. p. 44; *Scl. Cat. Am. B.* p. 317; *Muls. & Ferr. Cass. Troch.* p. 38; *Scl. & Salv. P. Z. S.* 1866, p. 195, 1867, p. 753, 1873, p. 259, 1879, p. 631; *Pelz. Orn. Bras.* p. 33; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 19, iv. p. 188; *id. Ann. Soc. Linn. Lyon*, xxii. p. 207; *Elliot, Ibis*, 1877, p. 138; *id. Syn. Troch.* p. 237; *Eudes-Desl. Ann. Mus. Caen*, i. p. 474; *Allen, Bull. Am. Mus. N. H.* ii. p. 259.

*Thaumatias cyaneus*, *Bp. Consp. Av.* i. p. 78.



*Adult male.* Upper surface shining grass-green, shading into bronzy green on the rump; upper tail-coverts dark purple-bronze; whole head, throat, and breast glittering sapphire-blue; abdomen dark shining golden green; under tail-coverts and tail dark steel-blue; bill flesh-colour, the tip black. Total length about 3·5 inches, wing 1·95, tail 1·1, bill 0·75.

*Female.* Upper surface shining grass-green, shading into bronzy green on the rump and into purple on the upper tail-coverts; under surface greyish white, the feathers of the throat with green discs; under tail-coverts dusky; lateral rectrices tipped with grey; maxilla black, mandible flesh-colour, tipped with black.

*Hab.* Guiana, Amazonia, and South Brazil.

a-e. ♂ ad.; d. ♀ ad. sk.	Merumé Mts., British Guiana, July, Aug. ( <i>H. Whitely</i> ).	Salvin-Godman & Sclater Colls.
e. ♂ ad. sk.	Camacusa, Feb. ( <i>H. W.</i> ).	Salvin-Godman Coll.
f. ♂ ad. sk.	R. Atapurow, Jan. ( <i>H. W.</i> ).	Salvin-Godman Coll.
g. ♂ ad.; h. ♀ ad. sk.	Roraima, Nov., Dec. ( <i>H. W.</i> ).	Salvin-Godman Coll.
i-k. ♂ ad.; l. ♀ ad. sk.	Upper Amazons ( <i>E. Bartlett</i> ).	Gould Coll.
m. ♂ ad.; n-p. ♀ ad. sk.	Iquitos, Amazons, April, May ( <i>H. Whitely</i> ).	Salvin-Godman & Gould Colls.
q-t. ♂ ad.; u. ♂ juv.; v. ♀ ad. sk.	Bahia, Brazil ( <i>Wucherer</i> ).	Salvin-Godman & Gould Colls.
w, x. ♂ ad. sk.	Rio, Brazil.	Salvin-Godman & Gould Colls.
y. ♂ ad. sk.	Matto Grosso, July ( <i>Natterer</i> ).	Salvin-Godman Coll.
z. ♂ ad. sk.	Trinidad ( <i>v. Berlepsch</i> ).	Salvin-Godman Coll.

### 3. *Hylocharis lactea*.

Le Saphir, *Less. Hist. Nat. Ois.-Mouches*, pl. 56.

Ornismya lactea, *Less. Suppl. Ois.-Mouches*, p. 98.

Trochilus lacteus, *Less. Ind. Gén. Troch.* p. xxxviii.

*Hylocharis lactea*, *Gray, Gen. B. i. p. 113; id. Hand-l. B. i. p. 148; Bp. Consp. i. p. 74; Burm. Syst. Ueb. ii. p. 347; Gould, Mon. Troch. v. p. 343 (Sept. 1859); id. Intr. Troch. p. 171; Cab. & Heine, Mus. Hein. iii. p. 43; Sel. Cat. Am. B. p. 317; Muls. & Ferr. Class. Troch. p. 38; Reinh. Vidensk. Medd. Nat. For. Kjöb. 1870, p. 112; Pelz. Orn. Bras. p. 33; Muls. Hist. Nat. Ois.-Mouches, ii. p. 23; id. Ann. Soc. Linn. Lyon, xxii. p. 207; Elliot, Syn. Troch. p. 236; Eudes-Desl. Ann. Mus. Caen, i. p. 472; Allen, Bull. Am. Mus. N. H. ii. p. 259.*

*Hylocharis* ♂. *Cyanochloris lactea*, *Reich. Aufz. d. Col. p. 10; id. Troch. Enum. p. 8, pl. 773. f. 4793.*

*Sapphironia lactea*, *Bp. Rev. Zool. 1854, p. 256.*

*Adult male.* Upper surface shining grass-green; crown and upper tail-coverts bronzy green; throat and breast glittering sapphire-blue; middle of the abdomen white; flanks shining green; under tail-coverts white, with dark discs; central rectrices dark shining olive-green, lateral steel-blue with olive margin; maxilla dark brown; mandible flesh-colour, the tip black. Total length about 3·8 inches, wing 2·2, tail 1·2, bill 0·85.

*Hab.* Southern Brazil.

a-f. ♂ ad. sk.	Brazil.	Salvin-Godman, Gould, & Sclater Colls.
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## 62. CHRYSURONIA.

Type.

- Chrysuronia, *Bp. Consp. Av. i. p. 75* ..... *C. œnone*.  
 Chrysurus, *Bp. Compt. Rend. 1850, p. 382*.  
 Chrysurisca, *Cab. & Heine, Mus. Hein. iii. p. 42*.

*Range.* Tropical America from Guatemala to the Argentine Republic.

*Key to the Species.*

- a. Crown more or less glittering blue.  
 a'. Upper tail-coverts and tail golden bronze.  
 a''. Throat glittering blue ..... *œnone*, p. 248.  
 b'. Throat glittering green ..... *neera*, p. 249.  
 b'. Upper tail-coverts and tail shining green .... *humboldti*, p. 250.  
 b. Crown very dark shining green.  
 c'. Throat glittering blue ..... *elicie*, p. 251.  
 d'. Throat glittering golden bronze ..... *ruficollis*, p. 251.

1. *Chrysuronia œnone*.

*Ornismya œnone*, *Less. Suppl. Ois.-Mouches*, p. 157, pl. 30; *Delattre & Less. Rev. Zool. 1839*, p. 17.

*Trochilus œnone*, *Less. Ind. Gén. Troch.* p. xl.

*Polytmus œnone*, *Gray, Hand-l. B. i. p. 133*.

*Chrysuronia œnone*, *Bp. Consp. Av. i. p. 75*; *id. Rev. Zool. 1854*, p. 254; *Reich. Aufz. d. Col. p. 9*; *id. Troch. Enum. p. 5*, pl. 722. ff. 4642-3; *Gould, Mon. Troch. v. pl. 325* (May 1859); *id. Intr. Troch. p. 164*; *Scl. Cat. Am. B. p. 316*; *Scl. & Salv. P. Z. S. 1868*, p. 629, 1870; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 7, iv. p. 186; *id. Ann. Soc. Lim. Lyon*, xxii. p. 207; *Elliot, Syn. Troch. p. 169*; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 434.

*Chrysurisca œnone*, *Cab. & Heine, Mus. Hein. iii. p. 42*.

*Hylocharis œnone*, *Muls. & Verr. Class. Troch. p. 38*.

*Chrysuronia œnone longirostris*, *Berl. J. f. Orn. 1887*, p. 333.

*Adult male.* Upper surface shining grass-green, becoming golden bronze on the rump and upper tail-coverts; entire head and throat deep glittering blue; rest of the under surface glittering grass-green; under tail-coverts bronze, with pale edges; tail golden bronze; maxilla black; mandible flesh-colour, the tip black. Total length about 4 inches, wing 2.2, tail 1.3, bill 0.9.

*Female.* Similar to the male, but paler on the upper surface, and the crown greenish blue; middle of the under surface white; the feathers of the sides of the neck with greenish-blue discs, those of the sides of the breast and flanks with green discs; under tail-coverts fuscous, with greenish discs.

Lesson's type of this bird came from the island of Trinidad, and specimens from Venezuela agree with birds from that island. Examples from Bogota have slightly longer bills, a fact noticed by Gould, and nominally recognized by Count Berlepsch, who has named these birds *C. œnone longirostris*. The glittering blue of the throat is less extensive in birds from Eastern Ecuador, and in the Upper Amazons region (Pobas, &c.) the transition between *C. œnone*

and *C. neera* seems complete. In all other localities, *C. ænone* can be distinguished from *C. neera* by its blue throat.

*Hab.* Trinidad, Venezuela, Colombia, and E. Ecuador.

<i>a, b.</i> ♂ ad. ; <i>c.</i> ♀ ad. sk.	Trinidad.	Salvin-Godman & Gould Colls.
<i>d.</i> ♂ ad. sk.	Caracas, Venezuela, Nov. (Goering).	Salvin-Godman Coll.
<i>e, f.</i> ♂ ad. ; <i>g, h.</i> ♀ ad. sk.	Caracas.	E. Dyson [C.].
<i>i.</i> ♂ ad. ; <i>j, k.</i> ♀ ad. sk.	Valley of Aragua, Venezuela.	E. Dyson [C.].
<i>l.</i> ♂ ad. sk.	San Esteban, Venezuela ( <i>Nehr-korn</i> ).	Selater Coll.
<i>m-p.</i> ♂ ad. ; <i>q, r.</i> ♀ ad. sk.	Colombia (Bogota make).	Gould Coll.
<i>s-w.</i> ♂ ad. ; <i>x.</i> ♀ ad. sk.	Ecuador.	Salvin-Godman & Gould Colls.
<i>y, z.</i> ♂ ad. sk.	Sarayaen, Ecuador ( <i>C. Buckley</i> ).	Salvin-Godman Coll.
<i>a'</i> . ♂ ad. sk.	Rio Napo, Ecuador.	Selater Coll.

*Transitional Specimens.*

<i>b'-d'</i> . ♂ ad. sk.	Upper Amazons ( <i>E. Bartlett</i> ).	Gould Coll.
<i>e'</i> . ♂ ad. sk.	Pebas, Amazons, Aug. ( <i>J. Hauxwell</i> ).	Gould Coll.

## 2. *Chrysuronia neera*.

*Ornismya neera*, *Less. & Delattre, Rev. Zool.* 1839, p. 18.

*Ornismya josephinae*, *Bourc. & Muls. Rev. Zool.* 1848, p. 272.

*Chrysuronia josephinae*, *Reich. Aufz. d. Col.* p. 9; *Bp. Rev. Zool.* 1854, p. 254; *Gould, Mon. Troch.* v. pl. 326 (May 1859); *id. Intr. Troch.* p. 164; *Sel. & Salv. P. Z. S.* 1867, pp. 753, 979, 1873, p. 289, 1879, p. 630; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 10, pl. 30, iv. p. 186; *id. Ann. Soc. Linn. Lyon*, xxii. p. 207; *Elliot, Syn. Troch.* p. 169; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 438; *Tacz. P. Z. S.* 1882, p. 40; *id. Orn. Pér.* i. p. 409.

*Chrysuronia neera*, *Gould, Intr. Troch.* p. 165.

*Chrysuronia cæruleicapilla*, *Gould, Intr. Troch.* p. 165.

*Chrysurisea josephinae*, *Cab. & Heine, Mus. Hein.* iii. p. 42.

*Hylocharis josephinae*, *Muls. & Ferr. Class. Troch.* p. 38.

*Polytmus josephinae*, *Gray, Hand-l. B.* i. p. 133.

*Adult male.* Similar to that of *C. ænone*, but the entire under surface, including the throat, glittering green. In the female the discal spots of the sides of the throat are green, without any shade of blue.

Typical males of this bird have the entire under surface glittering green; but at Pebas, and other places in the Upper Amazons Valley, examples occur which have a few blue feathers on the chin, and are thus intermediate between *C. neera* and *C. ænone*.

Gould separated two other forms of this bird by admitting the validity of Bourcier's *O. josephinae* as distinct from Lesson's *O. neera*, and describing *C. cæruleicapilla*. With the types of both the latter

before me, and in view of the close relationship subsisting between *C. necra* and *C. canone*, I doubt the existence of more than one form of the former. The points relied upon by Gould seem all to be due to individual variation, and the birds themselves to be connected with the typical form by gradual steps.

*Hab.* Upper Amazons Valley; Bolivia.

a. ♂ ad. sk.	Amazons ( <i>Bates</i> ?).	Gould Coll.
b-k. ♂ ad.; l-n. ♀ ad. sk.	Pebas, Amazons, Feb., April to Aug. ( <i>J. Hauxwell</i> ).	Salvin-Godman, Gould, & Sclater Colls.
o. ♂ ad. sk.	Tilotilo, Bolivia ( <i>C. Buckley</i> ).	Salvin-Godman Coll.
p. ♀ ad. sk.	Consata, Bolivia ( <i>C. Buckley</i> ).	Salvin-Godman Coll.
q, r. ♂ ad. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.
s. ♂ ad. sk.	—?	Gould Coll.
		(Type of <i>O. neera</i> , Less.)
t. ♂ ad. sk.	—?	Gould Coll.
		(Type of <i>C. ceruleicapilla</i> , Gould.)

#### *Transitional Specimens.*

u, v. ♂ ad.; w. ♀ ad. sk.	Upper Amazons ( <i>E. Bartlett</i> ).	Gould Coll.
x-z. ♂ ad. sk.	Pebas, Amazons, Feb., Aug. ( <i>J. Hauxwell</i> ).	Gould Coll.

### 3. *Chrysuronia humboldti*.

*Trochilus humboldti*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, (2) iv. p. 142 (1852).

*Chrysuronia humboldti*, *Reich. Aufz. d. Col.* p. 9; *Bp. Rev. Zool.* 1854, p. 254; *Gould, Mon. Troch.* v. pl. 327 (May 1859); *id. Intr. Troch.* p. 165; *id. Ibis*, 1867, p. 247; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 187; *id. Ann. Soc. Linn. Lyon*, xxii. p. 207; *Elliot, Syn. Troch.* p. 168; *Endes-Desl. Ann. Mus. Cuen.* i. p. 436.

*Chrysurisca humboldti*, *Cab. & Heine, Mus. Hein.* iii. p. 42.

*Hylocharis humboldti*, *Muls. & Ferr. Class. Troch.* p. 38.

*Thaumatias viridicaudatus*, *Lawr. Ann. Lyc. N. Y.* viii. p. 404.

*Adult male.* Upper surface shining green, bronzy in the middle of the back; crown and upper part of the throat glittering blue; breast and abdomen glittering golden green, centre of the abdomen and under tail-coverts white; tail shining olive-green; bill flesh-colour, tip black. Total length about 4 inches, wing 2.5, tail 1.35, bill 0.8.

*Female.* Similar to the male on the upper surface, but with the crown dark shining green; under surface white; sides of the neck and flanks with green discal spots; lateral rectrices tipped with whitish, preceded by a dark subterminal bar.

*Hab.* Western Ecuador.

a, b. ♂ ♀ ad. sk.	Esmeraldas, Ecuador.	Gould Coll.
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4. *Chrysuronia eliciæ*.

- Trochilus eliciæ*, *Boure. & Muls. Ann. Sc. Phys. et Nat. Lyon*, ix. p. 314 (1846); *id. Rev. Zool.* 1846, p. 316.  
*Chrysuronia eliciæ*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 5, pl. 722. ff. 4644-5; *Bp. Rev. Zool.* 1854, p. 254; *Gould, Mon. Troch.* v. p. 328 (Sept. 1858); *id. Intr. Troch.* p. 165; *Scl. & Salv. Ibis*, 1859, p. 130; *Scl. Cat. Am. B.* p. 316; *Salv. P. Z. S.* 1870, p. 211; *id. Ibis*, 1872, p. 320; *Muls. Hist. Nat. Ois.-Mouches*, ii. pp. 4, 13, iv. p. 186; *id. Ann. Soc. Linn. Lyon*, xxii. p. 207; *Elliot, Syn. Troch.* p. 169; *Eudes-Desl. Ann. Mus. Caen*, i. p. 439.  
*Chrysurisca eliciæ*, *Cab. & Heine, Mus. Hein.* iii. p. 42.  
*Hylocharis eliciæ*, *Muls. & Verr. Class. Troch.* p. 38.  
*Polytinus eliciæ*, *Gray, Hand-l. B.* i. p. 133.

*Adult male.* Upper surface dark shining grass-green, darker on the crown; upper tail-coverts rich bronze; throat and breast glittering blue; flanks shining green, middle of the abdomen buff; under tail-coverts pale shining bronze; tail glittering golden bronze; bill flesh-colour, the tip black. Total length about 3·5 inches, wing 1·9, tail 1·1, bill 0·7.

*Female.* Similar to the male, but with the blue of the throat reduced to discal spots.

*Hab.* Central America from Guatemala to Panama.

- |                 |  |                                |
|-----------------|--|--------------------------------|
| a-c. ♂ ad. sk.  | Coban, Guatemala, Mar., Nov.                             | Salvin-Godman & Sclater Colls. |
| d. ♂ ad. sk.    | Choctum, Guatemala ( <i>O. S. &amp; F. D. G.</i> )       | Salvin-Godman Coll.            |
| e. ♂ ad. sk.    | Masagua, Guatemala, Dec. ( <i>O. S. &amp; F. D. G.</i> ) | Salvin-Godman Coll.            |
| f. ♂ ad. sk.    | Chontales, Nicaragua ( <i>T. Belt</i> ).                 | Salvin-Godman Coll.            |
| g-i. ♂ ad. sk.  | Costa Rica ( <i>Endres</i> ).                            | Salvin-Godman & Gould Colls.   |
| j. ♂ ad. sk.    | Volcan de Chiriqui ( <i>Arcé</i> ).                      | Salvin-Godman Coll.            |
| k. ♂ ad. sk.    | Bugaba, Panama ( <i>Arcé</i> ).                          | Salvin-Godman Coll.            |
| l. ♂ ad. sk.    | Chitra, Panama ( <i>Arcé</i> ).                          | Salvin-Godman Coll.            |
| m, n. ♂ ad. sk. | Chiriqui ( <i>Arcé</i> ).                                | Gould Coll.                    |
| o. ♂ ad. sk.    | David, Chiriqui ( <i>Arcé</i> ).                         | Gould Coll.                    |

5. *Chrysuronia ruficollis*.

*Pica flores pecho de Canela, Azara, Apunt.* ii. p. 484, no. 290.

*Pica flores pecho de Topacio, Azara, Apunt.* ii. p. 485, no. 291.

*Trochilus ruficollis, Vieill. N. Dict. d'Hist. N.* vii. p. 362; *id. Enc. Méth.* p. 564 (*ex Azara*).

*Ornismya chrysura, Less. Suppl. Ois.-Mouches*, p. 107, pl. 4.

*Trochilus chrysura, Less. Ind. Gén. Troch.* p. xl.

*Ornismya ruficollis, d'Orb. & Lafr. Syn. Av.* ii. p. 30.

*Chrysuronia chrysura, Bp. Consp. Av.* i. p. 75; *id. Rev. Zool.* 1854, p. 254; *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 5, pl. 721. ff. 4640-1; *Gould, Mon. Troch.* v. pl. 329 (May 1860); *id. Intr. Troch.* p. 165; *Scl. Cat. Am. B.* p. 316; *Pelz. Orn. Bras.* p. 33; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 4; *id. Ann. Soc. Linn. Lyon*,

xxii. p. 207; *Elliot, Ibis*, 1877, p. 140; *id. Syn. Troch.* p. 169; *Scl. & Salv. P. Z. S.* 1879, p. 630; *Eudes-Desl. Ann. Mus. Caen*, i. p. 433.

*Chrysurisca chrysur*, *Cab. & Heine, Mus. Hein.* iii. p. 42.

*Hylocharis chrysur*, *Muls. & Verr. Class. Troch.* p. 38.

*Polytmus chrysurus*, *Gray, Hand-l. B.* i. p. 133.

*Chrysuronia ruficollis*, *Berl. J. f. Orn.* 1887, pp. 18, 120; *Scl. & Huds. Arg. Orn.* ii. p. 8.

*Adult male.* Upper surface shining golden green, darker on the crown, more bronzy on the upper tail-coverts; under surface buff, a golden-bronze discal spot on each of the feathers of the throat; under tail-coverts and tail glittering golden bronze; bill flesh-colour, the tip black. Total length about 4 inches, wing 2·1, tail 1·2, bill 0·9.

*Female.* Similar to the male, but with the throat duller, the lateral rectrices tipped with grey, and the upper tail-coverts shining golden green like the back.

*Hab.* Southern Brazil, Paraguay, and the Argentine Republic.

<i>a-c.</i> ♂ ad. sk.	Peru?	Gould & Selater Colls.
<i>d.</i> ♀ ad. sk.	Engenho de Gama, Matto Grosso, July ( <i>J. Natterer</i> .)	Salvin-Godman Coll.
<i>e, f.</i> ♂ ad.; <i>g.</i> ♀ ad. sk.	Chapada, Matto Grosso, June ( <i>H. H. Smith</i> ).	Salvin-Godman Coll.
<i>h.</i> ♂ ad. sk.	Conchitas, Buenos Ayres ( <i>Hudson</i> ).	Salvin-Godman Coll.
<i>i.</i> ♂ ad. sk.	Buenos Ayres, April.	Gould Coll.
<i>j.</i> ♂ ad.; <i>k.</i> Juv.;	Punta Lara, Buenos Ayres,	H. Durnford [C.].
<i>l.</i> ♀ ad. sk.	Jan., Feb.	

### 63. BASILINNA.

	Type.
<i>Basilinna</i> , <i>Boie, Isis</i> , 1831, p. 546 . . . . .	<i>B. leucotis</i> .
<i>Heliopædica</i> , <i>Gould, Mon. Troch.</i> (May 1858) . . . . .	<i>B. leucotis</i> .

*Range.* Lower California, Mexico, and Guatemala.

#### *Key to the Species.*

- a.* Abdomen dusky white; lateral rectrices steel-blue,  
tipped with bronze . . . . . *leucotis*, p. 252.
- b.* Abdomen and lateral rectrices chestnut . . . . . *xantusi*, p. 255.

#### 1. *Basilinna leucotis*.

*Trochilus leucotis*, *Vieill. N. Dict. d'Hist. N.* xviii. p. 428; *id. Enc. Méth.* p. 559.

*Trochilus lucidus*, *Shaw, Gen. Zool.* viii. p. 327?

*Trochilus melanotus*, *Swains. Phil. Mag.* n. s. i. p. 441.

*Trochilus euculiger*, *Licht. Preis-Verz. Mex. Vög.* p. 1; *cf. J. f. Orn.* 1863, p. 55.

- Ornismya arsemmii*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxvii, xlvi, 60, pl. 2; *id. Suppl.* p. 152, pl. 27.
- Trochilus arsemmii*, *Less. Ind. Gén. Troch.* p. xxxix.
- Thaumatias leucotis*, *Bp. Consp. Av. i.* p. 78.
- Basilinna leucotis*, *Reich. Aufz. d. Col.* p. 13; *Cab. & Heine, Mus. Hein.* iii. p. 45; *id. Ann. Soc. Linn. Lyon*, xxii. p. 207; *Elliot, Syn. Troch.* p. 227; *Eudes-Desl. Ann. Mus. Caen*, i. p. 477; *Salv. Cat. Strickl. Coll.* p. 360.
- Sapphironia lucida*, *Bp. Rev. Zool.* 1854, p. 256; *Scl. P. Z. S.* 1858, p. 297, 1859, p. 386.
- Heliopædica melanotis*, *Gould, Mon. Troch.* ii. pl. 64 (May 1858); *id. Intr. Troch.* p. 60.
- Heliopædica melanotis*, *Scl. & Salv. Ibis*, 1859, p. 130; *Salv. Ibis*, 1860, pp. 195, 263, 271; *Scl. Cat. Am. B.* p. 289; *id. P. Z. S.* 1864, p. 176; *A. Dugès, La Nat.* i. p. 141; *Villada, La Nat.* ii. p. 365; *de Oca, La Nat.* iii. p. 28; *Boucard, Ann. Soc. Linn. Lyon*, (2) xxii. p. 14.
- Hylocharis melanotis*, *Mus. & Ferr. Class. Troch.* p. 38.
- Cœligena leucotis*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 187.
- Heliopædica leucotis*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 3, vi. p. 186.
- Hylocharis leucotis*, *Gray, Hand-l. B.* i. p. 151.

*Adult male.* Upper surface shining grass-green, becoming blacker towards the nape and posterior part of the crown, more golden on the rump and tail; face and chin glittering blue, a long post-ocular streak pure white; breast glittering green; abdomen and under tail-coverts shining green, the latter edged with greyish white; central rectrices shining golden green, the lateral steel-blue tipped with green; bill flesh-colour, tip black. Total length about 3.5 inches, wing 2, tail 1.2, bill 0.65.

*Female.* Upper surface shining golden green; crown and nape dark brown with rufous edges; postocular streak white, beneath which is a black spot passing under the eye; under surface dusky white, the throat buff and spotted with dusky, flanks with green discal spots; under tail-coverts whitish, with dusky discs; lateral rectrices tipped with greyish white; bill nearly black.

*Young male.* Similar to the female, the glittering feathers of the breast and face being gradually assumed.

*Hab.* Mexico and Guatemala.

- |   |  |                     |
|---|--|---------------------|
| a. ♂ ad. sk.                            | Tutuaca, Chihuahua, March<br>( <i>W. Lloyd</i> ).                  | Salvin-Godman Coll. |
| b. ♂ juv. sk.                           | Sierra de Victoria, Tamaulipas, April ( <i>W. B. Richardson</i> ). | Salvin-Godman Coll. |
| c-f. ♂ ad.; g-i. ♀ ad. sk.              | Sierra de San Luis Potosi, July ( <i>W. B. R.</i> ).               | Salvin-Godman Coll. |
| j. ♂ ad.; k. ♂ juv.; l. ♀ ad. sk.       | Ciudad Durango, June and July ( <i>A. Forrer</i> ).                | Salvin-Godman Coll. |
| m, n. ♂ ad.; o. ♂ juv.; p, q. ♀ ad. sk. | Sierra de Valparaiso, Zacatecas Aug. ( <i>W. B. R.</i> ).          | Salvin-Godman Coll. |
| r, s. ♂ ad.; t. ♂ juv.; u. ♀ ad. sk.    | Sierra de Nayarit, Jalisco, July ( <i>W. B. R.</i> ).              | Salvin-Godman Coll. |

<i>v, w.</i> ♂ ad.; <i>v.</i> ♀ ad. sk.	Sierra de Bolaños, Jalisco, March, April ( <i>W. B. Rich-</i> <i>ardson</i> ).	Salvin-Godman Coll.
<i>y, z.</i> ♂ ad.; <i>a'</i> ♀ ad. sk.	Tepic, Jalisco, May ( <i>W. B.</i> <i>R.</i> ).	Salvin-Godman Coll.
<i>b.</i> ♂ ad. sk.	Volcan de Colima, Jan. ( <i>W.</i> <i>B. R.</i> ).	Salvin-Godman Coll.
<i>c'-i'</i> . ♂ ad.; <i>j'</i> ♂ juv.; <i>k'</i> . ♀ ad. sk.	Nevado de Colima, April, Dec. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>l'-o'</i> . ♂ ad.; <i>p'</i> ♂ juv.; <i>q'</i> . ♀ ad. sk.	Amecameca, April ( <i>F. D.</i> <i>G.</i> ).	Salvin-Godman Coll.
<i>r'</i> . ♂ juv.; <i>s'</i> . ♀ ad. sk.	Pinal, Puebla, April ( <i>F. D.</i> <i>G.</i> ).	Salvin-Godman Coll.
<i>t'</i> . ♂ ad. sk.	Rio Frio, Ixtaccibuatl, Sept. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>u'</i> . ♂ ad. sk.	Tenango del Valle, Sept. ( <i>W.</i> <i>B. R.</i> ).	Salvin-Godman Coll.
<i>v'</i> . ♂ ad. sk.	Ixtapalapa, Valley of Mexico, Jan. ( <i>F. Ferrari-Perez</i> ).	Salvin-Godman Coll.
<i>w'</i> . ♂ ad. sk.	Tlascala, April ( <i>F. D. G.</i> ).	Salvin-Godman Coll.
<i>x'</i> . ♂ ad. sk.	Las Vignas, Cofre de Perote, July ( <i>F. Ferrari-Perez</i> ).	Salvin-Godman Coll.
<i>y'</i> . ♂ ad. sk.	Cofre de Perote, Nov. ( <i>M.</i> <i>Trujillo</i> ).	Salvin-Godman Coll.
<i>z'</i> . ♂ juv. sk.	Jalapa ( <i>de Oca</i> ).	Gould Coll.
<i>a''</i> . ♂ ad.; <i>b''</i> . ♀ ad. sk.	Cordova ( <i>Sallé</i> ).	Purchased.
<i>c''</i> . ♂ ad. sk.	Montañas de Orizaba, May ( <i>F. Ferrari-Perez</i> ).	Salvin-Godman Coll.
<i>d''</i> . ♂ ad. sk.	Amula, Guerrero, Sept. ( <i>Mrs.</i> <i>H. H. Smith</i> ).	Salvin-Godman Coll.
<i>e''-g''</i> . ♂ ad.; <i>h''</i> - <i>k''</i> . ♂ juv., ♀ ad. sk.	Omilteme, Guerrero, July ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
<i>l''-n''</i> . ♂ ad.; <i>o''</i> ♀ ad. sk.	Villa Alta, Oaxaca, March ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
<i>p''</i> , <i>q''</i> . ♂ ad. sk.	Totontepec, Oaxaca, Feb. ( <i>M. T.</i> ).	Salvin-Godman Coll.
<i>r''</i> . ♂ juv.; <i>s''</i> ♀ ad. sk.	Tonaguia, Oaxaca, Feb. ( <i>M.</i> <i>T.</i> ).	Salvin-Godman Coll.
<i>t''</i> , <i>u''</i> . ♂ ad. sk.	Oaxaca.	Gould Coll.
<i>v''</i> . ♂ ad. sk.	Oaxaca ( <i>Fenochio</i> ).	Salvin-Godman Coll.
<i>w''</i> , <i>x''</i> . ♀ ad. sk.	Mexico ( <i>Floresi</i> ).	Gould Coll.
<i>y''</i> . ♂ ad. sk.	Quezaltenango, Guatemala, Sept. 1862 ( <i>O. S.</i> ).	Salvin-Godman Coll.
<i>z''-c<sup>3</sup></i> . ♂ ad.; <i>d<sup>3</sup></i> . ♂ juv. sk.	Santa Maria, near Quezalten- nango, Guatemala, August ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>e<sup>3</sup>-h<sup>3</sup></i> . ♂ ad.; <i>i<sup>3</sup>, j<sup>3</sup></i> . ♀ ad. sk.	Chupaché, Quezaltenango, Sept. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>k<sup>3</sup></i> . ♂ ad. sk.	Totonicapam, Guatemala, Sept. 1862 ( <i>O. S.</i> ).	Salvin-Godman Coll.
<i>l<sup>3</sup>, m<sup>3</sup></i> . ♂ ad. sk.	Volcan de Fuego, Guatemala, Aug. ( <i>O. S.</i> ).	Salvin-Godman Coll.



$n^3$ . ♂ juv.; $o^3$ . ♀ ad. sk.	Chilasco, Guatemala, Jan. 1862 ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
$p^3$ . ♀ juv. sk.	Coban, Guatemala, Nov. ( <i>O. S.</i> ).	Salvin-Godman Coll.
$q^3, r^3$ . ♂ ad. sk. $s^3, t^3$ . Skeletons.	Guatemala ( <i>Skinner</i> ).	Gould Coll. Purchased.

2. *Basilinna xantusi*.

*Amazilia xantusi*, *Laur. Ann. Lye. N. Y.* vii. p. 109.

*Heliopedica castaneocauda*, *Laur. Ann. Lye. N. Y.* vii. p. 145.

*Heliopædica xantusi*, *Gould, Ibis*, 1860, p. 309; *id. Mon. Troch.* ii.

pl. 65 (May 1861); *id. Intr. Troch.* p. 61; *Elliot, B. N. Am.* i.

pl. 22; *de Oca, Lt Nat.* iii. p. 161; *Muls. Hist. Nat. Ois.-Mouches*,

ii. p. 3, iv. p. 186; *id. Ann. Soc. Linn. Lyon*, xxii. p. 207.

*Basilinna xantusi*, *Heine, J. f. Orn.* 1863, p. 196; *Elliot, Syn. Troch.*

p. 227; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 479; *Belding, Pr. U.S.*

*Nat. Mus.* v. p. 542.

*Hylocharis xantusi*, *Muls. & Verr. Class. Troch.* p. 38.

*Cœligena xantusi*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 190, pl. 16.

*Adult male.* Upper surface shining green; anterior half of the crown, chin, and the region below the eye black with a tinge of very dark blue; throat glittering green; middle of the abdomen chestnut; flanks washed with green; tail dark chestnut, the central rectrices edged and tipped with shining golden green; bill flesh-colour, the tip black. Total length about 3·5 inches, wing 2, tail 1·2, bill 0·7.

*Female.* Upper surface, including the central rectrices, shining green, duller on the crown; under surface buff; middle of the abdomen nearly white; lateral rectrices chestnut; maxilla black; mandible flesh-colour, the tip black.

*Hab.* Lower California.

<i>a.</i> ♂ ad. sk.	Agua Escondida, Lower California, Nov. ( <i>Xantus</i> ).	Gould Coll. (Typical specimen.)
<i>b.</i> ♂ ad. sk.	Mts. 20 miles S. of La Paz, L. California, Mar. ( <i>Belding</i> ).	Salvin-Godman Coll.
<i>c.</i> ♂ ad.; <i>d.</i> ♀ ad. sk.	Triunfo, L. California, April ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
<i>e, f.</i> ♂ ad. sk.	San Jose del Cabo, L. California, July ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.

## SECTION C. TROCHILI LÆVIROSTRES.

Sheath of both maxilla and mandible smooth to the end of the tomia, not serrate. (For Sec. A, see p. 29; Sec. B, see p. 114.)

- a.* Size generally larger; tail normal (with hardly an exception—but see *Loddigesia*), forked, rounded, or cuneate; rectrices as a rule wide; throat hardly ever glittering red (but see *Clytolæma*, *Lamprolæma*, and *Lampraster*); head seldom crested (but when so adorned, the tail is normally forked or rounded, except *Loddigesia*); no lateral cervical plumes; no elongated superciliary plumes; back uniform, without light transverse bar (except in *Patagona*); lower back sometimes glittering when viewed from behind; tibiae sometimes enveloped in down.
- a'*. Tibiæ partially feathered, but not enveloped in down.
- a''.* Size varied, but not small; tail varied, cuneate, rounded, or forked, sometimes deeply.
- a'''.* Lower back not glittering when viewed from behind.
- a<sup>1</sup>.* Bill curved to the third of a circle; tail rounded; rectrices pointed; nasal covers exposed; no glittering plumage; shafts of the outer primaries normal . . . . . 64. EUTOXERES, p. 261.
- b<sup>1</sup>.* Bill long, more or less arched; nasal covers partially exposed; tail rounded or cuneate, or with the median rectrices elongated.
- a<sup>2</sup>.* Tail rounded . . . . . 65. THRENETES, p. 263.  
[p. 267.]
- b<sup>2</sup>.* Larger; tail cuneate, the central rectrices elongated . . . . . 66. PHAETHORNIS,
- c<sup>2</sup>.* Smaller; tail cuneate; central rectrices not prominent . . . . . 67. PYGMORNIS, p. 280.
- c<sup>1</sup>.* Bill moderate, curved; nasal covers partly exposed; shafts of the outer primaries swollen, outer web obliterated at the enlargement.
- d<sup>2</sup>.* Three outer primaries with swollen shafts. . . . . [p. 286.]
- a<sup>3</sup>.* Tail cuneate . . . . . 68. SPHENOPROCTUS,
- b<sup>3</sup>.* Tail rounded . . . . . 69. CAMPYLOPTERUS,  
[p. 288.]
- e<sup>3</sup>.* Two outer primaries with swollen shafts . . . . . 70. EUPETOMENA,  
[p. 295.]
- d<sup>1</sup>.* Bill nearly straight; nasal covers more exposed; interramal space less feathered; shafts of the outer primaries normal; plumage sometimes with glittering feathers. . . . . [p. 297.]
- f<sup>3</sup>.* Tail uniform . . . . . 71. APHANTOCHROA,
- g<sup>3</sup>.* Tail with lateral rectrices tipped with white . . . . . 72. PHLÆOCHROA, p. 299.

- e*<sup>4</sup>. Bill varied, but never much curved; nasal covers and interramal space more feathered; shafts of the outer primaries normal; plumage with glittering patches.
- h*<sup>5</sup>. Bill long. [p. 300.]
- c*<sup>6</sup>. Bill slightly curved . . . . . 73. STERNOCLYTA,
- d*<sup>7</sup>. Bill straight.
- a*<sup>7</sup>. Tail rounded; lateral rectrices largely white . . . . . 74. UROCHROA, p. 301.
- b*<sup>7</sup>. Tail forked, nearly uniform. 75. EUGENES, p. 302.
- i*<sup>9</sup>. Bill short.
- e*<sup>6</sup>. Bill slightly curved; lateral rectrices tipped with white. 76. CÆLIGENA, p. 304.
- f*<sup>6</sup>. Bill nearly straight; tail nearly uniform.
- c*<sup>7</sup>. Tail rounded; throat not ruby-red; a long post-ocular stripe.
- a*<sup>8</sup>. Crown glittering . . . . . 77. OREOPYRA, p. 305.
- b*<sup>8</sup>. Crown uniform with the back . . . . . 78. DELATRIA, p. 308.
- d*<sup>7</sup>. Tail slightly forked; throat glittering ruby-red.
- e*<sup>8</sup>. Bill longer; breast glittering green . . . . . 79. CLYTOLEMA, p. 311.
- d*<sup>8</sup>. Bill shorter; breast glittering blue . . . . . [p. 314.]
80. LAMPROLEMA,
- f*<sup>4</sup>. Bill very varied, straight, or moderately curved; nasal covers completely concealed; shafts of the outer primaries normal.
- j*<sup>3</sup>. Feet feeble.
- g*<sup>6</sup>. Tail normal, either rounded or forked; none of the rectrices developed out of order.
- e*<sup>7</sup>. Bill stout, nearly straight.
- e*<sup>8</sup>. Bill nearly straight; tail moderate.
- a*<sup>9</sup>. Bill very long . . . . . 81. DOCIMASTES, p. 315.
- b*<sup>9</sup>. Bill moderate.
- a*<sup>10</sup>. Tail longer, deeply forked; rectrices narrow . . . . . 82. EUGENIA, p. 316.
- b*<sup>10</sup>. Tail moderate; rectrices normal.
- a*<sup>11</sup>. Gular spot absent or glittering purple or fiery greenish orange.
- a*<sup>12</sup>. Under surface green; throat glittering; tail more forked . . . . . 83. HELIODOXA, p. 317.
- b*<sup>12</sup>. Abdomen black or bronze; chin black; tailless forked . . . . . 84. IOLAEMA, p. 321.

- b*<sup>11</sup>. Gular spot glittering rosy red, or lilac.
- c*<sup>12</sup>. Under surface shining green; gular spot rosy red.
- d*<sup>12</sup>. Under surface cinnamon; gular spot lilac. . . . . 85. LAMPRASTER, p. 323.
- f*<sup>8</sup>. Bill curved; tail very long and deeply forked.
- f*<sup>7</sup>. Bill slender, decurved.
- g*<sup>8</sup>. Tail short, slightly forked; lateral rectrices pointed; under tail-coverts very long . . . . 86. PHÆOLÆMA, p. 324. [p. 325.]
- h*<sup>8</sup>. Tail longer, very slightly forked; lateral rectrices with rounded ends; under tail-coverts normal . . . . . 87. HYLONYPHA,
- h*<sup>8</sup>. Tail abnormal; submedian rectrices long, curved inwards, and crossing . . . . 88. LAFRESNAYA, p. 326.
- k*<sup>8</sup>. Feet strong.
- i*<sup>8</sup>. Size moderate; rump coloured like the back.
- g*<sup>7</sup>. Rectrices narrow; tail nearly square; bill short and curved . . . . . 89. FLORISUGA, p. 328.
- h*<sup>7</sup>. Rectrices wide and full; tail more or less forked.
- i*<sup>8</sup>. Bill normal, not recurved; throat with elongated glittering feathers. . . . . 90. TOPAZA, p. 332.
- c*<sup>9</sup>. Bill long . . . . . 91. OREOTROCHILUS, [p. 334.]
- d*<sup>9</sup>. Bill short.
- c*<sup>10</sup>. Crown crested. . . . . 92. OREONYMPHA, [p. 338.]
- d*<sup>10</sup>. Crown plain . . . . . 93. OXYPOGON, p. 339.
- j*<sup>8</sup>. Bill recurved; no elongated throat-plumes; tail slightly forked. . . . . 94. RHAMPHOMICRON, [p. 341.]
- j*<sup>9</sup>. Size very large; rump white, in contrast with the back . . . . . 95. OPISTHOPRORA, [p. 347.]
- b*<sup>11</sup>. Lower back glittering, when viewed from behind; bill short and straight (not long as in *Lampropygia*) . . . . . 96. PATAGONA, p. 348.
- b*<sup>11</sup>. Size small; tail profoundly modified, or rounded, hardly forked; bill feeble; tomia of mandible decidedly rolled inwards near the tip; nostrils concealed.
- c*<sup>11</sup>. Culmen feathered a long way from the base; feathers of the crown lengthened so as to form a large full crest.
- g*<sup>1</sup>. Tail normal . . . . . 97. AGLÆACTIS, p. 349.
- h*<sup>1</sup>. Tail profoundly modified; central . . . . . 98. BELLONA, p. 352.

- rectrices obsolete, lateral long and curved, and ending in a large spatule . . . . . 99. LODDIGESIA, p. 355.  
 [p. 356.]
- d*<sup>'''</sup>. Culmen less feathered; a long crest composed of a few feathers . . . . . 100. CEPHALOLEPIS,
- e*<sup>'''</sup>. Culmen as in *Cephalolepis*, but no crest.
- i*<sup>4</sup>. Bill small and short; crown green like the back . . . . . 101. ABEILLIA, p. 358.
- j*<sup>4</sup>. Bill longer; crown glittering blue like the throat . . . . . 102. KLAIS, p. 359.
- b*<sup>1</sup>. Tibiæ enveloped in downy feathers.
- c*<sup>1</sup>. Larger; tail forked, but without terminal spatules.
- f*<sup>1</sup>. Tail more or less deeply forked; under wing-coverts dark . . . . . 103. ERIOCNEMIS, p. 360.
- g*<sup>1</sup>. Tail less forked; under wing-coverts cinnamon . . . . . 104. PANOPLITES, p. 372.
- d*<sup>1</sup>. Smaller; tail very deeply forked and lateral rectrices ending with spatules. . . . . 105. SPATHURA, p. 375.
- b*. Size generally smaller; tail usually abnormal, seldom regularly rounded or slightly forked, but very varied in form, the rectrices often very narrow, the outer pair sometimes ending in a spatule; throat usually glittering red, sometimes violet or green or very pale green, sometimes plain; head crested or plain; neck sometimes adorned with lateral plumes; head sometimes with elongated glittering superciliary tufts; back uniform, or with a transverse whitish or rufous band across the rump.
- c*<sup>1</sup>. Tail very varied, not regularly cuneate or spatuled; throat usually glittering red, sometimes violet or pale green, with a violet border, sometimes plain; rump like the back (except *Rhodopsis*).
- e*<sup>1</sup>. Tail deeply and regularly forked; the outermost primary not shorter than any of the others, the median much the shortest; none of the rectrices filiform.
- h*<sup>1</sup>. Size larger; rump cinnamon; bill long and curved. . . . . 106. RHODOPIS, p. 379.
- i*<sup>1</sup>. Size smaller; rump shining green like the back.
- k*<sup>4</sup>. Tail long and forked, not transversely banded; bill long and curved; throat reddish violet . . . . . 107. DORICHA, p. 330.
- l*<sup>4</sup>. Tail long and forked; lateral rectrices tipped and banded with white . . . . . 108. TILMATURA, p. 385.
- m*<sup>4</sup>. Tail shorter; rectrices wider; lateral rectrices pointed, but not filiform.
- l*<sup>5</sup>. Throat ruby-red . . . . . 109. CALLIPHLOX, p. 386.
- m*<sup>5</sup>. Throat glittering green. . . . . [p. 388.]
- k*<sup>6</sup>. Lateral rectrices straight . . . . . 110. SMARAGDOCHRYSIS,
- l*<sup>6</sup>. Lateral rectrices curved inwards . . . . . [p. 389.]
111. PTOCHOPTERA,

- f'*. Tail more even, but more or less irregularly formed, the median rectrices, however, not abnormally short.
- g'''*. Bill rather long and decurved; lateral throat-feathers elongated . . . . . [p. 390.  
112. CALOTHORAX,
- k'''*. Bill shorter and straighter.
- n<sup>4</sup>*. Median rectrices bluntly pointed.
- n<sup>5</sup>*. Either the outermost primary or the outermost rectrices reduced to a filiform end . . . . . [p. 391.  
113. SELASPHORUS,
- o<sup>5</sup>*. Neither the outermost primary nor the outermost rectrices reduced to a filiform end . . . . . 114. TROCHILUS, p. 398.
- o<sup>4</sup>*. Median rectrices normal, not pointed, lateral narrow and curved inwards . . . . . 115. CALYPTE, p. 403.
- p<sup>4</sup>*. Two outermost rectrices on either side filiform. . . . . 116. ACESTRURA, p. 406.
- g''*. Tail nearly normal (rounded or forked).
- l'''*. Tail slightly forked, lateral feathers of the throat not elongated.
- g<sup>4</sup>*. Throat plain, not glittering . . . . . 117. MELLISUGA, p. 409.
- r<sup>4</sup>*. Throat glittering ruby-red . . . . . 118. CATHARMA, p. 410.
- m'''*. Tail rounded, tipped with white; lateral throat-feathers elongated. . . . . 119. ATTHIS, p. 411.
- n'''*. Tail slightly forked; lateral throat-feathers elongated; central throat-feathers white, with a small terminal ruby-red spot . . . . . 120. STELLULA, p. 413.
- h''*. Tail abnormal, the median rectrices very short, the lateral shorter than the intermedian.
- o'''*. Lateral rectrices short and very acute, half the length of the next pair, submedian short . . . . . [p. 414.  
121. CHÆTOCERCUS,
- p'''*. All but the short median pair of rectrices subequal, each pair curved slightly inwards. . . . . 122. MYRTIS, p. 416.
- q'''*. Submedian rectrices very long, at least four times as long as the outermost pair . . . . . [p. 418.  
123. THAUMASTURA,
- d'*. Tail rounded or forked, not cuneate, sometimes with a terminal spatule; rump with a transverse whitish band; neck sometimes with elongated lateral plumes; head sometimes crested.
- i''*. Tail rounded or slightly forked, lateral cervical plumes long . . . . . 124. LOPHORNIS, p. 419.
- j''*. Tail long and deeply forked, the rectrices very narrow and pointed, but no terminal spatule, median pair very short . . . . . [p. 428.  
125. PRYMNACANTHA,
- k''*. Tail long and forked, the lateral pair of rectrices ending with a spatule . . . . . 126. DISCURA, p. 431.
- e'*. Tail cuneate, the rectrices gradually narrowed to a blunt point, the median and submedian pairs equal; head with long glittering superciliary tufts . . . . . 127. HELIACTIN, p. 432.

## 64. EUTOXERES.

Eutoxeres, *Reich. Syst. Av.* pl. xl. (1849).  
 Myiaetina, *Bp. Rev. Zool.* 1854, p. 249. . . . . E. aquila.

*Range.* Central America, from Costa Rica southwards, Colombia, Ecuador, and Peru.

*Key to the Species.*

- a. Tail dark greenish brown, each feather more or less tipped with white; no blue on the neck; vertex wholly feathered.
- a'. Shafts of the outer rectrices white for fully half their distal ends . . . . . *aquila*, p. 261.
- b'. Shafts of the outer rectrices white only at their tips.
- a''. Discs of the abdominal feathers buff . . . . . *heterura*, p. 262.
- b''. Discs of the abdominal feathers white . . . . . *salvini*, p. 262.
- b. Three outer rectrices fulvous; a blue patch on either side of the neck, a longitudinal bare patch along the centre of the vertex . . . . . [p. 263. *condamini*,

1. *Eutoxeres aquila*.

*Trochilus aquila*, *Lodd. MS.*; *Bourc. P. Z. S.* 1847, p. 42.  
*Polytmus aquila*, *Gray & Mitch. Gen. B.* i. p. 110, pl. 36.  
*Eutoxeres aquila*, *Reich. Aufz. d. Col.* p. 15; *Cab. & Heine, Mus. Hein.* iii. p. 3; *Muls. & Verr. Class. Troch.* p. 13; *Gould, Ann. & Mag. N. H.* 1868, i. p. 456; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 27, pl. i.; *id. Ann. Soc. Linn. Lyon*, xxii. p. 199; *Elliot, Syn. Troch.* p. 3 (partim); *Eudes-Desl. Ann. Mus. Caen*, i. p. 70; *Berl. J. f. Orn.* 1887, p. 313.  
*Myiætina aquila*, *Bp. Rev. Zool.* 1854, p. 249.  
*Grypus aquila*, *Gray, Hand-l. B.* i. p. 123.

Upper surface dark shining green, darker on the crown, bluer on the rump, the feathers of the former narrowly, of the latter broadly, edged with dark fulvous; under surface brownish black, the feathers of the throat centred with pale buff, those of the abdomen with white; tail dark greenish brown tipped with white, the shafts also white for more than half their distal ends, the web adjoining gradually becoming more broadly white towards the tip: maxilla brownish black; mandible yellowish. Total length about 5·3 inches, wing 3·1, tail 2·3, bill (chord) 1·1.

Sexes probably alike.

*Hab.* Colombia.

a-e. Ad. sk. . . . . Colombia (Bogota make). . . . . Salvin-Godman & Gould Colls.  
 f. Ad. st. . . . . Purchased.

2. *Eutoxeres heterura*.

*Eutoxeres heterura*, *Gould, Ann. & Mag. N. H.* 1868, i. p. 455; *Elliot, Syn. Troch.* p. 3; *Eudes-Desl. Ann. Mus. Caen*, i. p. 73.

*Grypus heterura*, *Gray, Hand-l. B.* i. p. 123.

*Eutoxeres aquila*, var. *heterura*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 27.

*Eutoxeres aquila heterura*, *Tacz. & Berl. P. Z. S.* 1885, p. 132.

*Adult.* Very similar to that of *E. aquila*, but with the white portions of the shafts of the rectrices restricted to the white tip, which on the outer web has a more transverse edge than in the allied form; the spots on the centre of the feathers of the under surface are all uniform buff.

This bird varies much as regards the amount of white to the tips of the rectrices, and specimens are not uncommon in which these tips are wanting, whilst others show them on the central feathers only.

*Hab.* Eastern valleys of the Andes of Ecuador, up to an elevation of 5000 ft.

<i>a.</i> Ad. sk.	Quito, Ecuador.	Gould Coll.
<i>b-d.</i> Ad. sk.	Ecuador ( <i>Buckley</i> ).	Salvin-Godman & Gould Colls.
<i>e-g.</i> Ad.; <i>h.</i> Juv. sk.	Ecuador.	Gould Coll. (Types of the species.)
<i>i, j.</i> Ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>k-n.</i> Ad. sk.	Ecuador.	Salvin-Godman Coll.

3. *Eutoxeres salvini*.

*Eutoxeres aquila*, *Gould, Mon. Troch.* i. pl. 3 (Nov. 1851) (*nec Bourc.*); *id. Intr. Troch.* p. 36; *Salv. P. Z. S.* 1867, p. 152; *Lavr. Ann. Lyc. N. Y.* ix. p. 120; *Elliot, Syn. Troch.* p. 3 (pt.); *Eudes-Desl. Ann. Mus. Caen*, i. p. 72.

*Trochilus aquila*, *Lavr. Ann. Lyc. N. Y.* vi. p. 139.

*Eutoxeres salvini*, *Gould, Ann. & Mag. N. H.* 1868, i. p. 456; *Salv. P. Z. S.* 1870, p. 204.

*Grypus salvini*, *Gray, Hand-l. B.* i. p. 123.

*Eutoxeres aquila*, var. *salvini*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 27, pl. i.

*Adult.* Very similar to that of *E. aquila*, and, like that form, with the central spots of the abdominal feathers white and not buff as in *E. heterura*. The tail, however, is like that of *E. heterura*, the white shafts not being continued beyond the white terminal spots.

Mr. Elliot unites this bird with *E. aquila*, at the same time allowing *E. heterura* to stand as distinct. All three birds are very closely allied; but if *E. salvini* be united to either, it should go with *E. heterura* and not with *E. aquila*, the difference of the colour of the spots of the abdominal feathers alone separating them.

*Hab.* Costa Rica and the State of Panama.



<i>a, b.</i> Ad. sk.	Turrialba, Costa Rica ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>c-e.</i> ♂; <i>f.</i> ♀; <i>g,</i>	Calovevora, Panama ( <i>Arcé</i> ).	Salvin-Godman &
<i>h.</i> Ad. sk.		Gould Colls.
<i>i.</i> Ad. sk.	Veragua ( <i>Warszewicz?</i> ).	Gould Coll.
	(Figured in <i>Mon. Troch. i. pl. 3.</i> )	
<i>j-l.</i> Ad. sk.	"Central America."	Gould Coll.

4. *Eutoxeres condaminii*.

*Trochilus condaminii*, *Bourc. Compt. Rend.* xxxii. p. 186 (1851); *id. Rev. Zool.* 1851, p. 96.

*Eutoxeres condaminii*, *Gould, Mon. Troch. i. pl. 4* (Nov. 1851); *id. Intr. Troch.* p. 37; *Reich. Aufz. d. Col.* p. 15; *Cab. & Heine, Mus. Hein.* iii. p. 3; *Muls. & Verr. Class. Troch.* p. 13; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 29, pl. 2; *id. Ann. Soc. Linn. Lyon*, xxii. p. 199; *Elliot, Syn. Troch.* p. 3; *Tacz. P. Z. S.* 1874, p. 541; *id. Orn. Pér.* i. p. 259; *Eudes-Desl. Ann. Mus. Caen*, i. p. 74.

*Myietyna condaminii*, *Bp. Rev. Zool.* 1854, p. 249.

Upper surface dark shining golden green, much darker on the crown, a patch of shining blue on either side of the neck; under surface with the whole of the throat nearly black, each feather with a narrow central buff streak; abdomen blackish, with the pale buff centres much wider; under tail-coverts blackish, with a central streak and the tip buff; tail greenish black, the three outer rectrices on either side, except at their bases, fulvous, the central rectrices tipped with fulvous white: maxilla brownish black; mandible yellowish for the basal two thirds. Total length about 6 inches, wing 3·1, tail 2·4, bill (chord) 1·15.

The young bird has the feathers of the upper surface edged with buff.

In this species there appears to be a central line from the bill to the nape destitute of feathers—a character not shown in *E. aquila* and its allies.

Bourcier's type, now in the American Museum of Natural History, was figured by Gould in his Monograph.

*Hab.* Eastern slopes of the Andes of Ecuador and Peru.

<i>a, b.</i> Ad. sk.	Quito, Ecuador.	Gould Coll.
<i>c, d.</i> Ad.; <i>e.</i>	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman &
Juv. sk.		Gould Colls.
<i>f-h.</i> Ad. sk.	Ecuador ( <i>Buckley</i> ).	Salvin-Godman &
		Gould Colls.

## 65. THRENETES.

Type.

<i>Threnetes</i> , <i>Gould, Mon. Troch. i. pl. 13</i> (Oct. 1852); <i>id. Intr. Troch.</i> p. 40.....	<i>T. leucurus</i> .
<i>Dnophera</i> , <i>Heine, J. f. Orn.</i> 1863, p. 175 .....	<i>T. antoniæ</i> .

*Range.* Central America from Guatemala southwards; Colombia, Ecuador, Amazon Valley, and Guiana.

## Key to the Species.

- c Tail not uniform.
- a'. More than the basal half of the lateral rectrices white or buff.
- a''. Lateral rectrices, except the outer and terminal portion of the outermost two on either side, white. . . . . *leucurus*, p. 264.
- b''. Lateral rectrices, except the outer and terminal portion of the outermost two on either side, buff. . . . . *cervinicauda*, p. 265.
- b'. Basal half of the lateral rectrices white, terminal half black with white tips.
- c''. Chestnut gular spot large; central rectrices shining green. . . . . *ruckeri*, p. 265.
- d''. Central gular spot small; central rectrices greenish black. . . . . *fraseri*, p. 266.
- δ. Tail uniform olive-black. . . . . *antonice*, p. 266.

1. *Threnetes leucurus*.

White-tailed Humming Bird, *Edwards, Glean. Nat. Hist.* i. p. 99, pl. 256; *Lath. Syn.* i. (2) p. 757.

*Polytmus surinamensis*, *Briss. Orn.* iii. p. 674.

Colibri à collier rouge, *Buff. Hist. Nat. Ois.* vi. p. 59.

Colibri à collier rouge de Surinam, *Buff. Pl. Enl.* 600. f. 1.

*Trochilus leucurus*, *Linn. Syst. Nat.* i. p. 190; *Gm. Syst. Nat.* i. p. 487; *Vieill. N. Dict. d'Hist. N.* vii. p. 348; *id. Enc. Méth.* p. 552; *Less. Traité d'Orn.* p. 290; *id. Hist. Nat. Col.* p. 83, pl. 22; *id. Ind. Gén. Troch.* p. xii; *d'Orb. & Lafr. Syn. Av.* ii. p. 32.

*Glaucis leucurus*, *Bp. Consp. Av.* i. p. 67; *Muls. & Ferr. Class. Troch.* p. 14; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 49, iv. p. 137; *id. Ann. Soc. Linn. Lyon*, xxii. p. 200; *Elliot, Syn. Troch.* p. 7.

*Threnetes leucurus*, *Gould, Mon. Troch.* i. pl. 13 (Oct. 1852); *id. Intr. Troch.* p. 60; *Reich. Aufz. d. Col.* p. 15; *Bp. Rev. Zool.* 1854, p. 249; *Heine, J. f. Orn.* 1863, p. 175; *Salv. & Elliot, Ibis*, 1873, p. 277; *Elliot, Ibis*, 1877, p. 142; *Eudes-Desl. Ann. Mus. Caen*, i. p. 92; *Boucard, The Humming Bird*, i. p. 17.

*Polytmus leucurus*, *Gray, Hand-l. B.* i. p. 126.

*Adult.* Upper surface shining green; lores, ear-coverts, and chin black; a buff malar stripe on either side, a fulvous patch on the breast; abdomen grey; chest and flanks mottled with black; under tail-coverts with dark greenish-black discs; central rectrices like the back, outermost pair on either side white at the base, with a large black patch over the distal portion chiefly on the outer web, the next reatrix is almost pure white, those next the central pair dark mottled with white, with a white margin and white tip; bill black, the basal two thirds of the mandible whitish; feet yellow. Total length about 4.5 inches, wing 2.3, tail 1.35, bill 1.3.

D'Orbigny is the authority for the extension of this species into Bolivia. His specimen in the Paris Museum was examined by Mr. Elliot in 1877, and its determination endorsed.

*Hab.* Guiana and Bolivia.

*a-f.* Ad. ♂k.

Demerara.

Gould Coll.

2. *Threnetes cervinicauda*.

- Threnetes cervinicauda*, *Gould, P. Z. S.* 1854, p. 109; *id. Mon. Troch.* i. pl. 14 (Sept. 1861); *id. Intr. Troch.* p. 40; *Scl. & Salv. P. Z. S.* 1867, p. 979, 1873, p. 286; *Salv. & Elliot, Ibis*, 1873, p. 278; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 137; *Eudes-Desl. Ann. Mus. Caen*, i. p. 93; *Boucard, The Humming Bird*, i. p. 17.  
*Glaucis leucurus*, var. *cervinicauda*, *Muls. & Ferr. Class. Troch.* p. 14; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 200.  
*Glaucis cervinicauda*, *Elliot, Syn. Troch.* p. 8; *Tacz. Orn. Pér.* i. p. 260; *Berl. J. f. Orn.* 1887, p. 314.  
*Polytmus cervinicauda*, *Gray, Hand-l. B.* i. p. 127.

*Adult.* Very similar to that of *T. leucurus*, but rather larger, the upper surface rather darker, and the rectrices buff where in the allied form they are white.

*Hab.* Colombia; Eastern Ecuador and the valley of the Upper Amazons.

a. Ad. sk.	Colombia (Bogota make).	Salvin-Godman Coll.
b. Ad.; c. Juv. sk.	Canelos, Ecuador ( <i>Buckley</i> ).	Salvin-Godman & Gould Colls.
d, e. Ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
f. Ad. sk.	Chamicuro, Peruvian Amazons.	E. Bartlett [C.].
g-i. ♂ ad. sk.	Pebas, Amazons, Mar., June, & July ( <i>J. Hauxwell</i> ).	Salvin-Godman & Gould Colls.
j. Ad. sk.	Amazons ( <i>Hauxwell</i> ).	Gould Coll.
k. Ad. sk.	Quito or Napo, Ecuador.	Gould Coll.

(A type of the species.)

3. *Threnetes ruckeri*.

- Trochilus ruckeri*, *Bourc. P. Z. S.* 1847, p. 46.  
*Glaucis ruckeri*, *Gould, Mon. Troch.* i. pl. 11 (Nov. 1851); *id. Intr. Troch.* p. 39; *Laur. Ann. Lye. N. Y.* vii. p. 319, ix. p. 121; *Scl. & Salv. P. Z. S.* 1864, p. 364; *Muls. & Ferr. Class. Troch.* p. 14; *Elliot, Syn. Troch.* p. 8; *Eudes-Desl. Ann. Mus. Caen*, i. p. 87.  
*Threnetes ruckeri*, *Reich. Aufz. d. Col.* p. 15; *Bp. Rev. Zool.* 1854, p. 249; *Salv. P. Z. S.* 1870, p. 204; *id. Ibis*, 1873, p. 428; *Salv. & Elliot, Ibis*, 1873, p. 278 (pt.); *Muls. Hist. Nat. Ois.-Mouches*, i. p. 47; *id. Ann. Soc. Linn. Lyon*, xxii. p. 200.  
*Polytmus ruckeri*, *Gray, Hand-l. B.* i. p. 126.

*Adult.* Upper surface shining bronze-green, crown darker; post-ocular spot and maxillary stripe buff; lores, ear-coverts, and chin black; breast cinnamon; rest of the under surface brownish grey; under tail-coverts with bronze-green discs; central rectrices like the back, proximal half of the lateral white, distal half black, all tipped with white; maxilla black; mandible flesh-colour, tip black; feet yellow. Total length about 4.5 inches, wing 2.3, tail 1.3, bill 1.35.

*Young birds* have the chin and throat-marks ill-defined.

My authority for including Guatemala in the range of this species rests on the existence of a specimen obtained in that country and

(in 1873, when I examined it) preserved in the Museum of the Sociedad Economica de Guatemala.

*Hab.* Central America from Guatemala to Panama.

a. Ad. sk.	Angostura, Costa Rica ( <i>Car-miol</i> ).	Salvin-Godman Coll.
b. Ad. sk.	Costa Rica ( <i>Endres</i> ).	Salvin-Godman Coll.
c, d. Ad. sk.	Veragua ( <i>Warszewicz</i> ).	Gould Coll.
e. ♂ ad. sk.	Mina de Chorchá, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
f, g. Ad. sk.	Veraguas ( <i>Arcé</i> ).	Gould Coll.
h. Ad. ; i. Juv. sk.	Line of Railway, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
j. Ad. sk.	Paraiso Station, Panama ( <i>Hughes</i> ).	Salvin-Godman Coll.
k, l. Ad. sk.	Lion Hill, Panama ( <i>McLean-nan</i> ).	Salvin-Godman & Sclater Colls.

#### 4. *Threnetes fraseri*.

*Glaucis ruckeri*, *Scl. P. Z. S.* 1860, p. 296 ( *nec Bourc.*).

*Glaucis fraseri*, *Gould, Mon. Troch.* i. pl. 12 (Sept. 1861); *id. Intr. Troch.* p. 39.

*Glaucis ruckeri*, var. *fraseri*, *Muls. & Ferr. Class. Troch.* p. 14; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 200.

*Threnetes fraseri*, *Boucard, The Humming Bird*, i. p. 17.

*Adult.* Very similar to that of *T. ruckeri*, but with the cinnamon patch on the breast much smaller and the rest of the under surface greyer; the central rectrices on the upper surface are purple-black with hardly a trace of green.

*Hab.* Ecuador.

a-c. Ad. sk.	Esmeraldas, Ecuador ( <i>Fraser</i> ).	Gould Coll. (Types of the species.)
d, e. Ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.

#### 5. *Threnetes antoniae*.

*Trochilus antoniae*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, ix. p. 329 (1846).

*Lampornis antoniae*, *Bp. Consp. Av.* i. p. 72.

*Threnetes antoniae*, *Gould, Mon. Troch.* i. pl. 15 (Oct. 1852); *id. Intr. Troch.* p. 40; *Bp. Rev. Zool.* 1854, p. 249; *Salv. & Elliot, Ibis*, 1873, p. 278; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 46, pl. 4, iv. p. 136; *Eudes-Desl. Ann. Mus. Caen*, i. p. 90.

*Aphantochroa antoniae*, *Reich. Aufz. d. Col.* p. 15.

*Duophera antoniae*, *Heine, J. f. Orn.* 1863, p. 175.

*Glaucis antoniae*, *Muls. & Ferr. Class. Troch.* p. 14; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 46, pl. 3; *id. Ann. Soc. Linn. Lyon*, xxii. p. 200; *Elliot, Syn. Troch.* p. 7.

*Polytmus antoniae*, *Gray, Hand-l. B.* i. p. 127.

Entire plumage of the body dark greenish bronze, paler on the upper surface, darker on the under: upper tail-coverts edged with black; throat black; tail uniform olive-black, beneath purplish:

bill black; feet yellow. Total length about 4.4 inches, wing 2.25, tail 1.2, bill 1.3.

I have no dissected specimens of this species before me; so that I am unable to note any difference in the plumage of the sexes. Several specimens are small (wing 2.1), and have an indistinct fulvous mark below the black throat; these may be females.

*Hab.* Guiana, Cayenne.

*a-g.* Ad. sk. (Cayenne make.) Salvin-Godman & Gould Colls.

## 66. PHAETHORNIS.

	Type.
Phaethornis, <i>Sw. Zool. Journ.</i> iii. p. 357 (1827) . . . . .	P. superciliosus.
Phrethornis, <i>Boie. Isis</i> , 1831, p. 548 . . . . .	P. superciliosus.
Phaethornis, <i>Less. Ind. Gén. Troch.</i> p. xiv (1832) . . . . .	P. superciliosus.
Ptyonornis, <i>Reich. Aufz. d. Col.</i> p. 14 (1854) . . . . .	P. eurynome.
Ametornis, <i>Reich. Aufz. d. Col.</i> p. 14 (1854) . . . . .	P. bourcierii.
Orthornis, <i>Bp. Rev. Zool.</i> 1854, p. 249 . . . . .	P. bourcierii.
Guyornis, <i>Bp. Rev. Zool.</i> 1854, p. 249 . . . . .	P. guyi.
Toxoteuches, <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 11 (1860).	P. guyi.
Phaethornis (Mesophila), <i>Muls. &amp; Ferr. Class. Troch.</i> p. 17 (1865) . . . . .	P. yaruqui.
Anisopternis, <i>Muls. Hist. Nat. Ois.-Mouches</i> , i. p. 72 (1873) . . . . .	P. pretrii.
Milornis, <i>Muls. Hist. Nat. Ois.-Mouches</i> , i. p. 77 (1873) . . . . .	P. squalidus.

*Range.* Tropical America from Southern Mexico to Bolivia and Southern Brazil.

*Key to the Species.*

- a.* Bill curved.
- a'*. Dark grey or shining green beneath. Adult males with the extremity of the median rectrices reduced to a point.
- a''*. Bases of the rectrices green . . . . . *guyi*, p. 268.
- b''*. Bases of the rectrices bluish green . . . . . *emiliae*, p. 268.
- c''*. Bases of the rectrices black . . . . . *yaruqui*, p. 269.
- b'*. Grey or rufescent beneath; median rectrices of the male normal, not reduced to a point.
- a'''*. Middle rectrices far exceeding the rest in length.
- a''''*. A median gular stripe.
- a<sup>4</sup>*. Under surface buff.
- a<sup>5</sup>*. Rump-feathers narrowly edged with buff . . . . . *superciliosus*, p. 270.
- b<sup>5</sup>*. Rump-feathers broadly edged with buff.
- a<sup>6</sup>*. Larger: under surface greyer . . . . . *longirostris*, p. 272.
- b<sup>6</sup>*. Smaller: under surface deeper fawn-colour . . . . . *bolivianus*, p. 273.
- b<sup>4</sup>*. Under surface grey . . . . . *hispidus*, p. 273.
- c<sup>4</sup>*. Under surface rufous . . . . . *syrmatorphorus*,
- b'''*. Throat-feathers with dark discs. [p. 274.
- d<sup>4</sup>*. Greyish white beneath . . . . . *anthophilus*, p. 275.

- e<sup>4</sup>. Rufescent beneath.  
   e<sup>5</sup>. Larger . . . . . *eurynome*, p. 276.  
   d<sup>5</sup>. Smaller . . . . . *squalidus*, p. 276.  
 e<sup>6</sup>. Rectrices next the central pair very long.  
   e<sup>6</sup>. Greyish white beneath . . . . . *augusti*, p. 277.  
   d<sup>6</sup>. Rufescent beneath.  
   f<sup>4</sup>. Larger . . . . . *pretrii*, p. 277.  
   g<sup>4</sup>. Smaller . . . . . *nattereri*, p. 278.  
 b. Bill nearly straight.  
   c'. Under surface pale buff . . . . . *bourcierii*, p. 278.  
   d'. Under surface rufous . . . . . *philippii*, p. 279.

### 1. *Phaethornis guyi*.

*Trochilus guyi*, *Less. Hist. Nat. Troch.* p. 119, pl. 44.

*Phaethornis guyi*, *Bp. Consp. Av.* i. p. 67; *Gould, Mon. Troch.* i. pl. 26 (Oct. 1852); *id. Intr. Troch.* p. 44; *Reich. Aufz. d. Col.* p. 14; *Sel. Cat. Am. B.* p. 285; *E. C. Taylor, Ibis*, 1863, p. 90; *Muls. & Ferr. Class. Troch.* p. 17; *Gray, Hand-l. B.* i. p. 121; *Sel. & Salv. P. Z. S.* 1868, p. 168, 1876, p. 16; *Salv. & Elliot, Ibis*, 1873, p. 12; *Whitely, Ibis*, 1873, p. 189; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 58, iv. p. 138; *id. Ann. Soc. Linn. Lyon*, xxii. p. 200; *Elliot, Syn. Troch.* p. 13; *Eudes-Desl. Ann. Mus. Caen*, i. p. 97; *Salv. Cat. Strickl. Coll.* p. 359; *Berl. J. f. Orn.* 1887, p. 314.

*Guyornis typus*, *Bp. Rev. Zool.* 1854, p. 249.

*Toxoteuches guyi*, *Cab. & Heine, Mus. Hein.* iii. p. 11 (pt.); *Heine, J. f. Orn.* 1863, p. 177.

*Phaethornis guyi*, *Léot. Ois. Trin.* p. 129.

*Adult male*. Upper surface dark shining green, upper tail-coverts edged with white and with a subterminal dark band; ear-coverts black; under surface dark grey, sides of the neck and flanks tinged with dark green; throat tinged with ferruginous; tail black, the tips of the elongated central feathers white, proximal half of all the rectrices dark shining green like the back; maxilla black; the mandible (except the dark tip) red. Total length about 6 inches, wing 2.4; tail 2.3, lateral feathers 1.3; bill 1.8.

*Younger males* have ferruginous postocular and malar stripes, paler greyer under surface, and a central gular stripe; the central elongated rectrices are longer and the lateral rectrices edged with white.

*Female*. Like the young male.

*Hab.* Venezuela and Trinidad.

- a, b. ♂ ad.; c, d. ♀ Trinidad. Gould & Sclater Colls.  
   ad.; e. Juv. sk.  
 f. ♂ sk. Caripe, Venezuela, Jan. Salvin-Godman Coll.  
   (*A. Goering*).]

### 2. *Phaethornis emiliæ*.

*Trochilus emiliæ*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, ix. p. 317 (1846).

*Phaethornis emiliæ*, *Bp. Consp. Av.* i. p. 67; *id. Rev. Zool.* 1854,

p. 249; *Reich. Aufz. d. Col.* p. 14; *Gould, Intr. Troch.* p. 44; *Salv. P. Z. S.* 1867, p. 153, 1870, p. 205; *Lawr. Ann. Lyc. N. Y.* ix. p. 121; *Gray, Hand-l. B.* i. p. 121; *Salv. & Elliot, Ibis*, 1873, p. 12; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 60; *Elliot, Syn. Troch.* p. 13; *Boucard, P. Z. S.* 1878, p. 67; *Tacz. Orn. Pér.* i. p. 268.

*Toxoteuches emiliae*, *Heine, J. f. Orn.* 1863, p. 177.

*Trochilus apicalis*, *Tsch. Fauna Per.* p. 243.

*Phaethornis apicalis*, *Bp. Consp. Av.* i. p. 68.

*Phaethornis guyi*, var. *emiliae*, *Muls. & Verr. Class. Troch.* p. 17; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 200.

*Phaethornis yaruqui*, *Cass. Pr. Ac. Phil.* 1860, p. 194.

*Phaethornis guyi emiliae*, *Berl. J. f. Orn.* 1887, p. 314.

*Adult male.* Very similar to that of *P. guyi*, but the upper tail-coverts and the proximal half of the rectrices tinged with blue instead of green. The females and young males of the two forms appear undistinguishable with certainty.

*Hab.* Costa Rica and the State of Panama; Colombia and Peru.

<i>a, b.</i> ♂ ad. sk.	Irazu, Costa Rica ( <i>Rogers</i> ).	Salvin-Godman Coll.
<i>c.</i> ♂ ad.; <i>d, e.</i> ♀ ad.	Tucurriqui, Costa Rica ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>f, g.</i> Juv. sk.		
<i>h, i.</i> ♀ ad.	Costa Rica ( <i>Endres</i> ).	Gould Coll.
<i>j.</i> ♂ ad.; <i>k.</i> Sk.	Boquete de Chitra, Panama ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
<i>l.</i> ♂ juv. sk.	Laguna de Castillo, Panama ( <i>Arcé</i> ).	Gould Coll.
<i>m.</i> ♀ ad. sk.	Calovevora, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>n.</i> ♂ ad.; <i>o-q.</i> ♂ juv. sk.	Santa Fé, Panama ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
<i>r-t.</i> ♂ ad.; <i>u-z.</i> ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>a'.</i> ♀ ad. sk.	Colombia ( <i>Lindig</i> ).	Selater Coll.
<i>b'.</i> ♂ juv. sk.	Ecuador ( <i>Buckley</i> ).	Gould Coll.

### 3. *Phaethornis yaruqui*.

*Trochilus yaruqui*, *Bourc. Compt. Rend.* xxxii. p. 187.

*Phaethornis yaruqui*, *Gould, Mon. Troch.* i. pl. 27 (Oct. 1852); *id. Intr. Troch.* p. 44; *id. P. Z. S.* 1870, p. 803; *Reich. Aufz. d. Col.* p. 14; *Scl. Cat. Am. B.* p. 285; *Muls. & Verr. Class. Troch.* p. 17; *Gray, Hand-l. B.* i. p. 121; *Salv. & Elliot, Ibis*, 1873, p. 11; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 56, iv. p. 138; *id. Ann. Soc. Linn. Lyon*, xxii. p. 200; *Elliot, Syn. Troch.* p. 18; *Eudes-Desl. Ann. Mus. Caen*, i. p. 95; *Berl. & Tacz. P. Z. S.* 1883, p. 566.

*Guyornis yaruqui*, *Bp. Rev. Zool.* 1854, p. 249.

*Toxoteuches yaruqui*, *Cab. & Heine, Mus. Hein.* iii. p. 11.

Distinguishable from *P. guyi* and *P. emiliae* by having the bases of the rectrices blue-black and the under tail-coverts white. These differences are more conspicuous when adult males are compared, but they can be traced in specimens of both sexes and all ages.

*Hab.* Ecuador.

<i>a.</i> ♂ ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>b.</i> ♂ ad. sk.	Baños, Ecuador ( <i>Buckley</i> ).	Gould Coll.

c. Juv. sk.	Ecuador ( <i>Fraser</i> ).	Selater Coll.
d-f. ♂ ad.; g-p. Juv. sk.	Ecuador.	Salvin-Godman & Gould Colls.

#### 4. *Phaethornis superciliosus*.

- Polytmus cayennensis longicaudus*, *Briss. Orn.* iii. p. 686, pl. 35. f. 5.
- Trochilus superciliosus*, *Lin. Syst. Nat.* i. p. 189; *Aud. & Vieill. Ois. Dor.* i. p. 42, pl. 17; *Vieill. N. Dict. d'Hist. N.* vii. p. 347; *id. Enc. Méth.* p. 549; *Less. Hist. Nat. Col.* p. 35, pl. 6; *id. Ind. Gén. Troch.* p. xiv.
- Colibri à longue queue de Cayenne, *D'Aub. Pl. Enl.* 600. f. 3.
- Supercilious Humming Bird, *Lath. Gen. Syn.* i. (2) p. 747.
- Trochilus malaris*, *Nordm. in Erman's Reise*, p. 2 (1835).
- Phaethornis superciliosus*, *Bp. Consp. Av.* i. p. 67; *id. Rev. Zool.* 1854, p. 249; *Reich. Aufz. d. Col.* p. 14; *Gould, Mon. Troch.* i. pl. 17 (Sept. 1858); *Salv. & Elliot, Ibis*, 1873, p. 4; *Whitely, P. Z. S.* 1873, p. 188; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 64, iv. p. 139; *id. Ann. Soc. Linn. Lyon*, xxii. p. 200; *Elliot, Ibis*, 1877, p. 141; *id. Syn. Troch.* p. 14; *Tacz. P. Z. S.* 1882, p. 34; *Salv. Ibis*, 1885, p. 431.
- Phaethornis malaris*, *Bp. Consp. Av.* i. p. 67; *id. Rev. Zool.* 1854, p. 249; *Reich. Aufz. d. Col.* p. 14; *Cab. & Heine, Mus. Hein.* iii. p. 9; *Gould, Intr. Troch.* p. 41; *Scl. Cat. Am. B.* p. 284; *Heine, J. f. Orn.* 1863, p. 176; *Muls. & Verr. Class. Troch.* p. 18; *Gray, Hand-l. B.* i. p. 121; *Scl. & Salv. P. Z. S.* 1867, pp. 753, 979, 1873, p. 286; *Pelz. Orn. Bras.* p. 26; *Tacz. P. Z. S.* 1884, p. 541.
- Phaethornis affinis*, *Pelz. Sitz. math.-nat. Cl. Ak. Wiss. Wien*, xx. p. 157 (1856).
- Phaethornis consobrinus*, "Bourc.," *Reich. Aufz. d. Col.* p. 14; *Gould, Intr. Troch.* p. 42.
- Phaethornis moorei*, *Lavr. Ann. Lyc. N. Y.* vi. p. 258; *Scl. P. Z. S.* 1860, p. 296; *id. Cat. Am. B.* p. 284; *Heine, J. f. Orn.* 1863, p. 176; *Muls. & Verr. Class. Troch.* p. 18.
- Phaethornis fraterculus*, *Gould, Mon. Troch.* i. pl. 18 (Sept. 1861); *id. Intr. Troch.* p. 42; *Scl. Cat. Am. B.* p. 285; *Muls. & Verr. Class. Troch.* p. 18.
- Phaethornis longirostris*, *Ridgw. Pr. U.S. Nat. Mus.* iii. p. 309 (partim).

*Adult.* Upper surface greenish bronze, the crown darker; the feathers of the back and rump with a subterminal dark bar and fringed with buff; superciliary and malar stripes buff; lores and ear-coverts black; under surface greyish drab; the throat blackish, with a faint indication of a median stripe (much more apparent in some specimens than others); tail shining green, the distal third black, the lateral feathers tipped with buff, the elongated portion of the median feathers white: maxilla black; mandible, except the tip, flesh-colour; feet brown. Total length about 7 inches, wing 2.5; tail 3.1, lateral feathers 1.1; bill 1.95.

*Female.* Smaller than the male, lighter buff beneath, and with the longitudinal median gular stripe clearer.

Specimens with dark throats on which the central gular stripe can barely be traced all appear to come from Cayenne; they are



the typical *P. superciliosus* (Linn.) as figured by Audebert and Lesson.

Examples from all other districts have the throat less black and the median stripe apparent. A good deal of variation is also observable in the colour of the tips of the lateral rectrices, which are nearly white in some examples and strongly tinged with buff in others. Dimensions also vary in addition to the different size of the sexes.

In 1873 Mr. Elliot and I examined the claims of the various birds allied to *P. superciliosus* to be considered distinct species; and going over the same ground again with a larger series before me, I see no satisfactory reason for altering the decision we then arrived at, viz., that there was but one really definite species.

Of the names given to it, *P. superciliosus* (Linn.) seems strictly applicable to the dark-throated Cayenne bird, *P. malaris* (Nordm.) and *P. affinis*, Pelz., being synonymous. *P. moorei* and *P. consobrinus* apply to the bird of the Upper Amazons Valley, to which that of British Guiana is precisely similar\*. *P. fraterculus* was based on small specimens from Para and Cayenne, probably females.

In placing these birds together I am only judging from the materials before me, such as they are. Carefully collected specimens with full particulars with each as to sex, date of capture, and exact locality, might alter the view I now adopt.

*Hab.* Amazons Valley from the base of the Andes; Guiana.

<i>a-d.</i> Ad. et juv. sk.	Colombia (Bogota make).	Slater & Gould Colls.
<i>e, f.</i> Ad. sk.	Canelos, Ecuador ( <i>Buckley</i> ).	Gould Coll.
<i>g, h.</i> Ad. sk.	R. Napo, Ecuador.	Gould Coll.
<i>i, j.</i> Ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>k, l.</i> Ad. sk.	Peruvian Amazons ( <i>E. Bartlett</i> ).	Gould Coll.
<i>m.</i> ♀ ad. sk.	Yquitos, Amazons, Oct. ( <i>H. Whitely</i> ).	Gould Coll.
<i>n.</i> Ad. sk.	Amazons ( <i>Hauxwell's</i> make). ( <i>Ex G. N. Lawrence</i> , typical of <i>P. moorei</i> .)	Gould Coll.
<i>o, p.</i> ♂ ad.; <i>q.</i> ♀ ad.; <i>r, s.</i> Ad. sk.	Pebas, Amazons, April, May ( <i>J. Hauxwell</i> ).	Salvin-Godman & Gould Colls.
<i>t, u.</i> Ad. sk.	Demerara.	Gould Coll.
<i>v.</i> ♂ ad.; <i>w, x.</i> ♀ ad. sk.	Bartica Grove, Brit. Guiana, Jan., Oct., Dec. ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
<i>y.</i> ♂ ad. sk.	Merumé Mts., Brit. Guiana, July ( <i>H. W.</i> ).	Salvin-Godman Coll.
<i>z.</i> ♂ ad. sk.	Camacusa, Brit. Guiana, Mar. ( <i>H. W.</i> ).	Salvin-Godman Coll.
<i>a'.</i> ♂ ad. sk.	R. Atapurow, Brit. Guiana, Jan. ( <i>H. W.</i> ).	Salvin-Godman Coll.
<i>b'.</i> ♂ ad. sk.	Quonga, Brit. Guiana, Sept. ( <i>H. W.</i> ).	Salvin-Godman Coll.

\* Recently described by M. Boucard as:—

PHAETHORNIS GUIANENSIS, 'The Humming Bird,' i. p. 17 (Mar. 1891).

<i>e'-e'</i> . Ad. sk.	Para.	Gould Coll.
<i>f'</i> . Ad. sk.	(Cayenne make.)	Gould Coll. (Type of <i>P. fraterculus</i> ?)
<i>g'-o'</i> . Ad. sk.	(Cayenne make.)	Gould & Selater Colls.
<i>p'</i> . Ad. st.		Purchased.

5. *Phaethornis longirostris*.

*Ornismya longirostris*, *Less. & Delattre, Echo du Monde Savant*, 1843, no. 45, p. 1070.

*Trochilus cephalus*, *Bourc. & Muls. Rev. Zool.* 1848, p. 269.

*Phaethornis cephalus*, *Reich. Aufz. d. Col.* p. 14; *Gould, Mon. Troch.* i. pl. 16 (Sept. 1858); *Sci. & Salv. Ibis*, 1859, p. 126; *Muls. & Ferr. Class. Troch.* p. 18; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 64, iv. p. 140; *id. Ann. Soc. Linn. Lyon*, i. p. 200.

*Phaethornis longirostris*, *Gould, Mon. Troch.* i. pl. 19 (Sept. 1858); *id. Intr. Troch.* p. 42; *Sci. P. Z. S.* 1857, p. 227; *id. Cat. Am. B.* p. 285; *Cab. & Heine, Mus. Hein.* iii. p. 9; *Lawr. Ann. Lyc. N. Y.* vii. p. 319, ix. p. 121; *Sci. & Salv. P. Z. S.* 1864, p. 364, 1879, p. 528; *Gray, Hand-l.* i. p. 121; *Salv. Ibis*, 1866, p. 204, 1872, p. 39; *id. P. Z. S.* 1870, p. 205; *Wyatt, Ibis*, 1871, p. 376; *Salv. & Elliot, Ibis*, 1873, p. 5; *de Oca, La Nat.* iii. p. 206; *Elliot, Syn. Troch.* p. 42; *Boucard, P. Z. S.* 1878, p. 67; *Berl. Pr. U.S. Nat. Mus.* xi. p. 560.

*Phaethornis moorii*, *Sci. P. Z. S.* 1860, p. 296.

*Phaethornis cassini*, *Lawr. Ann. Lyc. N. Y.* viii. p. 347.

*Adult male*. Very similar to that of *P. superciliosus*, but with the feathers of the back and rump more broadly edged with buff. The tips of the lateral rectrices are whiter or greyer in northern specimens, but more distinctly tinged with buff in southern examples.

*Hab.* Southern Mexico and Central America to Northern Colombia.

<i>a, b</i> . Ad. sk.	S. Mexico ( <i>Sallé</i> ).	Gould Coll.
<i>c</i> . ♀ ad.; <i>d</i> . Ad. sk.	Chimalapa, Tehuantepec, Mex., Mar., Apr. ( <i>W.B. Richardson</i> ).	Salvin-Godman Coll.
<i>e-g</i> . ♂ ad.; <i>h</i> . ♀ ad. sk.	San Felipe, British Honduras ( <i>F. Blancaneaux</i> ).	Salvin-Godman Coll.
<i>i, j</i> . Ad. sk.	British Honduras ( <i>F. B.</i> ).	Salvin-Godman Coll.
<i>k</i> . ♀ ad.; <i>l, m</i> . Ad. sk.	Choctum, Guatemala, Feb. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
<i>n, o</i> . Ad. sk.	Guatemala.	O. Salvin [C.].
<i>p</i> . ♀ ad.; <i>q, r</i> . Ad. sk.	Chontales, Nicaragua ( <i>T. Belt</i> ).	Salvin-Godman Coll.
<i>s</i> . Ad. sk.	San Juan, Nicaragua.	Gould Coll.
<i>t</i> . Ad. sk.	Costa Rica ( <i>Endres</i> ).	Salvin-Godman Coll.
<i>u</i> . Ad. sk.	Costa Rica ( <i>Curmiol</i> ).	Salvin-Godman Coll.
<i>v</i> . ♀ ad. sk.	Bugaba, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>w-a'</i> . Ad. sk.	Lion Hill, Panama ( <i>McLeanman</i> ).	Salvin-Godman & Selater Colls.
<i>b', c'</i> . ♂ ad. sk.	Pueblo Viejo, N. Colombia ( <i>F. Simons</i> ).	Salvin-Godman Coll.
<i>d'</i> . Ad. sk.	Barranquilla, Colombia ( <i>Rippon</i> ).	Selater Coll.

<i>e'</i> . Ad. sk.	Remedios, Colombia ( <i>T. K. Salmon</i> ).	Salvin-Godman Coll.
<i>f'</i> . ♂ ad. sk.	Esmeraldas, Ecuador, Nov. ( <i>Fraser</i> ).	Selater Coll.

### 6. *Phaethornis bolivianus*.

*Phaethornis boliviana*, *Gould, Intr. Troch.* p. 42.

*Phaethornis superciliosus*, *Scl. & Salv. P. Z. S.* 1879, p. 626.

*Adult.* Very similar to that of *P. longirostris*, but rather smaller, and the under plumage fawn-colour and less grey; the outer rectrices are tipped with deep buff, in this respect resembling more southern examples of *P. longirostris*. Total length about 5·5 inches, wing 2·2; tail 2·5, lateral rectrices 0·9; bill 1·5.

In our review of the genus *Phaethornis*, Mr. Elliot and I considered *P. bolivianus*, Gould, to be inseparable from *P. longirostris*, and we doubted the authenticity of the locality ascribed to the type of Gould's description. Several specimens of a *Phaethornis* obtained by Buckley in Bolivia agree with the type of *P. bolivianus*, so that the locality given by Gould is fully confirmed. The slight differences existing between these birds and typical *P. longirostris* thus assume greater importance, seeing that the ranges of the two birds are separated by a wide interval, the intervening country being apparently occupied by *P. superciliosus*.

Specimen *f* I include here with some doubt. It is larger than typical *P. bolivianus*, but has the under plumage deep fawn-colour. It is marked as coming from Brazil on the authority of a Mr. Campbell.

*Hab.* Bolivia.

<i>a.</i> Juv. sk.	Bolivia.	Gould Coll. (Type of the species.)
<i>b.</i> Ad. sk.	Tilotilo, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>c-e.</i> Ad. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.
<i>f.</i> Sk.	"Brazil" ( <i>Campbell</i> ).	Gould Coll.

### 7. *Phaethornis hispidus*.

*Trochilus* (—?) *hispidus*, *Gould, P. Z. S.* 1846, p. 90.

*Phaethornis hispidus*, *Bp. Consp. Av.* i. p. 68; *id. Rev. Zool.* 1854, p. 249; *Gould, Mon. Troch.* i. pl. 22 (Oct. 1852); *id. Intr. Troch.* p. 43; *Muls. & Ferr. Class. Troch.* p. 18; *Scl. & Salv. P. Z. S.* 1866, p. 193, 1873, p. 186; *Salv. & Elliot, Ibis*, 1873, p. 7; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 70; *id. Ann. Soc. Linn. Lyon*, xxii. p. 200; *Elliot, Syn. Troch.* p. 16; *Eudes-Desl. Ann. Mus. Caen*, i. p. 110; *Tacz. P. Z. S.* 1882, p. 34; *id. Orn. Pér.* i. p. 265; *Berl. J. f. Orn.* 1887, p. 315.

*Trochilus oseryi*, *Bourc. & Muls. Ann. Soc. Linn. Lyon*, (2) iv. p. 139 (1852).

*Ptyonornis hispida*, *Reich. Aufz. d. Col.* p. 14.

*Ametromis oseryi*, *Reich. Aufz. d. Col.* p. 14.

*Phaethornis oseryi*, *Bp. Rev. Zool.* 1854, p. 249; *Gould, Mon. Troch.* i. pl. 23 (Sept. 1853); *id. Intr. Troch.* p. 43; *Muls. & Ferr. Class. Troch.* p. 18; *Gray, Hand-l. B.* i. p. 122; *Scl. & Salv. P. Z. S.* 1867, p. 979, 1873, p. 287; *Eudes-Dest. Ann. Mus. Cuen.* i. p. 112.

*Phaethornis villosus*, *Lawr. Ann. Lyc. N. Y.* vi. p. 259.

*Phaethornis anthophilus*, *Pelz. Orn. Bras.* p. 27?

*Adult.* Upper surface dark shining green; crown dark brown; feathers of the lower back with a subterminal dark transverse bar, and tipped with a broad grey fringe; superciliary, malar and gular stripes dull white; rest of the under surface grey, the sides of the neck mottled with whitish, and the middle of the abdomen white; lateral rectrices dark green at the base, with white shafts, subterminally brownish black and tipped with white, the two elongated central feathers dark green at the base, the prolonged tips white; maxilla black; mandible, except the tip, whitish. Total length about 5.5 inches, wing 2, tail 2.15, bill 1.5.

*Hab.* Valley of the Upper Amazons from Colombia to Bolivia.

<i>a-c.</i> Ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>d.</i> Ad. sk.	Quito, Ecuador.	Gould Coll.
<i>e.</i> Ad. sk.	Ecuador ( <i>G. N. Lawrence</i> ).	Gould Coll.
		(Typical of <i>P. villosus</i> , Lawr.)
<i>f-h.</i> Ad. sk.	[Ecuador.]	Gould Coll.
<i>i.</i> ♂ ad.; <i>j, k.</i> Ad. sk.	Pebas, Amazons, June ( <i>J. Hauxwell</i> ).	Salvin-Godman & Selater Colls.
<i>l.</i> ♂ ad. sk.	Iquitos, Amazons, March ( <i>H. Whitely</i> ).	Gould Coll.
<i>m.</i> Ad. sk.	Bolivia ( <i>Bridges</i> ).	Gould Coll.
		(Type of the species.)

### 8. *Phaethornis syrmatophorus*.

*Phaethornis syrmatophorus*, *Gould, Contr. Orn.* 1851, p. 129; *id. Mon. Troch.* i. pl. 20 (Oct. 1852); *id. Intr. Troch.* p. 42; *id. P. Z. S.* 1870, p. 803; *Reich. Aufz. d. Col.* p. 14; *Bp. Rev. Zool.* 1854, p. 249; *Scl. P. Z. S.* 1859, p. 145; *id. Cat. Am. B.* p. 285; *Muls. & Ferr. Class. Troch.* p. 18; *Gray, Hand-l. B.* i. p. 121; *Salv. & Elliot, Ibis*, 1873, p. 8; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 68, iv. p. 141; *id. Ann. Soc. Linn. Lyon*, xxii. p. 200; *Elliot, Syn. Troch.* p. 16; *Scl. & Salv. P. Z. S.* 1879, p. 528; *Eudes-Dest. Ann. Mus. Cuen.* i. p. 109; *Tacz. & Berl. P. Z. S.* 1884, p. 303, 1885, p. 102.

? *Phaethornis columbianus*, *Boucard, The Humming Bird*, i. p. 17 (Mar. 1891).

*Adult.* Upper surface dark bronze-green, each feather with a subterminal dark band and fringed with buff; crown dark brown; rump fawn-colour; postocular and malar stripes pale buff; lores and ear-coverts black; middle of the throat white, edged laterally with an indistinct band of dark spots, more definite in younger birds; rest of the under surface fawn-colour; tail dark green at the base, with a broad subterminal black band, the lateral feathers tipped with

fawn-colour, the elongated portion of the central pair white: maxilla black; mandible, except the tip, orange-red. Total length about 6 inches, wing 2·3, tail 2·9, bill 1·6.

*Hab.* Colombia (Cauca Valley) and Ecuador.

a. ♂ ad. sk.	Sta. Elena, Colombia ( <i>T. K. Selmon</i> ).	Salvin-Godman Coll.
b. Ad. sk.	Medellin, Colombia ( <i>T. K. S.</i> ).	Salvin-Godman Coll.
c. ♂ ad. sk.	Pallatanga, Ecuador, Oct. ( <i>Fraser</i> ).	Slater Coll.
d. Ad. sk.	Ecuador ( <i>Fraser</i> ).	Gould Coll.
e, f. Ad. sk.	Ecuador ( <i>Fraser</i> ).	Gould Coll.
g. Ad. sk.	Napo, Ecuador ( <i>Jameson</i> ).	Gould Coll.
h. Ad. sk.	Ecuador ( <i>Jameson</i> ).	Gould Coll.
i-k. Ad. sk.	Ecuador ( <i>Buckley</i> ).	Salvin-Godman & Gould Colls.
l, m. Ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
n. Ad. sk.	Baisa, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.

### 9. *Phaethornis anthophilus*.

*Trochilus anthophilus*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, vi. p. 47 (1843); *id. Rev. Zool.* 1843, p. 71.

*Phaethornis anthophilus*, *Bp. Consp. Av.* i. p. 68; *id. Rev. Zool.* 1854, p. 249; *Reich. Aufz. d. Col.* p. 14; *Gould, Mon. Troch.* i. pl. 24 (May 1854); *id. Intr. Troch.* p. 43; *Sci. P. Z. S.* 1855, p. 139; *id. Cat. Am. B.* p. 285; *Cab. & Heine, Mus. Hein.* iii. p. 8; *Muls. & Verr. Class. Troch.* p. 18; *Gray, Hand-l. B.* i. p. 122; *Sci. & Salv. P. Z. S.* 1868, p. 628; *Salv. & Elliot, Ibis*, 1873, p. 9; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 83; *id. Ann. Soc. Linn. Lyon*, xxii. p. 201; *Elliot, Syn. Troch.* p. 16; *Salv. & Godm. Ibis*, 1880, p. 171; *Eudes-Desl. Ann. Mus. Caen*, i. p. 120; *Berl. J. f. Orn.* 1887, p. 315.

*Adult.* Upper surface bronze-green, each feather with a narrow subterminal dark band and fringed with buff; crown dark brown; postocular spot white; lores and ear-coverts black; under surface greyish white, flanks tinged with buff; feathers of the throat with dark discs; tail pale green at the base, with a broad subterminal dark band and with grey white-edged tips, the elongated portion of the central pair white: maxilla black; mandible, except the tip, flesh-colour. Total length about 5·8 inches, wing 2·35, tail 2·35, bill 1·55.

*Hab.* Northern and Central Colombia and Venezuela.

a-h. Ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
i. ♀ ad. sk.	Valley Dupar, N. Colombia, April ( <i>F. Simons</i> ).	Salvin-Godman Coll.
j. ♂ ad. sk.	Valencia, N. Colombia, May ( <i>F. S.</i> ).	Salvin-Godman Coll.
k. Ad. sk.	Venezuela.	Gould Coll.

10. *Phaethornis eurynome*.

*Trochilus eurynome*, *Less. Hist. Nat. Troch.* p. 91, pl. 31; *id. Ind. Gén. Troch.* p. xiv.

*Trochilus melanotis*, *Nordm. in Erman's Reise*, p. 2, pl. 17.

*Phaethornis eurynome*, *Gould, Mon. Troch.* i. pl. 16 (June 1849); *id. Intr. Troch.* p. 41; *Bp. Consp. Av.* i. p. 67; *id. Rev. Zool.* 1854, p. 249; *Reich. Aufz. d. Col.* p. 14; *Burm. Syst. Ueb.* ii. p. 324; *Cab. & Heine, Mus. Hein.* iii. p. 9; *Scl. Cat. Am. B.* p. 284; *Muls. & Ferr. Class. Troch.* p. 18; *Gray, Hand-l. B.* i. p. 121; *Pelz. Orn. Bras.* p. 27; *Salv. & Elliot, Ibis*, 1873, p. 8; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 80, pl. 6, iv. p. 143; *id. Ann. Soc. Linn. Lyon*, xxii. p. 201; *Elliot, Syn. Troch.* p. 17; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 118; *Salv. Cat. Strickl. Coll.* p. 359.

*Phaethornis melanotis*, *Bp. Consp. Av.* i. p. 67; *Reich. Aufz. d. Col.* p. 14.

*Adult.* Upper surface dark bronze-green, each feather with a distinct subterminal band and a fulvous fringe; crown dark brownish black, the feathers edged (broadly on the nape) with fulvous; post-ocular and malar stripes dark buff, the latter paler; lores and ear-coverts black; under surface buffish grey, more buff in some specimens, greyer in others, the feathers of the throat with conspicuous black discs; tail green at the base, a broad subterminal band and white tips, the elongated portion of the central pair white: maxilla black; mandible, except the tip, yellow. Total length about 6.4 inches, wing 2.3, tail 2.9, bill 1.55.

*Hab.* Brazil, Southern provinces.

a-g. Ad. sk.	Brazil (Rio make).	Salvin-Godman & Gould Colls.
h. Ad. sk., var.	Brazil.	Gould Coll.
i, j. Ad. sk.	N. Fribourgo, Brazil ( <i>Foulds</i> ).	Salvin-Godman Coll.
k. Ad. sk.	Rio Claro, Goyaz, Brazil ( <i>Joyner</i> ).	Salvin-Godman Coll.
l, m. Ad. st.		Purchased.

11. *Phaethornis squalidus*.

*Trochilus squalidus*, *Natt. in Temm. Pl. Col.* 120, f. 1; *Less. Man. d'Orn.* v. p. 74, f. 2; *id. Hist. Nat. Col.* p. 40, pl. 8; *id. Ind. Gén. Troch.* p. xv.

*Trochilus leucophrys*, *Nordm. in Erman's Reise*, p. 2.

*Phaethornis leucophrys*, *Bp. Consp. Av.* i. p. 67; *Reich. Aufz. d. Col.* p. 14.

*Phaethornis squalidus*, *Bp. Consp. Av.* i. p. 68; *id. Rev. Zool.* 1854, p. 249; *Reich. Aufz. d. Col.* p. 14; *Burm. Syst. Ueb.* ii. p. 325; *Cab. & Heine, Mus. Hein.* iii. p. 8; *Gould, Intr. Troch.* p. 45; *Scl. Cat. Am. B.* p. 286; *Muls. & Ferr. Class. Troch.* p. 18; *Euler, J. f. Orn.* 1868, p. 182; *Pelz. Orn. Bras.* p. 27; *Salv. & Elliot, Ibis*, 1873, p. 9; *Bert. J. f. Orn.* 1873, p. 273; *id. Pr. U.S. Nat. Mus.* xi. p. 560; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 77, iv. p. 142; *id. Ann. Soc. Linn. Lyon*, xxii. p. 201; *Elliot, Syn. Troch.* p. 17; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 117.

*Phaethornis intermedius*, *Gould, Mon. Troch.* i. pl. 30 (Oct. 1853) (*nec Lesson*).

*Pygmornis intermedius*, *Bp. Rev. Zool.* 1854, p. 250.

*Ptyonornis intermedius*, *Reich. Aufz. d. Col.* p. 14.

*Pygmornis squalidus*, *Gray, Hand-l. B.* i. p. 122.

*Adult.* Upper surface dark bronze-green, each feather obscurely fringed with buff; crown dark brown; postocular stripe dusky white; lores and ear-coverts black; under surface buff, brownish on the flanks; throat brown, the feathers with buff fringes; tail dull dark green at the base, with a broad subterminal black band and tipped with buff, the elongated portion of the central pair white: maxilla black: mandible flesh-colour, distal half black. Total length 4.8 inches, wing 1.8, tail 2, bill 1.05.

*Hab.* South-eastern Brazil.

<i>a-i.</i> Ad. sk.	Brazil (Rio make).	Salvin-Godman & Gould Colls.
<i>j.</i> Ad. sk.	Santa Fé, Minas Geraes, Brazil ( <i>Rogers</i> ).	Salvin-Godman Coll.

## 12. *Phaethornis augusti*.

*Trochilus augusti*, *Bourc. Ann. Sc. Phys. et Nat. Lyon*, x. p. 623 (1847).

*Phaethornis augusti*, *Bp. Consp. Av.* i. p. 68; *id. Rev. Zool.* 1854, p. 249; *Reich. Aufz. d. Col.* p. 14; *Gould, Mon. Troch.* i. pl. 29 (May 1854); *id. Intr. Troch.* p. 45; *Muls. & Ferr. Class. Troch.* p. 18; *Wyatt, Ibis*, 1871, p. 376; *Salv. & Elliot, Ibis*, 1873, p. 10; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 75, pl. 5; *id. Ann. Soc. Linn. Lyon*, xxii. p. 201; *Elliot, Syn. Troch.* p. 14; *Eudes-Desl. Ann. Mus. Caen*, i. p. 116; *Salv. Ibis*, 1885, p. 431; *Berl. J. f. Orn.* 1887, p. 314.

Allied to *P. pretrii*, and with the tail similarly formed, but the postocular and malar stripes are white instead of buff, and the entire under surface grey instead of cinnamon.

*Hab.* Colombia, Venezuela, and British Guiana.

<i>a, b.</i> Ad. sk.	Caracas, Venezuela ( <i>Sallé</i> ).	Salvin-Godman & Gould Colls.
<i>c.</i> Ad. sk.	Venezuela ( <i>Spence</i> ).	Slater Coll.
<i>d-f.</i> Ad. sk.	Venezuela.	Gould Coll.
<i>g, h.</i> ♂ ad.; <i>i,</i>	Roraima, Brit. Guiana, Jan.	Salvin-Godman Coll.
<i>j.</i> ♀ ad. sk.	& Dec. ( <i>H. Whitely</i> ).	
<i>k.</i> ♀ ad. sk.	Quonga, Brit. Guiana, Sept. ( <i>H. W.</i> ).	Salvin-Godman Coll.

## 13. *Phaethornis pretrii*.

*Trochilus superciliosus*, *Wied, Beitr.* iv. p. 116 (*nee Linn.*).

*Trochilus pretrii*, *Less. & Delattre, Rev. Zool.* 1839, p. 20.

*Phaethornis pretrii*, *Bp. Consp. Ac.* i. p. 65; *id. Rev. Zool.* 1854, p. 249; *Reich. Aufz. d. Col.* p. 14; *Gould, Mon. Troch.* i. pl. 28 (May 1854); *Pelz. Orn. Bras.* p. 27; *Salv. & Elliot, Ibis*, 1873, p. 11; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 72; *id. Ann. Soc. Linn.*

*Lyon*, xxii. p. 201; *Elliot, Syn. Troch.* p. 14; *Eudes-Desl. Ann. Mus. Caen*, i. p. 114; *Salv. Cat. Strickl. Coll.* p. 359; *Berl. Pr. U.S. Nat. Mus.* xi. p. 559.

*Phaethornis superciliosus*, *Burm. Syst. Ueb.* ii. p. 323; *Cab. & Heine, Mus. Hein.* iii. p. 9; *Gould, Intr. Troch.* p. 45; *Scl. Cat. Am. B.* p. 286; *Muls. & Verr. Class. Troch.* p. 18; *Gray, Hand-l. B. i.* p. 121; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 99; *Ridgw. Pr. U.S. Nat. Mus.* iii. p. 309.

*Adult.* Upper surface shining bronze-green, crown dark; rump rusty red; postocular and malar stripes pale buff; lores and ear-coverts black; under surface cinnamon, a little darker on the throat, which has a pale median stripe; tail bronze-green, all the feathers broadly tipped with white, the lateral ones with a broad subterminal black band: maxilla black; mandible, except the tip, red. Total length about 6 inches, wing 2.25; tail, central rectrices 2.9, next pair 2.25, outer pair 1; bill 1.5.

*Hab.* Brazil from Bahia to the southern provinces.

<i>a, b.</i> Ad. sk.	Bahia, Brazil ( <i>Wucherer</i> ).	Salvin-Godman Coll.
<i>c-i.</i> Ad. sk.	Brazil (Bahia make).	Gould Coll.
<i>j.</i> Ad. sk.	Santa Fé, Minas Geraes, Brazil ( <i>Rogers</i> ).	Salvin-Godman Coll.
<i>k, l.</i> ♂ ad. sk.	Chapada, Matto Grosso, Brazil Jan. & Aug. ( <i>H. H. Smith</i> ).	Salvin-Godman Coll.

#### 14. *Phaethornis nattereri*.

*Phaethornis longuemareus*, *Pelz. Orn. Bras.* p. 27.

*Phaethornis nattereri*, *Berl. Ibis*, 1887, p. 289.

? *Phaethornis gounellei*, *Boucard, The Humming Bird*, i. p. 17 (Mar. 1891).

Upper surface bronze-brown; rump rufous; supercilium and under surface pale fulvous, a little darker on the throat; tail graduated, the feathers narrow, the four central ones tipped with white, the rest with pale fulvous: bill black; the mandible, except the extreme tip, flesh-colour; feet hazel. Total length about 4.5 inches, wing 1.8; tail, central feathers 1.8, lateral 0.7; bill 1.15. (Type, *Mus. Berlepsch*.)

I only know this bird from seeing the type, kindly lent me by Count Berlepsch. It appears to be a small form of *P. pretii*.

*Hab.* Brazil, Matto Grosso (*Natterer*).

#### 15. *Phaethornis bourcierii*.

*Trochilus bourcierii*, *Less. Hist. Nat. Troch.* p. 62, pl. 18; *id. Ind. Gén. Troch.* p. xiv.

*Phaethornis bourcierii*, *Bp. Consp. Av.* i. p. 67; *Gould, Mon. Troch.* i. pl. 25 (May 1853); *id. Intr. Troch.* p. 43; *Scl. Cat. Am. B.* p. 288; *Muls. & Verr. Class. Troch.* p. 18; *Gray, Hand-l. B. i.* p. 121; *Scl. & Salv. P. Z. S.* 1867, p. 752, 1873, p. 286; *Salv. & Elliot, Ibis*, 1873, p. 13; *Muls. Hist. Nat. Ois.-Mouehes*, i. p. 85, iv. p. 143; *id. Ann. Soc. Linn. Lyon*, xxii. p. 201; *Elliot, Syn.*



- Troch.* p. 12; *Eudes-Desl. Ann. Mus. Caen*, i. p. 121; *Tacz. P. Z. S.* 1882, p. 34; *id. Orn. Pér.* i. p. 267; *Salv. Ibis*, 1885, p. 431.
- Ametrornis bourcierii*, *Reich. Aufz. d. Col.* p. 14; *Cab. & Heine, Mus. Hein.* ii. p. 10.
- Ametrornis abnormis*, *Reich. Aufz. d. Col.* p. 14; *Pelz. Orn. Bras.* pp. 27, 56.
- Orthornis bourcierii*, *Bp. Rev. Zool.* 1854, p. 249.
- Phaethornis whitelyi*, *Boucard, The Humming Bird*, i. p. 18 (Mar. 1891).

*Adult.* Upper surface dark bronze-green, the feathers of the lower back and upper tail-coverts tipped with buff and with a sub-terminal dark band; superciliary and malar stripes buff; ear-coverts dark; under surface greyish buff, lighter in the middle line; tail bronze-green, the central elongated rectrices white towards their tips, the rest blacker towards their ends and tipped with buff; maxilla black; mandible pale flesh-colour, the tip black. Total length about 5.5 inches, wing 2.2, tail 2.2, lateral rectrices 1, bill 1.4.

*Female* like the male.

*Hab.* Guiana and the Amazons Valley to the base of the Andes of Ecuador and Peru.

<i>a.</i> Ad. sk.	Canelos, Ecuador ( <i>Buckley</i> ).	Gould Coll.
<i>b, c.</i> Ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>d, e.</i> Ad. sk.	Peruvian Amazons ( <i>E. Bartlett</i> ).	Gould Coll.
<i>f, g.</i> ♂ ad. sk.	Pebas, Amazons, April, June ( <i>J. Hauxwell</i> ).	Salvin-Godman Coll.
<i>h.</i> ♂ ad. sk.	Camacusa, Brit. Guiana, April ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
<i>i.</i> ♀ ad. sk.	Merumé Mts., Brit. Guiana, July ( <i>H. W.</i> ).	Salvin-Godman Coll.
<i>j.</i> ♀ ad. sk.	R. Atapurou, Brit. Guiana, Jan. ( <i>H. W.</i> ).	Salvin-Godman Coll.
<i>k.</i> ♂ ad. sk.	Roraima, Brit. Guiana, Nov. ( <i>H. W.</i> ).	Salvin-Godman Coll.
<i>l-o.</i> Ad. sk.	(Cayenne make.)	Gould & Sclater Colls.

### 16. *Phaethornis philippii*.

*Trochilus philippii*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyons* x. p. 623 (1847).

*Trochilus filippi*, *Bourc. Rev. Zool.* 1847, p. 401.

*Phaethornis philippii*, *Bp. Consp. Av.* i. p. 68; *Gould, Mon. Troch.* i. pl. 21 (Sept. 1855); *id. Intr. Troch.* p. 43; *Muls. & Ferr. Class. Troch.* p. 18; *Salv. & Elliot, Ibis*, 1873, p. 13; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 27; *id. Ann. Soc. Linn. Lyon*, xxii. p. 201; *Elliot, Syn. Troch.* p. 12; *Scl. & Salv. P. Z. S.* 1879, p. 627; *Eudes-Desl. Ann. Mus. Caen*, i. p. 123.

*Ametrornis defilippii*, *Reich. Aufz. d. Col.* p. 14; *Cab. & Heine, Mus. Hein.* iii. p. 10.

*Adult.* Upper surface dark bronze-green, crown darker, each feather with a fulvous tip and a subterminal dark bar, more con-

spicuous on the lower back and rump; under surface rufous-tawny, under tail-coverts paler; tail black, the middle pair of rectrices tipped with white, the rest with rufous: maxilla black; mandible, except the tip, flesh-colour; feet pale hazel. Total length about 5·7 inches, wing 2·3; tail, central rectrices 2·3, lateral 1; bill 1·4.

Some years ago I examined the type of this species, then in Mr. Elliot's Collection. More recently a second specimen was obtained by Herr Gustav Garlepp at Fonteboa, on the Amazons. This is now in Count Berlepsch's collection, and was lent to me for examination and description.

*Hab.* Bolivia and Amazons Valley.

### 67. PYGMORNIS\*.

Type.

Pygmornis, *Bp. Rev. Zool.* 1854, p. 250.

Éremita, *Reich. Aufz. d. Col.* p. 14.

Momus, *Muls. & Ferr. Class. Troch.* p. 19 (1865) . . . . . *P. idaliae*.

Pygmornis, *Muls. & Ferr. Class. Troch.* p. 18.

*Range.* Tropical America from South-eastern Mexico to South Brazil.

#### *Key to the Species.*

- a. No distinct black pectoral crescent.
- a'. Rump and under tail-coverts more or less rufescent.
- a''. Central rectrices subterminally nearly black . . . . . *griseigularis*, p. 280.
- b'. Central rectrices subterminally dark green.
- a'''. Throat grey, with distinct stripes . . . *striigularis*, p. 281.
- b'''. Throat rufous, unstriped. . . . . *adolphi*, p. 282.
- b. Rump nearly uniform with the back, the feathers narrowly edged with rufous; under tail-coverts white.
- c'. Rump-feathers distinctly edged with rufous *longuemarci*, p. 283.
- d'. Rump green, scarcely edged with rufous. *idalice*, p. 284.
- b. A distinct black pectoral crescent.
- c'. Basal half of the mandible yellow.
- e'. Outer rectrices beneath subterminally black . . . . . *episcopus*, p. 284.
- f'. Outer rectrices beneath subterminally bronze *pygmaeus*, p. 285.
- d'. Basal three-fourths of the mandible yellow. *nygricinctus*, p. 286.

### 1. *Pygmornis griseigularis*.

*Phaethornis griseigularis*, *Gould, P. Z. S.* 1851, p. 115; *id. Mon. Troch.* i. pl. 36 (Nov. 1851); *Sel. Cat. Am. B.* p. 286; *Gray,*

\* I do not know the bird described by Count v. Berlepsch as:—

PHAETHORNIS RIOJE, *Ibis*, 1889, p. 182.

*Hab.* N. Peru.

It is said to be allied to *P. striigularis*.

- Hand-l. B. i.* p. 122; *Elliot, Syn. Troch.* p. 18; *Tacz. P. Z. S.* 1880, p. 204; *id. Orn. Pér.* i. p. 270; *Berl. J. f. Orn.* 1887, p. 315.  
*Trochilus aspasiae, Bourc. & Muls. Ann. Soc. Linn. Lyon,* (2) iii. p. 188.  
*Pygmornis griseigularis, Bp. Rev. Zool.* 1854, p. 250; *Salv. & Elliot, Ibis,* 1873, p. 272; *Heine, J. f. Orn.* 1863, p. 176.  
*Eremita griseigularis, Reich. Aufz. d. Col.* p. 14.  
*Pygmornis griseigularis, Muls. & Ferr. Class. Troch.* p. 19.  
*Pygmornis griseogularis, Cab. & Heine, Mus. Hein.* iii. p. 8; *Gould, Intr. Troch.* p. 47; *Muls. Hist. Nat. Ois.-Mouches,* i. p. 97; *id. Ann. Soc. Linn. Lyon,* xxii. p. 201.  
*Phaethornis zonura, Gould, P. Z. S.* 1860, p. 305; *id. Mon. Troch.* i. pl. 36 (Sept. 1861).  
*Pygmornis zonura, Gould, Intr. Troch.* p. 47.

*Adult male.* Upper surface bronze-green, darker on the crown; rump dark rufous; postocular stripe buff; ear-coverts black; under surface pale rufous, chin dark grey; tail black, the central pair of feathers with a slight bronze hue and tipped with dingy white, the rest edged terminally with rufous; maxilla black, basal half of the mandible yellow. Total length about 3.3 inches, wing 1.45; tail 1.35, lateral rectrices 0.57; bill 1.

*Female.* Similar to the male, but rather paler beneath.

A common bird in trade collections from Bogota. Stolzmann's specimens were shot at Callacate in Peru at an elevation of 4800 feet above the sea.

*Hab.* Colombia, Ecuador, and Peru.

<i>a-f.</i> Ad. sk.	Colombia (Bogota make).	Gould Coll. (Types of the species.)
<i>g-m.</i> Ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>n, o.</i> Ad. sk.	Quito, Ecuador.	Gould Coll.
<i>p, q.</i> Ad. sk.	Ecuador.	Gould Coll.
<i>r.</i> Ad. sk.	Peru ( <i>Warszewicz</i> ).	Gould Coll. (Type of <i>P. zonura</i> .)
<i>s.</i> Ad. sk.	Callacate, N. Peru ( <i>Stolzmann</i> ).	Sclater Coll.

## 2. *Pygmornis striigularis.*

- Phaethornis striigularis, Gould, Mon. Troch.* i. pl. 37 (Oct. 1854); *Scl. P. Z. S.* 1854, p. 111, 1855, p. 139; *id. Cat. Am. B.* p. 286; *Gray, Hand-l. B. i.* p. 122; *Elliot, Syn. Troch.* p. 19; *Tacz. Orn. Pér.* i. p. 272; *Berl. J. f. Orn.* 1887, p. 316; *Ridgw. Pr. U.S. Nat. Mus.* xi. p. 560.  
*Trochilus amauro, Bourc. Rev. Zool.* 1856, p. 552.  
*Phaethornis atrimentalis, Lawr. Ann. Lyc. N. Y.* vi. p. 260.  
*Phaethornis amauro, Gould, Mon. Troch.* i. pl. 32 (May 1859).  
*Phaethornis sp. ?, Cassin, Pr. Ac. Phil.* 1860, p. 194.  
*Pygmornis striigularis, Cab. & Heine, Mus. Hein.* iii. p. 7; *Gould, Intr. Troch.* p. 48; *Salv. & Elliot, Ibis,* 1873, p. 273; *Muls. Hist. Nat. Ois.-Mouches,* i. p. 96, iv. p. 146; *id. Ann. Soc. Linn. Lyon,* xxii. p. 201; *Berl. & Tacz. P. Z. S.* 1883, p. 566.  
*Pygmornis striigularis, Muls. & Ferr. Class. Troch.* p. 19.

*Pygmornis amaaura*, *Cab. & Heine, Mus. Heine*, iii. p. 7; *Heine, J. f. Orn.* 1863, p. 176; *Scl. & Salv. P. Z. S.* 1867, p. 752, 1873, p. 287.  
*Phaethornis adolphi*, *Ridgw. Pr. U.S. Nat. Mus.* iii. p. 309 (*nec Bourc. apud Berlepsch*).

*Adult.* Upper surface bronze-green, crown much darker, feathers of the rump edged with rufous; postocular stripe buff; ear-coverts black; under surface greyish, flanks tinged with rufous; throat dark, with a more or less striped appearance; tail dark bronze-green, the central rectrices tipped with dingy white, the rest with narrow buff tips: maxilla black, the basal half of the mandible yellow. Total length about 3.8 inches, wing 1.7: tail, central rectrices 1.4, lateral 0.7; bill 1.05.

A close ally of *P. griseigularis*, the best differential character being the colour of the tail, which has the subterminal portion nearly black in the above-named species, bronzy green in *P. strigularis*. The latter, too, has a more striated throat, more obvious in Colombian than in Ecuadorian specimens.

The names *P. strigularis* and *P. amaaura* were both based upon Colombian skins, *P. atrimentalis* on an example from Ecuador.

*Hab.* Colombia, Ecuador, and Upper Amazons Valley.

<i>a-c.</i> Ad. sk.	Colombia (Bogota make).	Gould Coll. (Types of the species.)
<i>d-h.</i> Ad. sk.	Colombia (Bogota make).	Gould & Selater Colls.
<i>i.</i> Ad. sk.	Napo, Ecuador ( <i>Jameson</i> ).	Gould Coll. (Figured as <i>P. amaaura</i> , <i>Mon. Troch.</i> )
<i>j, k.</i> Ad. sk.	Napo ( <i>Jameson</i> ).	Gould Coll.
<i>l.</i> Ad. sk.	Ecuador ( <i>Buckley</i> ).	Gould Coll.
<i>m, n.</i> Ad. sk.	Baiza, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>o, p.</i> Ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>q.</i> Ad. sk.	Santa Rosa, Ecuador ( <i>Villagomez</i> ).	Salvin-Godman Coll.
<i>r.</i> Ad. sk.	Balzar Mts., Ecuador ( <i>Illingworth</i> ).	Salvin-Godman Coll.
<i>s.</i> Ad. sk.	Chyvetas, Peruvian Amazons ( <i>E. Bartlett</i> ).	Gould Coll.

### 3. *Pygmornis adolphi*.

*Phaethornis adolphi*, *Bourc. MS.; Gould, Mon. Troch.* i. pl. 35 (Sept. 1857); *Scl. P. Z. S.* 1856, p. 287 (descr. nulla), 1859, pp. 368, 385; *id. Cat. Am. B.* p. 286; *Scl. & Salv. Ibis*, 1859, p. 126, 1860, pp. 38, 195, 260; *id. P. Z. S.* 1864, p. 365; *Salv. Ibis*, 1860, p. 260, 1872, p. 319; *id. P. Z. S.* 1867, p. 152; *Lavr. Ann. Lyc. N. Y.* vii. p. 291, ix. p. 121; *Gray, Hand-l. B. i.* p. 122; *Elliot, Syn. Troch.* p. 18; *Eudes-Desl. Ann. Mus. Caen*, i. p. 132; *Ridgw. Pr. U.S. Nat. Mus.* x. p. 591.

*Pygmornis adolphi*, *Cab. & Heine, Mus. Hein.* iii. p. 7; *Gould, Intr. Troch.* p. 47; *Salv. & Elliot, Ibis*, 1873, p. 271; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 102, pl. 10, iv. p. 144; *id. Ann. Soc. Linn. Lyon*, xxii. p. 201; *Boward, P. Z. S.* 1878, p. 67.

*Pygmornis adolphi*, *Muls. & Ferr. Class. Troch.* p. 19.

Very similar to *P. striigularis*, but the throat only slightly greyer than the abdomen and without striæ.

*Hab.* South-eastern Mexico and the whole of Central America to the Isthmus of Panama.

a. ♂ ad. ; b. ♀ ad. sk.	Cordova, Mexico ( <i>Sallé</i> ).	Gould Coll. (Types of the species.)
c. ♀ ad. sk.	Playa Vicente, Dec. ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
d, e. Ad. sk.	Teapa, Tabasco, Feb. ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
f. Ad. sk.	Guatemala ? ( <i>Delattre</i> ).	Gould Coll.
g, h. Ad. sk.	Kamkal, near Coban, Guatemala ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
i-l. Ad. sk.	Coban, Guatemala ( <i>O. S.</i> ).	Salvin-Godman Coll.
m, n. Ad. sk.	Guatemala ( <i>Skinner</i> ).	Gould Coll.
o. Ad. sk.	Chontales, Nicaragua ( <i>T. Bell</i> ).	Salvin-Godman Coll.
p. Ad. sk.	Costa Rica ( <i>Endres</i> ).	Salvin-Godman Coll.
q. Ad. sk.	Santiago de Veraguas, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
r. Ad. sk.	Paraiso, Panama ( <i>Hughes</i> ).	Salvin-Godman Coll.
s, t. Ad. sk.	Lion Hill, Panama ( <i>McLean</i> ).	Salvin-Godman Coll.

#### 4. *Pygmornis longuemarei*.

*Trochilus longuemareus*, *Less. Hist. Nat. Troch.* pp. 15, 162, pls. 2, 62; *id. Ind. Gén. Troch.* p. xv; *Jard. Nat. Libr.* vii. *H. Birds*, p. 152.

*Trochilus intermedius*, *Less. Hist. Nat. Troch.* p. 65, pl. 19; *id. Ind. Gén. Troch.* p. xv.

*Phaethornis longuemareus*, *Jard. Nat. Libr.* vii. *H. Birds*, p. 177; *Gould, Mon. Troch.* i. pl. 31 (Sept. 1857); *Scl. Cat. Am. B.* p. 286; *E. C. Taylor, Ibis*, 1863, p. 91; *Gray, Hand-l. B.* i. p. 122; *Elliot, Syn. Troch.* p. 18.

*Phaethornis longuemareus*, *Bp. Consp. Av.* i. p. 67; *Léotaud, Ois. Trin.* p. 128.

*Phaethornis intermedius*, *Bp. Consp. Av.* i. p. 17.

*Phaethornis longuemarei*, *Reich. Aufz. d. Col.* p. 14.

*Pygmornis intermedius*, *Bp. Rev. Zool.* 1854, p. 250.

*Pygmornis longuemareus*, *Muls. & Ferr. Class. Troch.* p. 19.

*Pygmornis longuemarei*, *Cab. & Heine, Mus. Hein.* iii. p. 7.

*Pygmornis longuemareus*, *Gould, Intr. Troch.* p. 46; *Salr. & Elliot, Ibis*, 1873, p. 271; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 93, pl. 9; *id. Ann. Soc. Linn. Lyon*, xxii. p. 201.

*Adult.* Upper surface rich bronze-green, much darker on the crown; feathers of the rump edged with rufous; postocular and malar stripes and under surface rufous, the latter paler on the middle of the abdomen; under tail-coverts white; chin black at the base, edged with rufous; tail bronzy green, the central feathers tipped with white, the rest narrowly edged with pale buff: bill black, basal two-thirds of the mandible yellowish. Total length about 4.4 inches, wing 1.7, tail 1.5, bill 1.1.

*Hab.* Cayenne and Trinidad.

<i>a-k.</i> Ad. sk.	(Cayenne make.)	Salvin-Godman, Gould, & Selater Colls.
<i>l, m.</i> Ad. sk.	Trinidad.	Gould Coll.

### 5. *Pygmornis idaliæ.*

- Trochilus idaliæ*, *Bourc. & Muls. Ann. Soc. Linn. Lyon*, (2) iii. p. 187 (1856).  
*Phaethornis obscura*, *Gould, P. Z. S.* 1857, p. 14; *id. Mon. Troch.* i. pl. 38 (May 1858).  
*Pygmornis obscura*, *Cab. & Heine, Mus. Hein.* iii. p. 7.  
*Phaethornis viridicaudata*, *Gould, Mon. Troch.* i. pl. 33 (May 1858).  
*Pygmornis viridicaudata*, *Cab. & Heine, Mus. Hein.* iii. p. 7.  
*Pygmornis idaliæ*, *Muls. & Ferr. Class. Troch.* p. 19.  
*Pygmornis idaliæ*, *Gould, Intr. Troch.* p. 48; *Salv. & Elliot, Ibis*, 1873, p. 270; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 90, pl. 8; *id. Ann. Soc. Linn. Lyon*, xxii. p. 201.  
*Pygmornis aspasiæ*, *Gould, Intr. Troch.* p. 47 (*nec Bourc. & Muls.*).  
*Phaethornis idaliæ*, *Elliot, Syn. Troch.* p. 19.

*Adult male.* Upper surface dark shining green (darker and more bronzy on the crown and nape), each feather with a dusky edge; upper tail-coverts like the back; postocular and malar stripes buff; ear-coverts black; under surface dark grey, chestnut on the throat, and nearly black on the chin; under tail-coverts white; tail bronzy green, each feather tipped with buff, the outermost pair with buff; bill black, the basal two-thirds of the mandible yellow. Total length about 3.5 inches, wing 1.4, tail 1.15, bill 0.95.

*Female.* Like the male on the upper surface; beneath more rufescent: the tail longer.

*Hab.* Brazil.

<i>a, b.</i> ♂ ad. sk.	"Interior of Brazil" ( <i>Bourcier</i> ).	Gould Coll. (Typical specimens.)
<i>c.</i> ♂ ad. sk.	Brazil (Rio make).	Gould Coll. (Type of <i>P. obscurus</i> .)
<i>d.</i> ♂ ad. sk.	Brazil.	Salvin-Godman Coll.
<i>e, f.</i> ♀ ad. sk.	"Interior of Brazil."	Gould Coll. (Types of <i>P. viridicaudatus</i> .)

### 6. *Pygmornis episcopus.*

- Phaethornis episcopus*, *Gould, P. Z. S.* 1857, p. 14; *id. Mon. Troch.* i. pl. 39. f. 2 (Sept. 1859); *id. Intr. Troch.* p. 48; *Gray, Hand-l. B.* i. p. 122; *Elliot, Syn. Troch.* p. 20.  
*Pygmornis episcopus*, *Muls. & Ferr. Class. Troch.* p. 19.  
*Pygmornis episcopus*, *Cab. & Heine, Mus. Hein.* iii. p. 7; *Salv. & Elliot, Ibis*, 1873, p. 274.  
*Trochilus longuemareus*, *Cab. in Schomb. Guiana*, iii. p. 709.  
*Pygmornis longuemarus*, *Salv. Ibis*, 1885, p. 431 (*nec Lesson*).

*Adult male.* Upper surface rich shining golden bronze, darker on the crown; rump rufous; postocular stripe, under surface, and under tail-coverts rufous: a purple-black pectoral band: tail rich bronze, narrowly tipped with buff, the lateral rectrices subterminally purple-

black; bill black, the basal half of the mandible yellow. Total length about 3·7 inches, wing 1·3, tail 1·35, bill 0·95.

*Female*. Like the male on the upper side; beneath paler and without the pectoral band; tail longer.

*Hab.* British Guiana.

<i>a</i> . Ad. sk.	Demerara.	Gould Coll. (Type of the species.)
<i>b-f</i> . Ad. sk.	Demerara.	Gould Coll.
<i>g</i> . ♂ ad. sk.	Bartica Grove, Brit. Guiana, June ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
<i>h</i> . ♂ ad. sk.	Camacusa, Brit. Guiana, Feb. ( <i>H. W.</i> ).	Salvin-Godman Coll.
<i>i, j</i> . ♂ ad.; <i>k</i> . ♀ ad. sk.	Roraima, Brit. Guiana, Jan., Oct. ( <i>H. W.</i> ).	Salvin-Godman Coll.

### 7. *Pygmornis pygmæus*.

Le Brin blanc jeune âge, *Audebert, Ois. Dor.* i. p. 46, pl. 19.

*Trochilus brasiliensis*, *Vieill. N. Diet. d'Hist. N.* vii. p. 357 (*nec Latham*); *d'Orb. & Lafr. Syn. Av.* ii. p. 32.

*Trochilus pygmæus*, *Spix, Av. Bras.* p. 78, pl. 80. f. 1.

*Trochilus rufigaster*, *Vieill. Enc. Méth.* p. 551; *Less. Hist. Nat. Col.* p. 43, pl. 9; *id. Ind. Gén. Troch.* p. xv.

*Trochilus davidianus*, *Less. Hist. Nat. Troch.* p. 50, pl. 13; *id. Ind. Gén. Troch.* p. xv.

*Phaethornis eremita*, *Gould, Mon. Troch.* i. pl. 40 (June 1849); *Bp. Consp. Av.* i. p. 68; *Scl. Cat. Am. B.* p. 287; *Gray, Hand-l. B.* i. p. 122; *Pelz. Orn. Bras.* p. 27; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 101.

*Phaethornis pygmæus*, *Bp. Consp. Av.* i. p. 68; *Gould, Mon. Troch.* i. pl. 41 (Oct. 1852); *Scl. Cat. Am. B.* p. 287; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 101; *Elliot, Syn. Troch.* p. 20.

*Eremita rufigaster, davidianus, et pygmæus*, *Reich. Aufz. d. Col.* p. 14.

*Pygmornis rufigaster et davidianus*, *Bp. Rev. Zool.* 1854, p. 250.

*Phaethornis rufigaster*, *Burm. Syst. Ueb.* ii. p. 326.

*Pygmornis rufiventris*, *Cab. & Heine, Mus. Hein.* iii. p. 7.

*Pygmornis pygmæus*, *Cab. & Heine, Mus. Hein.* iii. p. 6; *Salv. & Elliot, Ibis*, 1873, p. 273; *Layard, Ibis*, 1873, p. 388; *Elliot, Ibis*, 1877, p. 141; *Scl. & Salv. P. Z. S.* 1879, p. 627; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 105, iv. p. 144; *id. Ann. Soc. Linn. Lyon*, xxii. p. 201; *Salv. Ibis*, 1885, p. 431.

*Pygmornis davidianus*, *Muls. & Ferr. Class. Troch.* p. 19.

*Phaethornis davidianus*, *Pelz. Orn. Bras.* p. 27.

Closely allied to *P. episcopus*, but with wider rufous tips to the rectrices, the subterminal portion being more dingy.

*P. episcopus* seems to be barely distinct from *P. pygmæus*, though the points of difference given above are fairly trustworthy.

*Hab.* Cayenne, the Lower Amazons Valley, Eastern and Central Brazil, Bolivia.

<i>a-c</i> . Ad. sk.	(Cayenne make.)	Gould & Sclater Colls.
<i>d</i> . ♂ ad. sk.	Para, Oct. ( <i>E. L. Layard</i> ).	Tweeddale Coll.

<i>e-g.</i> Ad. sk.	Para.	Gould Coll.
<i>h-k.</i> Ad. sk.	Brazil (Bahia make).	Gould Coll.
<i>l-m.</i> Ad. sk.	Brazil.	Salvin-Godman Coll.
<i>n-t.</i> Ad. sk.	Brazil (Rio make).	Gould Coll.
<i>u, v.</i> Ad. sk.	N. Fribourgo, Brazil ( <i>Fouds</i> ).	Salvin-Godman Coll.
<i>w.</i> Ad. sk.	Brazil ( <i>Rogers</i> ).	Gould Coll.
<i>x.</i> Ad. sk.	Eugenho do Gama, Matto Grosso, Sept. ( <i>Natterer</i> ).	Salvin-Godman Coll.
<i>y, z.</i> Ad. sk.	Guanai, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>a'</i> . Ad. st.		Purchased.

### 8. *Pygmornis nigricinctus*.

- Phaethornis nigricinctus*, *Laur. Ann. Lyc. N. Y.* vi. p. 260 (1858);  
*Gould, Mon. Troch.* i. pl. 39. f. 1 (Sept. 1859); *Gray, Hand-l. B.*  
 i. p. 122; *Elliot, Syn. Troch.* p. 20; *Tacz. P. Z. S.* 1882, p. 34.  
*Pygmornis nigricinctus*, *Cab. & Heine, Mus. Hein.* iii. p. 7; *ScL & Salv. P. Z. S.* 1867, pp. 753, 979, 1873, p. 287; *Salv. & Elliot, Ibis*,  
 1873, p. 274; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 108; *id. Ann. Soc. Linn. Lyon*, xxii. p. 201.

Closely allied to *P. pygmaeus*, but with the tip only of the mandible black, the rest yellow.

*Hab.* Upper Amazons Valley.

<i>a, b.</i> ♂ ad. ; <i>c.</i> ♀ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>d-m.</i> ♂ ad. ; <i>n.</i> ♀ ad. sk.	Pebas, Amazons, Feb., April, June ( <i>J. Hawkwell</i> ).	Salvin-Godman & Gould Colls.
<i>o, p.</i> Ad. sk.	Upper Amazons ( <i>E. Bartlett</i> ).	Gould Coll.
<i>q.</i> Ad. sk.	Upper Rio Negro ( <i>A. R. Wallace</i> ).	Gould Coll.

### 68. SPHENOPROCTUS.

<i>Sphenoproctus</i> , <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 11	.....	Type. S. pampa.
<i>Pampa, Reich. Aufz. d. Col.</i> p. 11	.....	S. pampa.

*Range.* Southern Mexico and Guatemala.

#### *Key to the Species.*

- a.* Crown dark shining blue; bill shorter ..... *pampa*, p. 286.  
*b.* Crown paler blue; bill longer ..... *curvipennis*, p. 287.

### 1. *Sphenoproctus pampa*.

- Ornismya pampa*, *Less. Hist. Nat. Ois.-Mouches, Suppl.* p. 127,  
 pl. 15; *id. Rev. Zool.* 1839, p. 18.  
*Trochilus pampa*, *Less. Ind. Gén. Troch.* p. vi.  
*Campylopterus pampa*, *Bp. Consp.* i. p. 76; *id. Rev. Zool.* 1854,  
 p. 250; *Gould, Mon. Troch.* ii. p. 43 (Sept. 1855); *ScL & Salv. Ibis*,  
 1859, p. 127; *Salv. Ibis*, 1860, p. 260; *ScL. Cat. Am. B.*  
 p. 287; *Muls. & Verr. Class. Troch.* p. 22.



*Pampa campyloptera*, Reich. *Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 9, pl. 800. ff. 4861-62.

*Sphenoproctus pampa*, Cab. & Heine, *Mus. Hein.* iii. p. 11; *Gould, Intr. Troch.* p. 51; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 115, iv. p. 147; *id. Ann. Soc. Linn. Lyon*, xxii. p. 201; *Elliot, Syn. Troch.* p. 23; *Eudes-Desl. Ann. Mus. Caen*, i. p. 144; *Boucard, P. Z. S.* 1883, p. 450.

*Polytmus pampa*, Gray, *Hand-l. B.* i. p. 125.

*Adult male.* Above shining green, crown dark shining blue; entire under surface grey, paler in the middle and darker on the ear-coverts, flanks, and under tail-coverts; tail purple-black, the central rectrices wholly and the remainder towards the base shining green like the back, the outermost pair slightly paler near the middle of the outer web. Total length about 5.5 inches, wing 2.7; tail, central rectrices 2.15, lateral 1.7; bill 1.2.

*Adult female.* Like the male, but with the crown duller paler blue, and with the distal portion of the outer web of the outer rectrix on either side together with the whole tip grey like the breast.

*Hab.* Guatemala, on the eastern side of the Cordillera up to an elevation of about 4500 feet.

a-c. ♂ ad. sk.	Choctum, Guatemala, Feb. ( <i>O. S.</i> & <i>F. D. G.</i> )	Salvin-Godman & Gould Colls.
d. ♂ ad. sk.	Chisec, Guatemala ( <i>O. S.</i> )	Gould Coll.
e. ♀ ad. sk.	Coban, Guatemala, Nov. ( <i>O. S.</i> )	Salvin-Godman Coll.
f, g. ♀ ad. sk.	Guatemala.	Gould Coll.
h. ♀ ad. st.		Purchased.

## 2. *Sphenoproctus curvipennis*.

*Trochilus curvipennis*, Licht. *Preis-Verz. Mex., Vög.* p. 1 (cf. *J. f. Orn.* 1863, p. 56).

*Campylopterus pampa*, *Sci. P. Z. S.* 1856, p. 287, 1859, pp. 367, 385; *de Oca, Pr. Ac. Phil.* 1860, p. 552; *id. La Nat.* iii. p. 30; *Ensayo* (f), pl. 3. f. 12.

*Sphenoproctus curvipennis*, *Gould, Intr. Troch.* p. 51; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 117, iv. p. 147; *id. Ann. Soc. Linn. Lyon*, xxii. p. 201; *Elliot, Syn. Troch.* p. 23; *Eudes-Desl. Ann. Mus. Caen*, i. p. 146; *Ferrari-Perez, Pr. U.S. Nat. Mus.* ix. p. 156.

*Campylopterus pampa*, var. *curvipennis*, *Muls. & Verr. Class. Troch.* p. 22.

*Polytmus curvipennis*, Gray, *Hand-l. B.* i. p. 125.

*Adult.* Similar to that of *S. pampa*, but with the bill rather longer and the crown paler blue.

*Hab.* Southern Mexico, eastern side of the Cordillera.

a. ♂ ad.; b. ♀ ad. sk.	Misantla, Vera Cruz, Mex., Mar. ( <i>F. D. G.</i> )	Salvin-Godman Coll.
c. ♀ ad. sk.	Colipa, Vera Cruz, Mar. ( <i>F. D. G.</i> )	Salvin-Godman Coll.
d. ♂ ad. sk.	Cuesta de Misantla, June ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
e-g. ♂ ad. sk.	Coatepec, Vera Cruz, Oct. ( <i>M. T.</i> )	Salvin-Godman Coll.

<i>h-j.</i> ♂ ad. : <i>k, l.</i> ♀ ad. sk.	Jalapa, Vera Cruz, May & June ( <i>M. T.</i> ).	Salvin-Godman Coll.
<i>m, n.</i> ♀ ad. sk.	Jalapa, Feb., Mar. ( <i>F. D. G.</i> ).	Salvin-Godman Coll.
<i>o.</i> Ad. sk.	Jalapa ( <i>C. F. Höge</i> ).	Salvin-Godman Coll.
<i>p.</i> Ad. sk.	Jalapa.	Gould Coll.
<i>q.</i> ♂ ad. sk.	Atoyac, Vera Cruz, May ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
<i>r, s.</i> Ad. sk.	Mexico ( <i>Sallé</i> ).	Gould Coll.
<i>t-v.</i> Ad. sk.	Mexico ( <i>Floresi</i> ).	Salvin-Godman & Gould Colls.
<i>y.</i> ♂ ad. st.		Purchased.

69. **CAMPYLOPTERUS.**

	Type.
Campylopterus, <i>Sw. Zool. Journ.</i> ii. p. 358 (1826) ..	<i>C. largipennis</i> .
Sæpiopterus, <i>Reich. Aufz. d. Col.</i> p. 11 .....	<i>C. lazulus</i> .
Platystylopterus, <i>Reich. Aufz. d. Col.</i> p. 11 .....	<i>C. rufus</i> .
Loxopterus, <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 13 ....	<i>C. hyperythrus</i> .

*Range.* Southern Mexico to Bolivia; Venezuela, Trinidad, Guiana, and the Amazons Valley.

*Key to the Species.*

- a.* Under surface grey, green, or blue.
- a'*. Outer rectrices white at the tip in both sexes.
- a''*. Under surface uniform grey; sexes alike.
- a'''*. Outer rectrices broadly tipped with white ..... *largipennis*, p. 288.
- b'''*. Outer rectrices narrowly tipped with white ..... *obscurus*, p. 289.
- b''*. Under surface green, throat blue; sexes different ..... *ensipennis*, p. 290.
- c'*. Under surface uniform dark blue; sexes different ..... *hemileucurus*, p. 291.
- b'*. Outer rectrices uniform; sexes different.
- d''*. Rectrices rufous ..... *lazulus*, p. 292.
- e''*. Rectrices dark steel-blue.
- c'''*. Crown glittering olive-green; back dark shining green ..... *villaricensis*, p. 293.
- d'''*. Crown like the back, shining green .. *phainopeplus*, p. 294.
- b.* Under surface rufous; sexes alike.
- c'*. Outer rectrices rufous with a subterminal black band ..... *rufus*, p. 294.
- d'*. Outer rectrices uniform rufous ..... *hyperythrus*, p. 295.

1. **Campylopterus largipennis.**

- Oiseau-Mouche à large tuyaux de Cayenne, *Buff. Pl. Enl.* 672. f. 2; *Vieill. Ois. Dor.* i. p. 59, pl. 21.
- Oiseau-Mouche à large tuyaux, *Buff. Hist. Nat. Ois.* vi. p. 35.
- Trochilus largipennis, *Bodd. Tabl. Pl. Enl.* p. 41.
- Ash-bellied Humming Bird, *Lath. Syn.* i. pt. 2, p. 759.
- Broad-shafted Humming Bird, *Lath. Syn.* i. pt. 2, p. 765.
- Trochilus campylopterus, *Gm. Syst. Nat.* i. p. 499.

- Trochilus cinereus*, *Gm. Syst. Nat.* i. p. 490; *Vieill. N. Dict. d'Hist. N.* vii. p. 348; *id. Enc. Méth.* p. 552.
- Trochilus latipennis*, *Lath. Ind. Orn.* i. pt. 1, p. 310; *Vieill. N. Dict. d'Hist. N.* vii. p. 365; *id. Enc. Méth.* p. 566; *Less. Ind. Gén. Troch.* p. v; *Sw. Zool. Ill.* iii. pls. 130, 131.
- Le Colibri à ventre cendre, *Vieill. Ois. Dor.* i. p. 21, pl. 5.
- Ornismya latipennis*, *Less. Hist. Nat. Ois.-Mouches*, pp. xlii, 121, pl. 34.
- Campylopterus latipennis*, *Cab. in Schomb. Reise n. Guiana*, iii. p. 709; *Bp. Consp.* i. p. 71; *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 9, pl. 802. ff. 4865-66; *Bp. Rev. Zool.* 1854, p. 250; *Gould, Mon. Troch.* ii. pl. 48 (May 1860); *id. Intr. Troch.* p. 53; *Muls. & Ferr. Class. Troch.* p. 22.
- Campylopterus largipennis*, *Cab. & Heine, Mus. Hein.* iii. p. 12; *Scl. Cat. Am. B.* p. 283; *F. Heine, J. f. Orn.* 1863, p. 177; *Scl. & Salv. P. Z. S.* 1867, p. 584; *Pelz. Orn. Bras.* p. 28; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 119, iv. p. 148; *id. Ann. Soc. Linn. Lyon*, xxii. p. 201; *Elliot, Syn. Troch.* p. 24; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 147; *Salv. Ibis*, 1885, p. 432.
- Polytmus largipennis*, *Gray, Hand-l. B.* i. p. 124.

*Adult male.* Upper surface dark grass-green, under surface grey, ear-coverts darker, sides of the neck and flanks tinged with green; four central rectrices green like the back, rest black, tipped (on the outer feather for the distal third) with white; bill black, mandible except the tip greyish. Total length about 5.5 inches, wing 3; tail, central rectrices 2.1, lateral 1.9; bill 1.15.

*Adult female.* Like the male, the shafts of the outer primaries not swollen.

*Hab.* Guiana.

- |                          |  |  |
|--------------------------|--|--|
| a. ♂ ad.; b-d. ♀ ad. sk. | (Cayenne make.)  | Salvin-Godman, Sclater, & Gould Colls. |
| e. ♀ ad. sk.             | Guiana ( <i>Spence</i> ).                                | Sclater Coll.                          |
| f. ♀ ad. sk.             | Berbice, Brit. Guiana.                                   | Gould Coll.                            |
| g, h. ♀ ad. sk.          | Bartica Grove, Brit. Guiana, Jan. ( <i>H. Whitely</i> ). | Salvin-Godman Coll.                    |
| i. ♂ ad. sk.             | Camacusa, Brit. Guiana, April ( <i>H. W.</i> ).          | Salvin-Godman Coll.                    |
| j. ♂ ad.; k. ♀ ad. sk.   | Merumé Mts., Brit. Guiana, June, July ( <i>H. W.</i> ).  | Salvin-Godman Coll.                    |
| l. ♂ juv. sk.            | R. Atapurow, Brit. Guiana, Jan. ( <i>H. W.</i> ).        | Salvin-Godman Coll.                    |
| m. ♀ ad. sk.             | Cobati, R. Negro ( <i>A.R. Wallace</i> ).                | Salvin-Godman Coll.                    |
| n. ♀ ad. st.             | Demerara.  | Purchased.                             |
| o. ♀ ad. st.             |  | Purchased                              |

## 2. *Campylopterus obscurus*.

- Campylopterus obscurus*, *Gould, P. Z. S.* 1848, p. 13; *id. Mon. Troch.* ii. pl. 49 (May 1860); *id. Intr. Troch.* p. 54; *Bp. Consp.* i. p. 76; *id. Rev. Zool.* 1854, p. 250; *Reich. Aufz. d. Col.* p. 11; *Scl. & Salv. P. Z. S.* 1867, p. 584; *Layard, Ibis*, 1873, p. 388; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 121; *Elliot, Syn. Troch.* p. 25; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 149.

- Campylopterus æquatorialis*, *Gould, Intr. Troch.* p. 54; *Scl. & Salv. P. Z. S.* 1867, pp. 753, 979, 1873, p. 287, 1879, p. 627.  
*Campylopterus latipennis* var. *obscurus* and var. *æquatorialis*, *Muls. & Ferr. Class. Troch.* p. 22.  
*Campylopterus largipennis*, *Tacz. P. Z. S.* 1874, p. 541.  
*Polytmus æquatorialis* and *obscurus*, *Gray, Hand-l. B. i.* p. 124.  
*Campylopterus largipennis*, vars. *æquatorialis* and *obscurus*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 202.

*Adult.* Similar to that of *C. largipennis*, but with the lateral rectrices on either side much more narrowly tipped with white.

*Hab.* Amazons Valley from Para to the Andes, and southwards to Bolivia.

- |                             |   |   |
|-----------------------------|---|---|
| a, b. ♀ ad. sk.             | Sarayacu, Ecuador ( <i>Buckley</i> ).                           | Salvin-Godman & Gould Colls.              |
| c. ♂ ad.; d. ♀ ad. sk.      | Ecuador.  | Gould Coll.                               |
| e. ♀ ad. sk.                | Quito, Ecuador.   | Gould Coll.                               |
|                             |   | (Type of <i>C. æquatorialis</i> , Gould.) |
| f. ♂ ad. sk.                | Amazons ( <i>Natterer</i> ).                                    | Salvin-Godman Coll.                       |
| g-i. ♀ ad. sk.              | Upper Amazons ( <i>E. Bartlett</i> ).                           | Gould Coll.                               |
| j-l. ♂ ad.; m-o. ♀ ad. sk.  | Pebas, Amazons, Feb., April, June, Aug. ( <i>J. Haurwvll</i> ). | Salvin-Godman & Gould Colls.              |
| p, q. Ad. sk.               | Mapiri, Bolivia ( <i>Buckley</i> ).                             | Salvin-Godman Coll.                       |
| r. ♂ ad.; s, t. ♀ ad. sk.   | Para, April ( <i>A. R. Wallace</i> ).                           | Salvin-Godman & Sclater Colls.            |
| u, v. ♂ ad.; w-y. ♀ ad. sk. | Para, Nov. ( <i>E. L. Layard</i> ).                             | Tweeddale, Salvin-Godman, & Gould Colls.  |
| z. ♂ ad. sk.                | Amazons Valley.   | Gould Coll. (Type of the species.)        |
| a'. ♂ ad. st.               | Para.   | R. Graham [P.].                           |

### 3. *Campylopterus ensipennis*.

- Trochilus ensipennis*, *Sw. Zool. Ill.* ii. pl. 107; *Less. Ind. Gén. Troch.* p. vi; *id. Hist. Nat. Troch.* pp. 124, 127, pls. 46, 47.  
*Campylopterus ensipennis*, *Less. Hist. Nat. Ois.-Mouches*, pp. xliii, 124, pl. 35; *Jard. Ann. & Mag. N. H.* 1847, p. 372; *Bp. Consp.* i. p. 71; *id. Rev. Zool.* 1854, p. 250; *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 9, pl. 803. ff. 4867-68; *Gould, Mon. Troch.* ii. pl. 46 (Sept. 1857); *id. Intr. Troch.* p. 53; *Cub. & Heine, Mus. Hein.* iii. p. 12; *Muls. & Ferr. Class. Troch.* p. 22; *Scl. & Salv. P. Z. S.* 1869, p. 169; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 123, iv. p. 149; *id. Ann. Soc. Linn. Lyon*, xxii. p. 202; *Elliot, Syn. Troch.* p. 26; *Eules-Desl. Ann. Mus. Caen*, i. p. 151.  
*Polytmus ensipennis*, *Gray, Hand-l. B. i.* p. 124.

*Adult male.* Shining golden green; throat deep lazuline-blue; central rectrices darker than the back, the next pair steel-blue, the rest broadly tipped with white, the outer pair for more than two-thirds of their length; bill black. Total length about 5.2 inches, wing 3, tail 2.1, bill 1.25.

*Adult female.* Like the male, but the under surface less brilliant and mixed with grey, the blue throat paler and greener.

*Hab.* Venezuela and Trinidad.

<i>a-c.</i> ♂ ad.; <i>d, e.</i> ♀ ad. sk.	Trinidad.	Gould & Selater Colls.
<i>f.</i> ♂ ad. sk.	Caripe, Venezuela, June ( <i>A. Goering</i> ).	Salvin-Godman Coll.
<i>g.</i> ♂ juv. sk.	Venezuela.	Salvin-Godman Coll.

#### 4. *Campylopterus hemileucurus.*

*Trochilus hemileucurus*, *Licht. Preis-Verz. Mex., Fög.* p. 1 (cf. *J. f. Orn.* 1863, p. 56).

*Ornismya delatirii*, *Less. Rev. Zool.* 1839, p. 14.

*Campylopterus delatirii*, *Bp. Consp.* i. p. 71; *id. Rev. Zool.* 1854 p. 250; *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 9, pl. 804. ff. 4869-70; *Gould, Mon. Troch.* ii. pl. 45 (Sept. 1855); *Sci. & Salv. Ibis*, 1859, p. 127; *Moore, P. Z. S.* 1859, p. 53; *Sci. P. Z. S.* 1859, pp. 367, 385; *Salv. Ibis*, 1860, p. 195; *Muls. & Ferr. Class. Troch.* p. 22; *de Oca, La Nat.* iii. p. 20, pl. —; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 134, iv. p. 149; *id. Ann. Soc. Linn. Lyon*, xxii. p. 202; *Eudes-Desl. Ann. Mus. Caen*, i. p. 153.

*Campylopterus hemileucurus*, *Cab. & Hein. Mus. Hein.* iii. p. 13; *Sci. Cat. Am. B.* p. 288; *Gould, Intr. Troch.* p. 52; *Cab. J. f. Orn.* 1862, p. 162; *Sci. P. Z. S.* 1864, p. 176; *Salv. Ibis*, 1866, p. 204, 1870, p. 205; *Lawr. Ann. Lyc. N. Y.* ix. p. 121; *Bull. U.S. Nat. Mus.* no. 4, p. 32; *v. Frantz, J. f. Orn.* 1869, p. 315; *Boucard, P. Z. S.* 1878, p. 68; *Elliot, Syn. Troch.* p. 26; *Nutting, Pr. U.S. Nat. Mus.* v. p. 501; *Ferrari-Perez, Pr. U.S. Nat. Mus.* ix. p. 157; *Berl. J. f. Orn.* 1887, p. 316.

*Polytmus hemileucurus*, *Gray, Hand-l. B.* i. p. 124.

*Adult male.* Dark shining violet-blue, top and sides of the head and nape black; wing-coverts and upper tail-coverts dark shining green; tail purple-black, the central rectrices tinged with green, the outer three on either side broadly tipped with white (on the outermost occupying half the feather); bill black. Total length about 6 inches, wing 3·3, tail 2·3, bill 1·3.

*Adult female.* Above shining green, crown bronze; beneath grey, flanks dark shining green, throat shining blue; outer three rectrices on either side blue-black, broadly tipped with white as in the male, the rest shining green like the back.

*Young male.* Green on the back, like the female; the under surface brownish black; the blue feathers of the adult are first assumed on the throat, afterwards on the abdomen, and lastly on the back; only very fully adult birds have the back pure blue without any admixture of green feathers.

*Hab.* Southern Mexico and Central America from Guatemala to Panama, in mountain-forests at an elevation of from 2000 to 6000 feet above the sea-level.

<i>a, b.</i> ♂ ad.; <i>c.</i> ♀ ad. sk.	Mexico ( <i>Flores</i> ).	Gould Coll.
<i>d.</i> ♂ ad.; <i>e.</i> ♀ ad. sk.	Jalapa, Mexico ( <i>de Oca</i> ).	Salvin-Godman Coll.
<i>f-i.</i> ♂ ad. sk.	Jalapa, July ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
<i>j.</i> ♂ juv. sk.	Huatusco, Mexico, July ( <i>F. Ferrari-Perez</i> ).	Salvin-Godman Coll.

k. ♂ ad. sk.	Omiteme, Guerrero, July (Mrs. H. H. Smith).	Salvin-Godman Coll.
l. ♀ ad. sk.	Playa Vicente, Vera Cruz, Feb. (M. Trujillo).	Salvin-Godman Coll.
m. ♂ ad. sk.	Tehuantepec, Feb. (W. B. Richardson).	Salvin-Godman Coll.
n. ♂ ad.; o-g. ♀ ad. sk.	Chimalapa, Tehuantepec, Feb. to April (W. B. R.).	Salvin-Godman Coll.
r-u. ♂ ad. sk.	Sierra de San Domingo, Tehu- antepec, Feb., April (W. B. R.).	Salvin-Godman Coll.
v-x. ♂ ad.; y, z. ♀ ad. sk.	Coban, Guatemala, Nov. (O. Salvin).	Salvin-Godman & Selater Colls.
a'. ♂ ad. sk.	Kamkal, near Coban (O. S. & F. D. G.).	Salvin-Godman & Selater Colls.
b', c'. ♂ ad.; d'. ♂ juv.; e', f'. ♀ ad. sk.	Guatemala (Skinner).	Gould Coll.
g', h'. ♂ ad. sk.	Volcan de Fuego, Guatemala, Aug. (O. S.).	Salvin-Godman Coll.
i', j'. ♀ ad. sk.	Volcan de Agua above San Diego, Nov. (O. S.).	Salvin-Godman Coll.
k'. ♀ ad. sk.	Totonicapam, Guatemala, Sept. (O. S.).	Salvin-Godman Coll.
l', m'. ♂ ad. sk.	Retalhuleu, Guatemala, July (W. B. Richardson).	Salvin-Godman Coll.
n'. ♂ ad.; o'. ♀ ad. sk.	Costa Rica (Carmirol).	Salvin-Godman Coll.
p'-r'. ♂ ad.; s'. ♀ ad. sk.	Calovevora, Panama (E. Arcé).	Salvin-Godman Coll.
t'. ♂ ad. sk.	Cordillera del Chucu, Panama (Arcé).	Salvin-Godman Coll.
u'. ♂ ad. sk.	Boquete de Chitra, Panama (Arcé).	Gould Coll.
v'. ♂ ad.; w'. ♂ juv.; x'. ♀ ad. st.		Purchased.

### 5. *Campylopterus lazulus*.

*Trochilus lazulus*, Vieill. *Enc. Méth.* p. 557; *id. Gal. Ois.* ii. p. 296,  
pl. 179.

*Ornismya falcata*, Less. *Hist. Nat. Ois.-Mouches*, pp. xlv, 126, pl. 36.  
*Trochilus falcatus*, Less. *Ind. Gén. Troch.* p. vi; *Sw. Zool. Ill.* ii.  
pl. 89.

*Campylopterus lazulus*, *Bp. Consp.* i. p. 71; *id. Rev. Zool.* 1854,  
p. 250; *Gould, Mon. Troch.* ii. pl. 44 (Sept. 1856); *id. Intr. Troch.*  
p. 51; *Cab. & Heine, Mus. Hein.* iii. p. 13; *Scl. Cat. Am. B.*  
p. 287; *Muls. & Verr. Class. Troch.* p. 22; *Scl. & Salv. P. Z. S.*  
1868, p. 169, 1870, p. 782; *Elliot, Ibis*, 1875, p. 10; *id. Syn. Troch.*  
p. 26; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 132, iv. p. 149; *id.*  
*Ann. Soc. Linn. Lyon*, xxii. p. 202; *Berl. J. f. Orn.* 1887, p. 316.

*Sæpiopterus lazulus*, *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.*  
p. 9, pl. 801. ff. 4863-64; *Eudes-Desl. Ann. Mus. Caen*, i. p. 156.

*Campylopterus falcipennis*, *Burm. Syst. Ueb.* ii. p. 328.

*Polytmus lazulus*, *Gray, Hand-l. B.* i. p. 124.

*Adult male.* Upper surface glittering grass-green; under surface  
from the chin to the abdomen rich glittering purple-blue, thence to

the crissum passing into glittering green; under tail-coverts chestnut; tail dark chestnut, the central rectrices tipped with bronze-green, the rest more narrowly with dark purple; bill black. Total length 5·4 inches, wing 2·8, tail 1·9, bill 1·2.

*Adult female.* Above shining green, brighter on the rump and central rectrices; under surface grey; throat greenish blue, with a whitish malar stripe on either side; flanks tinged with green; under tail-coverts mixed with chestnut.

*Young male.* Cinnamon malar stripes; under surface blackish brown, the feathers edged with chestnut.

*Hab.* Colombia and Venezuela.

<i>a-f.</i> ♂ ad.; <i>g.</i> ♂ juv.; <i>h-k.</i> ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>l.</i> ♂ ad. sk.	Merida, Venezuela.	Slater Coll.
<i>m.</i> ♂ ad. sk.	Venezuela ( <i>Goering</i> ).	Salvin-Godman Coll.
<i>n.</i> ♂ ad. sk.	Caracas, Venezuela.	E. Dyson [C.].
<i>o, p.</i> ♀ ad. sk.	Valley of Aragua, Venezuela.	E. Dyson [C.].
<i>q.</i> ♂ ad. st.	[Venezuela.]	E. Dyson [C.].
<i>r.</i> ♂ ad. st.		Purchased.

### 6. *Campylopterus villavicencio.*

*Trochilus villavicencio*, *Bourc. Compt. Rend.* xxxii. p. 187; *id. Rev. Zool.* 1851, p. 97.

*Selasphorus γ.* *Heliomastes villavicencio*, *Reich. Aufz. d. Col.* p. 13.

*Heliomastes villavicencio*, *Bp. Rev. Zool.* 1854, p. 251.

*Campylopterus villavicencio*, *Gould, Mon. Troch.* ii. pl. 42 (May 1859); *id. Intr. Troch.* p. 43; *Muls. & Verr. Class. Troch.* p. 22; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 129; *id. Ann. Soc. Linn. Lyon*, xxii. p. 202; *Elliot, Syn. Troch.* p. 27; *Eudes-Desl. Ann. Mus. Caen*, i. p. 150.

*Campylopterus splendens*, *Laur. Ann. Lyc. N. Y.* vi. p. 262; *Gould, Intr. Troch.* p. 53.

*Polytmus splendens*, *Gray, Hand-l. B.* i. p. 124.

*Adult male.* Upper surface dark green, darker on the nape, crown glittering golden-green; sides of the head and chin black; chest rich dark glittering blue; abdomen dark grey, flanks and under tail-coverts dark green; tail dark green, lateral rectrices dark steel-blue; bill black. Total length about 5·4 inches, wing 2·8, tail 2, bill 1·3.

*Adult female.* Above like the male, but the colours a little duller; beneath grey, the lateral rectrices tipped with greyish.

*Hab.* Ecuador.

<i>a, b.</i> ♂ ad. sk.	Ecuador (ex <i>G. N. Lawrence</i> ).	Salvin-Godman & Gould Colls.
		(Typical of <i>C. splendens</i> .)
<i>c.</i> ♂ ad.; <i>d.</i> ♀ ad. sk.	Ecuador.	Salvin-Godman & Gould Colls.
<i>e.</i> ♂ ad. sk.	Quito, Ecuador.	Gould Coll.
<i>f, g.</i> ♂ ad.; <i>h, i.</i> ♀ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.

7. *Campylopterus phainopeplus*.

*Campylopterus phainopeplus*, *Salv. & Godm. Ibis*, 1879, p. 202, 1880, p. 171; *Sharpe in Gould's Mon. Troch. Suppl.* pl. 3 (April 1885); *d'Hamonr. Bull. Soc. Zool. Fr.* viii. p. 78 (1883).

*Adult male*. Glittering green, a little brighter on the abdomen; throat glittering dark blue; under tail-coverts dull green; tail dark steel-blue, the central rectrices slightly tinged with green; bill black. Total length about 5 inches, wing 2·8, tail 1·75, bill 1·1.

*Adult female*. Shining green, duller on the anterior half of the crown; beneath grey; ear-coverts fuscous; flanks tinged with green; under tail-coverts green, lateral rectrices tipped with grey.

*Hab.* Sierra Nevada of N. Colombia.

a. ♂ ad. sk.	Atanques, Sierra Nevada de Sta. Marta, Colombia, Feb. ( <i>F. Simons</i> ).	Salvin-Godman Coll.
b-d. ♂ ad.; e. ♀ ad. sk.	San José, Sierra Nevada de Sta. Marta, Mar., April ( <i>F. Simons</i> ).	Salvin-Godman Coll. (Types of the species.)
f. ♂ ad. sk.	San José, March ( <i>F. Simons</i> ).	Salvin-Godman Coll.
g, h. ♂ ad. sk.	San Sebastian, Sierra Nevada de Sta. Marta, July ( <i>F. Simons</i> ).	Salvin-Godman Coll.
i. ♂ ad.; j. ♀ ad. sk.	N. Colombia ( <i>F. Simons</i> ).	Gould Coll.

8. *Campylopterus rufus*.

*Campylopterus rufus*, *Less, Rev. Zool.* 1840, p. 73; *Bp. Consp.* i. p. 71; *id. Rev. Zool.* 1854, p. 250; *Gould, Mon. Troch.* ii. pl. 50 (May 1852); *id. Intr. Troch.* p. 54; *Scl. & Salv. Ibis*, 1859, p. 127; *Salv. Ibis*, 1860, pp. 38, 195, 260, 263, 264; *id. Cat. Strickl. Coll.* p. 360; *Scl. Cat. Am. B.* p. 288; *Muls. & Ferr. Class. Troch.* p. 22; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 133; *id. Ann. Soc. Linn. Lyon*, xxii. p. 202; *Elliot, Syn. Troch.* p. 25.  
*Platystylopterus rufus*, *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 8, pl. 789, ff. 4834-35; *Eudes-Desl. Ann. Mus. Caen*, i. p. 158.  
*Polytmus rufus*, *Gray, Hand-l. B.* i. p. 124.

*Adult male*. Shining golden green, duller on the forehead; under surface rufous, ear-coverts darker, middle of the abdomen paler; central rectrices bronze-green, lateral rufous, with a subterminal black band stopping at the shaft of the outermost feather, which thus has the whole of the outer web rufous; bill blackish. Total length about 5·3 inches, wing 2·8, tail 2, bill 1·2.

*Female*. Similar to the male.

*Hab.* Mountains of Guatemala from 5000 to 7000 feet above the sea-level.

a-d. ♂ ad.; e. ♀ ad. sk.	Dueñas, Guatemala, Nov. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman, Selater, & Gould Colls.
f. ♂ ad.; g. ♀ ad. sk.	Volcan de Fuego, Guatemala, Aug. ( <i>O. S.</i> ).	Salvin-Godman Coll.
h. ♂ ad.; i. ♀ ad. sk.	Guatemala ( <i>Constancia</i> ).	Gould Coll.
j, k. ♀ ad. st.	Guatemala.	Purchased.
♀ ad. st.	[Guatemala.]	Purchased.



9. *Campylopterus hyperythrus*.

- Campylopterus hyperythrus*, *Cab. in Schomb. Reise n. Guiana*, iii. p. 709; *Bp. Rev. Zool.* 1854, p. 250; *Gould, Mon. Troch.* ii. pl. 51 (May 1852); *id. Intr. Troch.* p. 54; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 135; *id. Ann. Soc. Linn. Lyon*, xxii. p. 202; *Elliot, Syn. Troch.* p. 25; *Whitely, Ibis*, 1884, p. 357; *Salv. Ibis*, 1885, p. 432.
- Platystylopterus hyperythrus*, *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 8, pl. 790. ff. 4836-38; *Eudes-Desl. Ann. Mus. Caen*, i. p. 159.
- Loxopterus hyperythrus*, *Cab. & Heine, Mus. Hein.* iii. p. 13; *F. Heine, J. f. Orn.* 1863, p. 177.
- Campylopterus hypertrurus* (?), *Muls. & Verr. Class. Troch.* p. 22.

*Adult male*. Similar to that of *C. rufus*, but the under surface darker, the lateral rectrices wholly rufous, without a subterminal dark band; bill shorter. Total length about 4·7 inches, wing 2·6, tail 1·8, bill 0·9.

*Adult female*. Like the male.

*Hab.* British Guiana, Roraima, at an altitude of 6000 feet and upwards.

*a.* ♂ ad.; *b.* ♀ ad. sk. Roraima, Brit. Guiana, Aug. Salvin-Godman Coll. (*H. Whitely*).

## 70. EUPETOMENA.

Type.

- Eupetomena*, *Gould, Mon. Troch.* ii. pl. 42 (Oct. 1852)... *E. macrura*.  
*Prognornis*, *Reich. Aufz. d. Col.* p. 11 ..... *E. macrura*.

*Range*. Eastern South America from Guiana to S. Brazil; Peru.

*Key to the Species.*

- a.* Head and throat deep blue; tail deeply forked; rectrices comparatively narrow ..... *macrura*, p. 295.  
*b.* Head and throat paler blue; tail less deeply forked; rectrices broad ..... *hirundo*, p. 296.

1. *Eupetomena macrura*.

- Mellisuga cayennensis*, cauda bifurca, *Briss. Orn.* iii. p. 76.  
 Cayenne fork-tailed Humming Bird, *Lath. Syn.* i. pt. 2, p. 751.  
*Trochilus macrourus*, *Gm. Syst. N.* i. p. 487; *Vieill. N. Dict. d'Hist. N.* vii. p. 366; *id. Enc. Méth.* p. 566; *Licht. Verz. Doubl.* p. 13; *Wied, Beitr.* iv. p. 93.  
*Trochilus forcipatus*, *Lath. Ind. Orn.* i. pt. 1, p. 304.  
 Oiseau-Mouché à queue fourchue de Cayenne, *Vieill. Ois. Dor.* i. p. 136.  
*Ornismya hirundinacea*, *Less. Hist. Nat. Ois.-Mouches*, pp. xii, 98, pl. 25; *id. Suppl.* p. 179, pl. 39.  
*Trochilus hirundinaceus*, *Less. Ind. Gén. Troch.* p. v.  
*Eupetomena hirundinacea*, *Gould, Mon. Troch.* ii. pl. 42 (Oct. 1853).  
*Prognornis macrura*, *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 9, pl. 806. ff. 4873-75; *Burm. Syst. Ueb.* ii. p. 330.

*Eupetomena macroura*, *Bp. Rev. Zool.* 1854, p. 254; *Cab. & Heine, Mus. Hein.* iii. p. 14; *Gould, Intr. Troch.* p. 50; *Scl. Cat. Am. B.* p. 287; *Muls. & Ferr. Class. Troch.* p. 21; *Scl. & Salv. P. Z. S.* 1867, p. 583; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 102; *Pelz. Orn. Bras.* p. 25; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 111, pl. 11; *id. Ann. Soc. Linn. Lyon*, xxi. p. 201; *Elliot, Ibis*, 1877, p. 134; *id. Syn. II. Birds*, p. 21; *Eudes-Desl. Ann. Mus. Caen*, i. p. 141; *Salv. Cat. Strickl. Coll.* p. 360.

*Polytmus macrourus*, *Gray, Hand-l. B.* i. p. 125.

*Adult male.* Body shining dark green; whole head and throat deep shining prussian-blue; anal region and lateral tufts pure white; under tail-coverts dark steel-blue; longest upper tail-coverts dark blue with a tinge of bronze; tail steel-blue; bill and feet black. Total length 7 inches, wing 2.9; tail, central rectrices 1.3, lateral 4.2; bill 1.05.

*Adult female.* Similar to the male, but the head and throat of a paler blue.

*Young in first plumage.* The tail but slightly forked, the blue of the head and throat faintly shown, the latter brownish.

*Hab.* Whole of Eastern and North-eastern Brazil and inland to Matto Grosso: Lower Amazons Valley; Guiana.

- |                                 |  |                              |
|---------------------------------|--|------------------------------|
| a. ♂ ad.; b. Ad. sk.            | Mexiana I., Amazons, Jan. & Oct. ( <i>A. R. Wallace</i> ).               | Salvin-Godman Coll.          |
| c. Ad. sk.                      | Ceara, Brazil ( <i>Jesse</i> ).  | Salvin-Godman Coll.          |
| d, e. Ad. sk.                   | Pernambuco ( <i>W. A. Forbes</i> ).                                      | Salvin-Godman Coll.          |
| f-k. Ad.; l. Juv.; m. ♀ ad. sk. | Brazil (Bahia make).   | Salvin-Godman & Gould Colls. |
| n, o. ♂ ad.; p, q. ♀ ad. sk.    | Chapada, Matto Grosso, Brazil, May, Sept., Dec. ( <i>H. II. Smith</i> ). | Salvin-Godman Coll.          |
| r. ♂ ad.; s. ♀ ad. st.          |  | Purchased.                   |

## 2. *Eupetomena hirundo*.

*Eupetomena hirundo*, *Gould, Ann. & Mag. N. H.* 1875, xvi. p. 370; *Scl. & Salv. P. Z. S.* 1876, p. 16; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 145, pl. 114; *Elliot, Syn. Troch.* p. 22; *Eudes-Desl. Ann. Mus. Caen*, i. p. 143.

Similar to *E. macrura* and very closely allied. The head and throat in both sexes is of a paler, more cobalt-blue, the rectrices wider, and the tail less deeply forked. Length of the central rectrices 1.5 inch, lateral 3.4.

*Hab.* Eastern Peru.

- |                        |  |                                     |
|------------------------|--|-------------------------------------|
| a. ♂ ad.; b. ♀ ad. sk. | Huairo, Peru, June ( <i>H. Whiteley</i> ). | Gould Coll. (Types of the species.) |
| c. ♂ ad.; d. ♀ ad. sk. | Huairo, June, July ( <i>H. W.</i> ).       | Salvin-Godman Coll.                 |

## 71. APHANTOCHROA.

Type.

- Aphantochroa, *Gould, Mon. Troch.* ii. pl. 54 (Oct. 1854)..... A. cirrochloris.  
 Agapeta, *Heine, J. f. Orn.* 1863, p. 178 ..... A. gularis.  
 Aphantochroa (Placophorus), *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 202 (1875) ..... A. gularis.

*Range.* Ecuador to Bolivia, Amazons Valley, and Eastern Brazil.

*Key to the Species.*

- a. No glittering spot on the throat; under tail-coverts dark edged with white.  
 a'. Under surface dark grey washed with green . . . . . *cirrochloris*, p. 297.  
 b'. Under surface white, each feather with a shining green discal spot . . . . . *hyposticta*, p. 298.  
 b. A glittering metallic spot on the middle of the throat; under tail-coverts white. . . . . *gularis*, p. 298.

1. *Aphantochroa cirrochloris.*

*Trochilus cirrochloris*, *Vieill. N. Dict. d'Hist. N.* xxiii. p. 430; *id. Enc. Méth.* p. 560.

*Trochilus campylostylus*, *Licht. Verz. Doubl.* p. 14; *Burm. Syst. Ueb.* ii. p. 329.

*Ornismya simplex*, *Less. Hist. Nat. Ois.-Mouches*, pp. xliii, 119, pl. 33; *id. Suppl.* p. 111, pl. 6.

*Trochilus simplex*, *Less. Ind. Gén. Troch.* p. vi.

*Campylopterus cirrochloris*, *Bp. Consp.* i. p. 71; *Muls. & Ferr. Class. Troch.* p. 22.

*Aphantochroa cirrochloris*, *Gould, Mon. Troch.* ii. pl. 54 (Oct. 1853); *id. Intr. Troch.* p. 55; *Reich. Aufz. d. Col.* p. 15; *Bp. Rev. Zool.* 1854, p. 250; *Scl. Cat. Am. B.* p. 288; *F. Heine, J. f. Orn.* 1863, p. 178; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 102; *Pelz. Orn. Bras.* p. 28; *Berl. J. f. Orn.* 1873, p. 274, 1887, p. 334; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 139, iv. p. 150; *id. Ann. Soc. Linn. Lyon*, xxii. p. 202; *Elliot, Syn. Troch.* p. 27; *Eudes-Desl. Ann. Mus. Cuen.* i. p. 163; *Forbes, Ibis*, 1881, p. 348; *Salv. Cat. Strickl. Coll.* p. 360.

*Campylopterus campylostylus*, *Burm. Syst. Ueb.* ii. p. 329.

*Polytmus cirrochloris*, *Gray, Hand-l. B.* i. p. 125.

*Adult male.* Upper surface dark green; wings purple-black; tail with the median rectrices green, darker at the tip, the lateral rectrices dark purplish bronze-green; under surface dark grey; throat and flanks washed with green; under tail-coverts dark grey edged with dull white; bill black. Total length about 4·7 inches, wing 2·75, tail 1·6, bill 1.

*Female.* Like the male.

*Hab.* Eastern Brazil.

- a. ♂ ad. sk. Macuca, Pernambuco, Brazil Selater Coll.  
 (*W. A. Forbes*).  
 b. Ad. sk. Santa Fé, Minas Geraes, Brazil Salvin-Godman Coll.  
 (*H. Rogers*).

<i>c.</i> Ad. sk.	N. Fribourgo, Brazil ( <i>Youlds</i> ).	Salvin-Godman Coll.
<i>d.</i> Ad. sk.	Ypanema, Brazil, May ( <i>Natterer</i> ).	Salvin-Godman Coll.
<i>e-i.</i> Ad. sk.	Brazil.	Gould & Selater Colls.

## 2. *Aphantochroa hyposticta*.

*Aphantochroa hyposticta*, *Gould*, *P. Z. S.* 1862, p. 124; *Whately*, *P. Z. S.* 1873, p. 189; *Tacz.* *P. Z. S.* 1874, p. 545, 1882, p. 34; *id.* *Orn. Pér.* i. p. 276; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 151; *id.* *Ann. Soc. Linn. Lyon*, xxii. p. 202; *Elliot, Syn. Troch.* p. 29; *Scl. & Salv. P. Z. S.* 1879, p. 627; *Eudes-Dest. Ann. Mus. Caen*, i. p. 164.

*Polytmus hypostictus*, *Gray, Hand-l. B.* i. p. 125.

? *Aphantochroa alexandria*, *Boucard, The Humming Bird*, i. p. 18 (Mar. 1891).

*Adult male.* Upper surface dark shining grass-green; tail with the central feathers darker at the tip, lateral feathers with a subterminal dark bar; under surface, including the under tail-coverts, white, each feather with a large shining green spot; bill black, base of the mandible flesh-colour. Total length about 5 inches, wing 2.7, tail 1.5, bill 1.1.

*Hab.* Eastern slope of the Andes from Ecuador to Bolivia.

<i>a.</i> Ad. sk.	Ecuador ( <i>ex Gould</i> ).	Salvin-Godman Coll. (Type of the species.)
<i>b-f.</i> Ad. sk.	Ecuador.	Gould Coll.
<i>g.</i> Ad. sk.	[Ecuador.]	Salvin-Godman Coll.
<i>h.</i> Ad. sk.	San Antonio, Peru, July ( <i>H. Whately</i> ).	Gould Coll.
<i>i.</i> Ad. sk.	Peru?	Salvin-Godman Coll.
<i>j.</i> Ad. sk.	Nairipi, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.

## 3. *Aphantochroa gularis*.

*Aphantochroa gularis*, *Gould, P. Z. S.* 1860, p. 310; *id. Mon. Troch.* ii. pl. 55 (May 1861); *id. Intr. Troch.* p. 55; *Scl. & Salv. P. Z. S.* 1867, p. 753, 1873, p. 287; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 141, iv. p. 151; *id. Ann. Soc. Linn. Lyon*, xxii. p. 202; *Elliot, Syn. Troch.* p. 28; *Eudes-Dest. Ann. Mus. Caen*, i. p. 165.

*Agapeta gularis*, *P. Heine, J. f. Orn.* 1863, p. 178.

*Campylopterus gularis*, *Muls. & Verr. Class. Troch.* p. 22.

*Adult male.* Upper surface dark shining grass-green; wings purple-black; tail with the lateral feathers tinged with bronze; under surface shining grass-green; feathers of the throat white at their bases; a large thoracic spot glittering rosy lilac; thighs and under tail-coverts white; bill dark. Total length about 4.5 inches, wing 2.4, tail 1.4, bill (chord) 1.2.

The Peruvian specimen has the lateral tail-feathers tipped with white, probably due to immaturity.

*Hab.* Eastern Ecuador; Eastern Peru.

<i>a.</i> Ad. sk.	Napo, Ecuador.	Gould Coll. (Type of the species.)
<i>b.</i> Ad. sk.	Chyavetas, Peru ( <i>E. Bartlett</i> ).	Gould Coll.

## 72. PHÆOCHROA.

Phæochroa, *Gould, Mon. Troch.* p. 55..... Type.  
P. *cuvieri*.

*Range.* British Honduras and Guatemala to Colombia and Venezuela.

*Key to the Species.*

- a. Subterminal dark band of the lateral rectrices narrow ;  
basal two-thirds of the mandible flesh-colour ..... *cuvieri*, p. 299.  
b. Subterminal dark band of the lateral rectrices broad ;  
mandible wholly dark..... *roberti*, p. 300.

1. Phæochroa *cuvieri*.

*Trochilus cuvieri*, *Delattre & Bourc. Rev. Zool.* 1845, p. 315.

*Campylopterus cuvieri*, *Bp. Consp.* i. p. 71 ; *Reich. Troch. Enum.*  
p. 9, pl. 805. f. 4871 ; *Gould, Mon. Troch.* ii. pl. 52 (Sept. 1856) ;  
*Lavr. Ann. Lyc. N. Y.* vii. p. 319 ; *Muls. & Verr. Class. Troch.*  
p. 22 ; *Elliot, Syn. Troch.* p. 27.

*Aphantochroa cuvieri*, *Bp. Rev. Zool.* 1854, p. 250 ; *Cub. & Heine,*  
*Mus. Hein.* iii. p. 14 ; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 137,  
iv. p. 150 ; *Eudes-Desl. Ann. Mus. Caen*, i. p. 161.

*Celigena clemenciæ* ♀, *Reich. Troch. Enum.* p. 3, pl. 687. f. 4517  
(*apud Cub. & Heine*).

*Phæochroa cuvieri*, *Gould, Intr. Troch.* p. 55 ; *Scl. & Salv. P. Z. S.*  
1864, p. 365 ; *Salv. P. Z. S.* 1867, p. 153, 1870, p. 205 ; *Lavr.*  
*Ann. Lyc. N. Y.* ix. p. 121 ; *Muls. Ann. Soc. Linn. Lyon*, xxii.  
p. 202.

*Polytmus cuvieri*, *Gray, Hand-l. B.* i. p. 125.

*Adult male.* Above shining grass-green ; lateral rectrices tipped with white and with a narrow subterminal dark band ; under surface dull bronze-green, the feathers edged with grey ; middle of the abdomen drab ; under tail-coverts pale greenish grey edged with whitish ; bill black ; mandible, except the terminal third, flesh-colour. Length 4·6 inches, wing 2·7, tail 1·7, bill 1.

*Adult female.* Like the male.

*Hab.* Costa Rica, the State of Panama, Colombia, and Venezuela.

- a. ♂ ad. sk. Punta Arenas, Costa Rica, July Salvin-Godman Coll.  
(*O. S.*).  
b. Ad. sk. Mirabayas, Costa Rica (*E. Arcé*). Salvin-Godman Coll.  
c. Ad. sk. Bebedero, Nicoya, Costa Rica Salvin-Godman Coll.  
(*E. Arcé*).  
d. ♀ ad. sk. Bugaba, Panama (*Arcé*). Salvin-Godman Coll.  
e. ♂ ad. ; f. *Juv.* David, Panama (*Warszewicz*). Gould Coll.  
sk.  
g, h. Ad. sk. Panama (*M. Leannan*). Slater Coll.  
i, j. Ad. ; k. ♀ Lion Hill, Panama (*M. Leannan*). Salvin-Godman Coll.  
ad. sk.  
l. Ad. sk. Paraiso, Panama (*Hughes*). Salvin-Godman Coll.

2. *Phæochroa roberti*.

- Aphantochroa roberti*, *Salv. P. Z. S.* 1861, p. 354; *F. Heine, J. f. Orn.* 1863, p. 178; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 139.  
*Campylopterus roberti*, *Gould, Mon. Troch.* ii. pl. 53 (Sept. 1861);  
*Muls. & Ferr. Class. Troch.* p. 22; *Elliot, Syn. Troch.* p. 28.  
*Phæochroa roberti*, *Gould, Intr. Troch.* p. 55; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 202; *Eudes-Desl. Ann. Mus. Caen*, i. p. 162; *Nutting, Pr. U.S. Nat. Mus.* vi. p. 406.  
*Polytmus roberti*, *Gray, Hand-l. B.* i. p. 125.

*Adult male.* Like that of *P. cuvieri*, but with a much broader subterminal dark band of the lateral rectrices, and with the whole of the mandible dark.

*Adult female.* Like the male.

*Hab.* British Honduras and Eastern Guatemala, in forests up to an elevation of 2000 feet.

- |   |   |  |
|---|---|--|
| <i>a, b.</i> ♂ ad.; <i>c.</i> ♀ ad. sk. | San Felipe, Western District, Brit. Honduras, Feb., Mar. ( <i>F. Blancaneaux</i> ). | Salvin-Godman Coll.                        |
| <i>d.</i> ♀ ad. sk.                     | Belize River, Dec. ( <i>F. B.</i> ).  | Salvin-Godman Coll.                        |
| <i>e.</i> ♀ ad. sk.                     | Cayo, Western District, Brit. Honduras ( <i>F. B.</i> ).                            | Salvin-Godman Coll.                        |
| <i>f.</i> ♂ ad. sk.                     | Choctum, Guatemala ( <i>R. Owen</i> ).  | Salvin-Godman Coll. (Type of the species.) |
| <i>g-j.</i> ♂ ad. sk.                   | Choctum, Feb. ( <i>O. S. &amp; F. D. G.</i> ).                                      | Salvin-Godman, Selater, & Gould Colls.     |
| <i>k.</i> Ad. sk.                       | Cantoöloc, Guatemala, Feb. ( <i>O. S. &amp; F. D. G.</i> ).                         | Salvin-Godman Coll.                        |
| <i>l.</i> Ad. sk.                       | (Skin of Guatemala make.)   | Gould Coll.                                |

73. **STERNOCLYTA.**

Type.

*Sternoclyta*, *Gould, Mon. Troch.* ii. pl. 58 (Sept. 1858) ..... *S. cyaneipectus*.

*Range.* Venezuela.

1. *Sternoclyta cyaneipectus*.

- Trochilus (Lampornis) cyanopectus*, *Gould, P. Z. S.* 1846, p. 86.  
*Lampornis cyanopectus*, *Bp. Consp.* i. p. 72; *Muls. & Ferr. Class. Troch.* p. 24.  
*Sæpiopterus cyanopectus*, *Reich. Aufz. d. Col.* p. 11.  
*Campylopterus cyaneipectus*, *Bp. Rev. Zool.* 1854, p. 250.  
*Sternoclyta cyaneipectus*, *Gould, Mon. Troch.* ii. pl. 68 (Sept. 1858);  
*id. Intr. Troch.* p. 57; *Cab. & Heine, Mus. Hein.* iii. p. 13; *Sci. & Salv. P. Z. S.* 1868, p. 628; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 178, iv. p. 158; *id. Ann. Soc. Linn. Lyon*, xxii. p. 203; *Elliot, Syn. Troch.* p. 60; *Eudes-Desl. Ann. Mus. Caen*, i. p. 272.

*Adult male.* Upper surface and sides of the neck dark shining grass-green; throat glittering grass-green; breast glittering dark

blue; abdomen green, the feathers with dusky edges; under tail-coverts dusky green with pale edges; edge of the outermost primary whitish; secondaries beneath at the base and some of the wing-coverts chestnut; tail dark bronzy green, the two outer feathers on either side tipped with white; bill black. Total length about 5·4 inches, wing 2·8; tail, central rectrices 1·35, lateral 1·8, bill (chord) 1·4.

*Female.* Upper surface shining grass-green; under surface greyish white; abdomen chestnut; each feather of the throat and flanks with a green discal spot; wings beneath marked with chestnut like the male; lateral rectrices tipped with white.

*Hab.* Venezuela.

a. ♂ ad. sk.	Puerto Cabello, Venezuela.	Sclater Coll.
b. ♂ ad. sk.	San Cristobal, Venezuela.	Salvin-Godman Coll.
c-e. ♂ ad. sk.	Venezuela.	Salvin-Godman, Gould, & Sclater Colls.

## 74. UROCHROA.

*Urochroa*, Gould, *Mon. Troch.* ii. pl. 57 (Sept. 1856) . . . Type. *U. bougueri*.

*Range.* Ecuador.

### 1. *Urochroa bougueri*.

*Trochilus bougueri*, Bourc. *Compt. Rend.* xxxii. p. 186.

*Cœligena* γ. *Cœligena bougueri*, Reich. *Aufz. d. Col.* p. 7.

*Cœligena bougueri*, Bp. *Rev. Zool.* 1854, p. 252.

*Urochroa bougueri*, Gould, *Mon. Troch.* ii. pl. 57 (Sept. 1856); *id.*

*Intr. Troch.* p. 56; *id. P. Z. S.* 1850, p. 803; *Sci. P. Z. S.* 1860,

p. 95; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 192, iv. p. 159; *id. Ann.*

*Soc. Linn. Lyon*, xxii. p. 203; *Elliot, Syn. Troch.* p. 62; *Eudes-*

*Desl. Ann. Mus. Cuen*, i. p. 219.

*Urochroa leucura*, Lawr. *Ann. Lyc. N. Y.* viii. p. 43.

*Lampornis bougueri*, Muls. & Ferr. *Class. Troch.* p. 24.

*Adult male.* Upper surface dark shining grass-green; rump and upper tail-coverts golden bronze; throat glittering blue, shading into green at the sides and also on the lower chest; abdomen grey; flanks tinged with green; under tail-coverts bronze, the shorter ones edged with white; middle rectrices greenish bronze, the next three pairs on either side white, narrowly edged outwardly with black and also inwardly for their distal half with a wider margin of the same colour, but leaving the tip itself white; outermost rectrix on either side also white, but with a wider black border on each side extending to the tip of the feather; under wing-coverts green; bill black; feet yellow. Total length 5·3 inches, wing 2·95; tail, central rectrices 1·75, lateral 1·7; bill 1·5.

*Young male.* More bronze over the whole upper surface; a large chestnut patch on either side of the gape; central rectrices darker, almost steel-blue; next three on either side with wider black border, the outermost pair being steel-blue-black.

The young male is typical of *U. bougueri*, the adult of *U. leucura*; but I agree with Elliot and others in referring them to a single species.

*Hab.* Eastern Ecuador.

a-c. Ad. sk.	Environs of Quito, Ecuador ( <i>Jamson</i> ).	Gould Coll.
f. Ad. sk.	Baños, Ecuador ( <i>Buckley</i> ).	Gould Coll.
g, h. Ad. sk.	Sarayaen, Ecuador ( <i>Buckley</i> ).	Gould Coll.
i. Ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
j. Ad. sk.	R. Napo, Ecuador.	Salvin-Godman Coll.
k. Ad. sk.	Ecuador ( <i>ex Verreaux</i> ).	Salvin-Godman Coll.

### 75. EUGENES\*.

*Eugenes*, *Gould, Mon. Troch.* ii. pl. 59 (Sept. 1856) . . . . Type. *E. fulgens*.

*Range.* Mexico, Guatemala, and Costa Rica.

#### *Key to the Species.*

- a. Breast black; lateral rectrices bronzy green . . . . *fulgens*, p. 302.  
 b. Breast dark shining green; lateral rectrices dark  
 bronzy brown towards the tip . . . . . *spectabilis*, p. 304.

#### 1. *Eugenes fulgens*.

*Trochilus fulgens*, *Sw. Phil. Mag.* new ser. i. p. 441; *Gray, Hand-l.* B. i. p. 137.

*Ornismya rivoli*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxvi, 48, pl. 4.

*Trochilus rivoli*, *Less. Ind. Gén. Troch.* p. xviii.

*Ornismya clemenciæ* ♀, *Less. Hist. Nat. Ois.-Mouches, Suppl.* p. 115, pl. 8.

*Delatatria fulgens*, *Bp. Consp.* i. p. 70.

*Cœligena γ. Cœligena fulgens*, *Reich. Aufz. d. Col.* p. 7.

*Cœligena fulgens*, *Bp. Rev. Zool.* 1854, p. 252; *Reich. Troch. Enum.* p. 3, pl. 686. ff. 4513-14; *Sci. P. Z. S.* 1858, p. 297, 1869, pp. 367, 386.

*Eugenes fulgens*, *Gould, Mon. Troch.* ii. pl. 52 (Sept. 1856); *id. Intr. Troch.* p. 58; *Moore, P. Z. S.* 1859, p. 52; *Sci. & Salv. Ibis*, 1859, p. 128; *Salv. Ibis*, 1860, pp. 197, 261, 263; *Cub. & Heine, Mus. Hein.* iii. p. 20; *Sci. Cat. Am. B.* p. 268; *id. P. Z. S.* 1864, p. 176; *A. Dugès, La Nat.* i. p. 141; *Villada, La Nat.* ii. p. 349; *de Oca, La Nat.* iii. p. 164; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 212, pl. 47, iv. p. 206; *id. Ann. Soc. Linn. Lyon*, xxii. p. 213; *Elliot, Syn. Troch.* p. 60; *Eudes-Desl. Ann. Mus. Caen*, i. p. 279; *Ferrari-Perez, Pr. U.S. Nat. Mus.* ix. p. 157.

*Clytolaema fulgens*, *Muls. & Ferr. Class. Troch.* p. 59.

*Adult male.* Upper surface dark bronzy green, the neck and upper back appearing black when seen from in front; crown rich glittering violet; throat glittering green; rest of the under surface black as far as the middle of the abdomen, but shining green when seen

\* I do not know:—

*EUGENES VIRIDICEPS*, *Boucard, Ann. Soc. Linn. Lyon*, (2) xxv. p. 55 (1878), from Guatemala.



from behind; lower abdomen dusky; under tail-coverts dull green edged with pale dusky; under wing-coverts green; tail bronzy green; bill black. Total length 5.5 inches, wing 3; tail, central rectrices 1.5, lateral 1.85; bill 1.4.

*Adult female.* Upper surface dark shining grass-green; crown dusky; under surface grey; flanks green; feathers of the throat with darker centres; lateral rectrices green tipped with white, and with a wide subterminal dark steel-blue band.

*Young males* have the lateral rectrices tipped with dusky white; the feathers of the crown are dull dark green, amongst which the glittering violet feathers gradually appear. The chest becomes darker as maturity is reached.

*Hab.* Southern Arizona and Mexico from the Sierra Madre of Sonora southwards; also the highlands of Guatemala at an elevation of about 5000 feet.

a. ♀ ad. sk.	Arizona ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
b. ♂ ad.; c-f. ♀ ad. sk.	Sierra de San Luis Potosi, Mexico, July ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
g-i. ♂ ad. sk.	El Patio (Jalapa), June ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
j. ♀ ad. sk.	Jalapa, May ( <i>M. T.</i> ).	Salvin-Godman Coll.
k. ♂ ad. sk.	Jalapa ( <i>de Oca</i> ).	Gould Coll.
l. ♂ ad. sk.	Chimalpa, Valley of Mexico, April ( <i>F. Ferrari-Perez</i> ).	Salvin-Godman Coll.
m. ♀ ad. sk.	Hacienda Eslava, Valley of Mexico, April ( <i>F. F.-P.</i> ).	Salvin-Godman Coll.
n. ♂ ad. sk.	Ajusco, Valley of Mexico, Sept. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
o, p. ♂ ad.; q-s. ♀ ad. sk.	Valley of Mexico.	Salvin-Godman & Gould Colls.
t. ♂ ad.; u. ♀ ad. sk.	Rio Frio, Istacihuatl, Mexico, Sept. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
v-x. ♂ ad.; y. ♀ ad. sk.	Sierra de Bolaños, Mexico, Feb. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
z-b'. ♂ ad.; c', d'. ♂ juv.; e', f'. ♀ ad. sk.	Sierra Nevada de Colima, April to July ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
g'. ♀ ad. sk.	Sierra de Valparaiso, Jalisco, Aug. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
h'. ♂ ad.; i'. ♂ juv. sk.	Sierra de Nayarit, Jalisco ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
j', k'. ♀ ad. sk.	Omilteme, Guerrero, Mexico, July ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
l. ♂ ad. sk.	Xucumanatlan, Guerrero, July ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
m', n'. ♂ ad. sk.	Tonagua, Oaxaca, Feb. ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
o'. ♂ ad.; p'. ♀ ad. sk.	Oaxaca, Mexico ( <i>Fenochio</i> ).	Salvin-Godman Coll.
q'. ♂ ad. sk.	Oaxaca.	Gould Coll.
r', s'. ♂ ad.; t', u'. ♂ juv.; v'. ♀ ad. sk.	Mexico ( <i>Floresi</i> ).	Gould Coll.

<i>w'</i> , <i>x'</i> . ♂ ad. sk.	Sta. Maria, near Quezaltenango, Guatemala, Aug. ( <i>W. B.</i> <i>Richardson</i> ).	Salvin-Godman Coll.
<i>y'</i> , <i>z'</i> . ♂ ad. sk.	San Martin, Quezaltenango, Oct. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>a''</i> . ♂ ad. sk.	Chuipaché, Quezaltenango, Sept. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>b''</i> , <i>c''</i> . ♀ ad. sk.	El Rincon, San Marcos, Oct. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>d''</i> . ♂ ad.; <i>e''</i> , <i>f''</i> . ♀ ad. sk.	Volcan de Fuego, Guatemala, Aug. ( <i>O. S.</i> ).	Salvin-Godman Coll.
<i>g''-j''</i> . ♂ ad. sk.	Ducñas, Guatemala, Sept. ( <i>O. S.</i> & <i>F. D. G.</i> ).	Salvin-Godman & Selater Colls.
<i>k''</i> . ♂ ad. sk.	Tactic, Guatemala, Nov. ( <i>O. S.</i> ).	Gould Coll.
<i>l''</i> . ♀ ad. sk.	Mts. of Chilasco, Guatemala, Jan. ( <i>O. S.</i> & <i>F. D. G.</i> ).	Salvin-Godman Coll.
<i>m''</i> . ♀ ad. st.	Mexico.	Purchased.
<i>n''</i> . ♂ juv. st.		Purchased.

## 2. *Eugenés spectabilis*.

*Heliomaster spectabilis*, *Lavr. Ann. Lyc. N. Y.* viii. p. 472; *Salv. Ibis*, 1868, p. 251.

*Eugenés spectabilis*, *Salv. Ibis*, 1869, p. 316; *Lavr. Ann. Lyc. N. Y.* ix. p. 121, x. p. 140; *v. Frantz. J. f. Orn.* 1869, p. 315; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 215, iv. p. 206; *id. Ann. Soc. Linn. Lyon*, xxii. p. 213; *Boucard, P. Z. S.* 1878, p. 68; *Elliot, Syn. Troch.* p. 61; *Eudes-Desl. Ann. Mus. Caen*, i. p. 281.

*Adult male*. Very similar to that of *E. fulgens*, the head being ornamented in the same way; the chest, however, is dark shining green, and not black as in the allied species. The lateral rectrices, also, are of a brownish—rather than a greenish-bronze colour towards the end, and the tail itself less deeply forked.

The *female* is probably not to be distinguished from that of *E. fulgens*.

*Hab.* Costa Rica.

<i>a</i> , <i>b</i> . ♂ ad. sk.	Irazu, Costa Rica ( <i>H. Rogers</i> ).	Salvin-Godman Coll.
<i>c</i> . ♂ juv. sk.	Irazu, Costa Rica ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>d</i> . ♂ ad. sk.	Costa Rica ( <i>ex G. N. Lawrence</i> ).	Gould Coll.
<i>e</i> . ♂ ad. sk.	Costa Rica ( <i>Carmirol</i> ).	Gould Coll.
<i>f</i> . ♂ ad. sk.	Costa Rica ( <i>Endres</i> ).	Gould Coll.

## 76. CÆLIGENA.

Type.

*Cœligena*, *Less. Ind. Gén. Troch.* p. xviii (1832) . . . . . *C. clemenciæ*.

*Range.* Mexico.

### 1. *Cœligena clemenciæ*.

*Ornismya clemenciæ*, *Less. Hist. Nat. Ois.-Mouches*, pp. xlv, 216, pl. 80; *id. Suppl.* p. 115, pl. 8.

*Trochilus clemenciæ*, *Less. Ind. Gén. Troch.* p. xviii; *Gray, Hand-l. B.* i. p. 139.

*Lampornis clemenciæ*, *Less. Traité d'Orn.* p. 279; *Bp. Rev. Zool.* 1854, p. 250; *Muls. & Verr. Class. Troch.* p. 24.

*Delattria elemenciae*, *Bp. Consp.* i. p. 70; *Gould, Mon. Troch.* ii. pl. 60 (May 1855); *Scl. P. Z. S.* 1858, p. 279, 1859, p. 367; *de Oca, La Nat.* iii. p. 100.

*Coeligena a. Coeligena elemenciae*, *Reich. Aufz. d. Col.* p. 7.

*Coeligena elemenciae*, *Reich. Troch. Enum.* p. 3, pl. 687. ff. 4516-17; *Cab. & Heinc, Mus. Hein.* iii. p. 15; *Scl. Cat. Am. B.* p. 289; *Gould Intr. Troch.* p. 59; *A. Dugès, La Nat.* i. p. 141; *Villada, La Nat.* ii. p. 350; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 180, iv. p. 158; *id. Ann. Soc. Linn. Lyon*, xxii. p. 203; *Elliot, Syn. Troch.* p. 30; *Eudes-Desl. Ann. Mus. Caen*, i. p. 232.

*Adult male.* Upper surface bronze-green, greener on the neck, more bronze on the rump, where the colour runs into purple-black, the colour of the wings and tail; crown dark; two lateral rectrices on either side broadly tipped with white; a long narrow white postocular stripe; ear-coverts dark; under surface grey; throat glittering blue; flanks faintly washed with green; under tail-coverts edged with white; bill black. Total length about 5.3 inches, wing 3.1, tail 2, bill 1.5.

*Adult female.* Like the male, but the whole throat grey; not blue.

*Hab.* Mexico, from the State of Durango to that of Oaxaca, Vera Cruz, &c.

a. ♂ ad.; b. ♀ ad. sk.	Ciudad in Durango, Mexico, July	Salvin-Godman Coll. ( <i>A. Forrer</i> ).
c-e. ♂ ad.; f. ♀ juv.; g. ♀ ad. sk.	Sierra de Valparaiso, Aug. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
h. ♂ ad. sk.	Sierra de San Luis Potosi, Mexico, July ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
i. ♂ ad. sk.	Las Vigas, Mexico, July ( <i>F. Ferrari-Perez</i> ).	Salvin-Godman Coll.
j. ♂ ad.; k. ♀ ad. sk.	Ajusco, Valley of Mexico, Sept. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
l, m. ♂ ad.; n, o. ♀ ad. sk.	Amecameca, Mexico, April ( <i>F. D. G.</i> ).	Salvin-Godman Coll.
p-r. ♂ ad.; s. ♀ ad. sk.	Rio Frio, Ixtaccihuatl, Mexico, Sept. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
t. ♂ ad. sk.	Omilteme, Guerrero, July ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
u, v. ♂ ad.; w. ♀ ad. sk.	Cordova, Mexico.	A. Sallé [C.].
x, y. ♂ ad. sk.	Oaxaca, Mexico ( <i>Fenocchio</i> ).	Salvin-Godman Coll.
z, a'. ♂ ad.; b', c'. ♀ ad. sk.	Mexico ( <i>Floresi</i> ).	Salvin-Godman & Gould Colls.
d', e'. ♂ ad.; f', g'. ♀ ad. sk.	(Mexican make.)	Salvin-Godman & Gould Colls.

## 77. OREOPYRA.

*Oreopyra*, *Gould, P. Z. S.* 1860, p. 312 ..... Type. *O. leucaspis*.

*Range.* Costa Rica and the State of Panama.

*Key to the Species.*

- a. Throat white.  
 a'. Tail purple-black ..... *leucaspis*, p. 306.  
 b'. Tail grey ..... *cinereicauda*, p. 307.  
 b. Throat glittering reddish purple.  
 c'. Chest glittering green ..... *calolæma*, p. 307.  
 d'. Chest blackish green ..... *pectoralis*, p. 308.

1. *Oreopyra leucaspis*.

- Trochilus* (—?) *castaneiventris*, *Gould, P. Z. S.* 1850, p. 163.  
*Anthocephala* ? *castaneiventris*, *Gould, Mon. Troch.* iii. pl. 203  
 (Sept. 1885); *id. Intr. Troch.* p. 115; *Muls. & Verr. Class. Troch.*  
 p. 71; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 123, iv. p. 219.  
*Oreopyra leucaspis*, *Gould, P. Z. S.* 1860, p. 312; *id. Mon. Troch.* iv.  
 pl. 264 (May 1861); *id. Intr. Troch.* p. 141; *Salv. P. Z. S.*  
 1867, p. 153, 1870, p. 205; *Laur. Ann. Lyc. N. Y.* ix. p. 125;  
*Muls. Hist. Nat. Ois.-Mouches*, iv. p. 160, pl. 115; *id. Ann. Soc.*  
*Linn. Lyon*, xxii. p. 203; *Elliot, Syn. Troch.* p. 33; *Eudes-Dest.*  
*Ann. Mus. Caen*, i. p. 241; *Sharpe in Gould's Mon. Troch. Suppl.*  
 (April 1885).  
*Diphlogæna leucaspis*, *Muls. & Verr. Class. Troch.* p. 61.  
*Oreopyra castaneiventris*, *Salv. P. Z. S.* 1867, p. 153; *id. Ibis*, 1869,  
 p. 316.

*Adult male.* Upper surface dark shining grass-green, slightly tinged with bronze on the middle of back; crown glittering bluish green; wings purple-black; tail dark steel-blue-black; a long white postocular stripe; ear-coverts dark green; throat pure white, edged below with bluish green; chest glittering green; middle of the abdomen grey; flanks green; under tail-coverts greyish, washed with green and edged with whitish; bill black. Total length about 4 inches, wing 2.5, tail 1.4, bill 0.95.

*Adult female.* Like that sex of *O. calolæma*, and not to be distinguished by any certain characters, the crown is perhaps a little brighter. Females from the Volcano of Chiriqui most probably belong to this species.

*Young males* have the crown of the same green as the back, the white throat is gradually assumed, and in some specimens bluish feathers are scattered over the surface.

*Trochilus castaneiventris*, *Gould*, subsequently figured as *Anthocephala castaneiventris*, is most probably the oldest name for this bird. But as it was applied to female specimens obtained by *Warszewicz* in Chiriqui, where *O. leucaspis* and *O. calolæma* are found, and as the females of these species are not distinguishable with certainty, the names based upon male examples had best be retained.

*Hab.* Panama, Volcan de Chiriqui.

- a. ♂ ad. sk. Cordillera of Chiriqui (*Warszewicz*). Gould Coll.  
 (Type of *O. leucaspis*, *Gould*.)  
 b-e. ♀ ad. sk. Cordillera of Chiriqui (*Warszewicz*). Gould Coll.  
 (Type of *Anthocephala castaneiventris*.)

<i>f-o.</i> ♂ ad.;	<i>p-</i> Volcan de Chiriqui ( <i>E. Arcé</i> ).	Salvin-Godman,
<i>w.</i> ♂ juv.;		Gould, & Selater
<i>d'.</i> ♀ ad. sk.		Colls.

### 2. *Oreopyra cinereicauda.*

*Oreopyra cinereicauda*, *Lavr. Ann. Lyc. N. Y.* viii. p. 485, ix. p. 125; *v. Frantz. J. f. Orn.* 1869, p. 316; *Salv. P. Z. S.* 1870, p. 206; *Boucard, P. Z. S.* 1878, p. 68; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 163, pl. 116; *id. Ann. Soc. Linn. Lyon*, xxii. p. 203; *Elliot, Syn. Troch.* p. 34; *Eudes-Desl. Ann. Mus. Caen*, i. p. 243; *Gould, Mon. Troch. Suppl.* pl. 7 (April 1885).

*Oreopyra castaneiventris*, *Lavr. Ann. Lyc. N. Y.* ix. p. 125 (partim).

*Adult male.* Like that of *O. leucaspis*, but the crown is of a bluer tint, and the tail instead of being steel-blue is grey, darker towards the apex.

*Adult female.* Like the females of the other species of *Oreopyra*, the bill being rather longer than in *O. leucaspis* and *O. calolæma*.

*Hab.* Costa Rica.

<i>a.</i> ♂ ad. sk.	Costa Rica ( <i>Carmiöl</i> ).	Salvin-Godman Coll.
<i>b-d.</i> ♂ ad.;	Costa Rica.	Gould Coll.
<i>e.</i>		
♀ ad. sk.		

### 3. *Oreopyra calolæma.*

*Oreopyra calolæma*, *Salv. P. Z. S.* 1864, p. 584, 1867, p. 153, 1870, pp. 205, 206; *Salvad. Atti R. Acc. Tor.* 1868, p. 183; *Lavr. Ann. Lyc. N. Y.* ix. p. 125; *v. Frantz. J. f. Orn.* 1869, p. 316; *Boucard, P. Z. S.* 1878, p. 69; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 164, pl. 117; *id. Ann. Soc. Linn. Lyon*, xxii. p. 203; *Elliot, Syn. Troch.* p. 33; *Eudes-Desl. Ann. Mus. Caen*, i. p. 239; *Nutting, Pr. U. S. Nat. Mus.* v. p. 500; *Sharpe in Gould, Mon. Troch. Suppl.* pl. 6 (April 1885).

*Oreopyra venusta*, *Lavr. Ann. Lyc. N. Y.* viii. p. 484; *Eudes-Desl. Ann. Mus. Caen*, i. p. 240.

*Anthocephala castaneiventris*, *Lavr. Ann. Lyc. N. Y.* ix. p. 124; *v. Frantz. J. f. Orn.* 1869, p. 316.

*Trochilus calolæmus*, *Gray, Hand-l. B.* i. p. 138.

*Adult male.* Upper surface dark shining grass-green, darker on the rump; crown glittering bluish green, edged towards the nape with green which looks black in certain aspects: a long white post-ocular stripe; wings dark purple-black; tail dark steel-blue-black; ear-coverts dark green; throat metallic reddish purple; chest glittering green, abdomen ashy, flanks washed with green: under tail-coverts dark greyish, washed with green and edged with whitish; bill black. Total length about 4 inches, wing 2.5, tail 1.45, bill 1.

*Adult female.* Upper surface like the male, but without the glittering crown; under surface uniform cinnamon, whitish on the middle of the abdomen; tail green, the outer rectrices with a black subterminal bar, the tips white.

In the *young male* the crown is dark shining green like the back, and there is often an admixture of green on the throat, but the chest is always more or less of a glittering hue.

*Hab.* Costa Rica and the more western of the mountains of the State of Panama.

<i>a-d.</i> ♂ ad.; ♀ ad. sk.	Volcan de Cartago, Costa Rica ( <i>E. Arcé</i> ).	Salvin-Godman & Gould Colls. (Types of the species.)
<i>f, g.</i> ♂ ad.; <i>i.</i> ♀ ad. sk.	Irazu district, Costa Rica ( <i>H.</i> <i>Rogers</i> ).	Salvin-Godman Coll.
<i>j.</i> ♂ ad. sk.	Costa Rica ( <i>Carmirol</i> ).	Gould Coll.
<i>k.</i> ♂ ad.; <i>l.</i> ♀ ad. sk.	Volcan de Chiriqui ( <i>E. Arcé</i> ).	Salvin-Godman Coll.
<i>m, n.</i> ♂ ad.; <i>p.</i> ♀ ad. sk.	Cordillera de Tolé, Panama ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
<i>q.</i> ♂ ad.; <i>r.</i> ♀ ad. sk.	Cordillera del Chucu, Panama ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
<i>s.</i> ♂ ad. sk.	Calovevora, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>t.</i> ♂ ad. sk.	Calobre, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>u, v.</i> ♂ ad. sk.	Veragua ( <i>Boucard</i> ).	Gould Coll.

#### 4. *Oreopyra pectoralis*.

*Adult male.* Similar to that of *O. calolœma* in all respects, except that the breast when viewed from in front is nearly black and not glittering green.

The *female* is probably undistinguishable from that of *O. calolœma*. The specimens mentioned below as probably females of this species came in the same collection as the males.

*Hab.* Costa Rica.

<i>a.</i> ♂ ad. sk.	Costa Rica.	Salvin-Godman Coll.
<i>b.</i> ♂ ad.; <i>c.</i> ♂ juv.; <i>d, e.</i> ♀ ad. sk.	Costa Rica ( <i>E. R. Endres</i> ).	Gould Coll.

#### 78. DELATTRIA.

Delattria, <i>Bp. Consp. Av.</i> i. p. 70 (1850) .....	Type. D. henrici.
Chariessa, <i>Heine, J. f. Orn.</i> 1863, p. 178 .....	D. henrici.
Cœligena (Himelia), <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 203 (1875) .....	D. henrici.

*Range.* Southern Mexico, Guatemala, and Costa Rica.

#### *Key to the Species.*

- a.* Under surface greyish brown.  
*a'*. Throat rose-coloured ..... *henrici*, p. 308.  
*b'*. Throat violet ..... *margarethæ*, p. 310.  
*b.* Under surface white.  
*c'*. Throat uniform glittering green ..... *viridipallens*, p. 310.  
*d'*. Throat with a central glittering blue spot .... *hemileuca*, p. 311.

#### 1. *Delattria henrici*.

*Ornismya henrica*, *Less. & Delattre, Rev. Zool.* 1839, p. 17.  
*Delattria henrici*, *Bp. Consp.* i. p. 70; *id. Rev. Zool.* 1854, p. 253; *Gould, Mon. Troch.* ii. pl. 62 (Oct. 1854); *Scl. & Salv. Ibis*, 1859, p. 129;

- Scl. P. Z. S.* 1858, p. 279, 1859, pp. 367, 386; *Salv. Ibis*, 1860, p. 196, 1862, p. 96; *Scl. Cat. Am. B.* p. 289; *Villada, La Nat.* ii. p. 351; *Eudes-Desl. Ann. Mus. Caen*, i. p. 234.  
*Heliodoxa* ♂. *Lamprolæma henrici*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 742. ff. 4701-3.  
*Cœligena henrici*, *Cab. & Heine, Mus. Hein.* iii. p. 15; *Muls. Hist. Nat. Ois.-Mouches*, i. p. 182, iv. p. 159; *id. Ann. Soc. Linn. Lyon*, xxii. p. 203; *Elliot, Syn. Troch.* p. 30; *Ferrari-Perez, Pr. U. S. Nat. Mus.* ix. p. 157.  
*Chariessa henrici*, *F. Heine, J. f. Orn.* 1863, p. 178.  
*Lampornis henrici*, *Muls. & Ferr. Class. Troch.* p. 24.  
*Topaza henrica*, *Gray, Hand-l. B.* i. p. 134.

*Adult male.* Upper surface dark bronze-green, becoming brownish on the rump, the longest upper tail-coverts being dark steel-blue like the rectrices: crown dark, each feather obscurely edged with dark green; a long white postocular stripe; a rictal stripe fulvous; throat glittering rosy red; rest of the under surface grey, tinged especially on the flanks with green; under tail-coverts grey, faintly edged with white; lateral rectrices obscurely tipped with greyish; bill black. Total length about 4.5 inches, wing 2.6, tail 1.6, bill 1.

*Adult female.* Like the male, but with the whole under surface pale grey, the breast slightly rufescent, and the lateral rectrices more distinctly tipped with greyish.

*Hab.* Southern Mexico and the highlands of Guatemala, at an altitude of 7000 feet and upwards.

- |                              |   |                              |
|------------------------------|---|------------------------------|
| a-d. ♂ ad.; e, f. ♀ ad. sk.  | Jalapa, Mexico ( <i>de Oca</i> ).                                 | Salvin-Godman & Gould Colls. |
| g. ♂ ad. sk.                 | Montañas de Orizaba, Mexico, May ( <i>F. Ferrari-Perez</i> ).     | Salvin-Godman Coll.          |
| h. ♂ juv.; i, j. ♀ ad. sk.   | Coatepec (Jalapa), Mexico, Oct., Nov. ( <i>M. Trujillo</i> ).     | Salvin-Godman Coll.          |
| k. ♀ ad. sk.                 | Valley of Mexico ( <i>le Strange</i> ).                           | Salvin-Godman Coll.          |
| l. ♂ ad. sk.                 | Hacienda Eslava, Valley of Mexico, April ( <i>F. F.-Perez</i> ).  |                              |
| m. ♂ ad. sk.                 | Sierra Nevada de Colima, Dec. ( <i>W. B. Richardson</i> ).        | Salvin-Godman Coll.          |
| n, o. ♂ ad. sk.              | Volcan de Fuego, Guatemala, Nov. ( <i>O. S. &amp; F. D. G.</i> ). | Salvin-Godman Coll.          |
| p-r. ♂ ad.; s. ♀ ad. sk.     | Calderas, Volcan de Fuego, Sept. ( <i>O. S.</i> ).                | Salvin-Godman Coll.          |
| t. ♂ ad. sk.                 | Tonicapam, Altos of Guatemala, Sept. ( <i>O. S.</i> ).            | Gould Coll.                  |
| u. ♂ ad. sk.                 | Quezaltenango, Sept. ( <i>W. B. Richardson</i> ).                 | Salvin-Godman Coll.          |
| v. ♀ ad. sk.                 | San Martin, Quezaltenango, Oct. ( <i>W. B. R.</i> ).              | Salvin-Godman Coll.          |
| w-a'. ♂ ad.; b'. ♀ ad. sk.   | Chuipaché, Quezaltenango, Sept. ( <i>W. B. R.</i> ).              | Salvin-Godman Coll.          |
| c'. ♂ ad.; d', e'. ♀ ad. sk. | El Rincon, San Marcos, Oct., Nov. ( <i>W. B. R.</i> ).            | Salvin-Godman Coll.          |
| f. ♂ ad. st.                 | Mexico.   | Purchased.                   |

2. *Delattria margarethæ*.

*Delattria margarethæ*, *Salv. & Godm. Ibis*, 1889, p. 239.

*Adult male*. Similar to that of *D. henrici*, but with the throat of a violet hue, not rosy red.

*Hab.* Mexico, Sierra Madre del Sur, at an elevation of 8000 feet.

*a l.* ♂ ad.; *m*— Omilteme, Guerrero, July & Aug. Salvin-Godman Coll.  
*p.* ♀ ad. sk. (Mrs. H. H. Smith). (Types of the species.)

3. *Delattria viridipallens*.

*Trochilus viridipallens*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, ix. p. 321 (1846).

*Delattria viridipallens*, *Bp. Consp.* i. p. 70; *Gould, Mon. Troch.* ii. pl. 63 (May 1855); *id. Intr. Troch.* p. 60; *Scl. & Salv. Ibis*, 1859, p. 129; *Salv. Ibis*, 1859, p. 468, 1860, pp. 195, 262, 263; *Scl. Cat. Am. B.* p. 289; *Endes-Desl. Ann. Mus. Caen*, i. p. 235.

*Agyrtria viridipallens*, *Reich. Aufz. d. Col.* p. 10; *id. Troch. Enum.* p. 7, t. 758. ff. 4746-47.

*Thaumantias viridipallens*, *Bp. Rev. Zool.* 1854, p. 255.

*Chariessa viridipallens*, *F. Heine, J. f. Orn.* 1863, p. 178.

*Lampornis viridipallens*, *Muls. & Ferr. Class. Troch.* p. 24.

*Cœligena viridipallens*, *Muls. Hist. Nat. Ois.-Mouches*, i. p. 185, iv. p. 159; *id. Ann. Soc. Linn. Lyon*, xxii. p. 203; *Elliot, Syn. Troch.* p. 31.

*Topaza viridipallens*, *Gray, Hand-l. B.* i. p. 134.

*Adult male*. Upper surface bronze-green, becoming pure green on the crown, bronze on the rump, the longest tail-coverts being dark greyish purple like the middle rectrices, outer rectrices paler and greyer; a long postocular white stripe; ear-coverts greenish black; under surface white, the throat-feathers with a pale green discal spot, flanks and sides of the breast washed with dull green; under tail-coverts dull greyish; bill black. Total length about 4.4 inches, wing 2.7, tail 1.65, bill 0.9.

*Adult female*. Like the male, but the whole under surface, including the throat, white; the lateral rectrices tipped with greyish.

*Hab.* Guatemala, Highland forests at an elevation of from 5000 to 7000 feet.

- a-i.* ♂ ad.; *j.* ♀ ad. sk. Santa Maria, near Quezaltenango, Guatemala, Aug., Sept. (H. B. Richardson). Salvin-Godman Coll.
- k.* ♂ ad.; *l.* ♀ ad. sk. Pie de la Cuesta, San Marcos (W. B. R.). Salvin-Godman Coll.
- m.* ♂ ad.; *n, o.* ♀ ad. sk. Volcan de Fuego, Guatemala, Sept. (O. S. & F. D. G.). Salvin-Godman Coll.
- p.* ♂ ad.; *q.* ♀ ad. sk. Chilasco, Guatemala, Jan. (O. S. & F. D. G.). Salvin-Godman Coll.
- r, s.* ♂ ad. sk. Coban, Guatemala, Nov. (O. S.). Salvin-Godman & Gould Colls.
- t, u.* ♂ ad.; *v.* ♀ ad. sk. Guatemala (Skinner). Gould Coll.



4. *Delattria hemileuca*.

*Oreopyra hemileuca*, *Salv. P. Z. S.* 1864, p. 584; *Lawr. Ann. Lyc. N. Y.* ix. p. 125; v. *Frantz. J. f. Orn.* 1869, p. 310; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 187, pl. 118; *id. Ann. Soc. Linn. Lyon*, xvii. p. 203; *Boucard, P. Z. S.* 1878, p. 79; *Eudes-Desl. Ann. Mus. Caen*, i. p. 237.

*Coeligena hemileuca*, *Elliot, Syn. II. Birds*, p. 31.

*Trochilus hemileucus*, *Gray, Hand-l. B.* i. p. 138.

*Adult male*. Upper surface, including the central tail-feathers, grass-green, the latter tinged with bronze; crown glittering green; the nape in certain lights black; a long white postocular stripe; throat glittering green, with a large central blue patch; rest of the under surface white; flanks green; centres of the under tail-feathers greyish; lateral rectrices greyish green, with a dark sub-terminal bar, bill black. Total length about 4 inches, wing 2.4, tail 1.5, bill 0.9.

*Adult female*. Like the male, but with the crown less glittering; the throat white, with a few small green spots and no blue patch; the lateral rectrices paler at the tip.

*Hab.* Costa Rica.

- |  |   |                         |   |
|--|---|-------------------------|---|
| <i>a, b</i> , ♂ ad.; <i>c, d</i> .       | Turrialba, Costa Rica ( <i>E. Arcé</i> ). | Salvin-Godman Coll.     | } |
| ♀ ad. sk.                                |   |                         |   |
| <i>e</i> . ♂ ad. sk.                     | Tucuriqui, Costa Rica ( <i>Arcé</i> ).    | Salvin-Godman Coll.     | } |
|  |   | (Types of the species.) |   |
| <i>f, h</i> . ♂ ad; <i>i</i> . ♀ ad. sk. | Costa Rica.                               | Gould Coll.             |   |

## 79. CLYTOLEMA.

Type.

*Clytolæma*, *Gould, Mon. Troch.* iv. pl. 249 (Oct. 1853). *C. rubinea*.

*Polyplancta*, *Heine, J. f. Orn.* 1863, p. 182 . . . . . *C. aurescens*.

*Range*. Upper Amazon Valley and Eastern Brazil.

*Key to the Species.*

- a*. Breast and a patch on the crown glittering green; a coppery-red gular spot . . . . . *rubinea*, p. 311.
- b*. Breast chestnut; a patch on the crown glittering violet; no gular spot. . . . . *aurescens*, p. 313.

1. *Clytolæma rubinea*.

*Mellisuga brasiliensis gutture rubro*, *Briss. Orn.* iii. p. 720, pl. 37. f. 4.

Oiseau-Mouche à gorge rouge du Brésil, *Buff. Pl. Ent.* 276. f. 4.

Rubis émeraude, *Buff. Hist. Nat. Ois.* vi. p. 31.

Ruby-throated Humming Bird, *Lath. Syn.* i. pt. 2, p. 768.

Dusky-crowned Humming Bird, *Lath. Syn.* i. pt. 2, p. 776.

- Trochilus rubineus*, *Gm. Syst. Nat.* i. p. 493; *Lath. Ind. Orn.* i. p. 312; *Vieill. N. Dict. d'Hist. N.* vii. p. 371; *id. Enc. Méth.* p. 568; *Less. Ind. Gén. Troch.* p. xxxv; *Cab. in Schomb. Reise n. Guiana*, iii. p. 767; *Gray, Hand-l. B.* i. p. 140.
- Trochilus obscurus*, *Gm. Syst. Nat.* i. p. 495; *Vieill. N. Dict. d'Hist. N.* vii. p. 361; *id. Enc. Méth.* p. 573.
- Le Grand Rubis, *Aud. Ois. Dor.* i. p. 70, pl. 27.
- L'Oiseau Mouche brun-gris, *Aud. Ois. Dor.* i. p. 72, pl. 28.
- Trochilus ruficaudatus*, *Vieill. N. Dict. d'Hist. N.* vii. p. 370; *id. Enc. Méth.* p. 573.
- Ornismya rubinea*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxiv, 146, pls. 44, 45, 46.
- Heliomaster rubineus*, *Bp. Consp.* i. p. 70.
- Clytolæma rubinea*, *Gould, Mon. Troch.* iv. pl. 249 (Oct. 1853); *id. Intr. Troch.* p. 134; *Bp. Rev. Zool.* 1854, p. 254; *Cab. & Heine, Mus. Hein.* iii. p. 30; *Scl. Cat. Am. B.* p. 309; *Muls. & Ferr. Class. Troch.* p. 59; *Pelz. Orn. Bras.* p. 31; *Hamilton, Ibis*, 1871, p. 307; *Berl. J. f. Orn.* 1873, p. 275; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 107; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 227; *id. Ann. Soc. Linn. Lyon*, xxii. p. 213; *Elliot, Syn. Troch.* p. 56; *Eudes-Desl. Ann. Mus. Caen*, i. p. 251; *Salv. Cat. Strickl. Coll.* p. 367.
- Heliodoxa a. Phaiolæma rubinea*, *Reich. Troch. Enum.* p. 6, pl. 744. ff. 4706-9.
- Calothorax rubineus*, *Burm. Syst. Ueb.* ii. p. 240.

*Adult male.* Upper surface shining reddish bronze; crown dark green; forehead and a line along the middle of the crown tapering posteriorly glittering green; chin blackish; throat glittering coppery red; breast glittering green; rest of the under surface dusky, washed with green; under tail-coverts green, edged with pale chestnut; edge of outermost primary and under wing-coverts chestnut; tail chestnut, central rectrices and edges or tips of the laterals golden bronze; bill black. Total length about 4·8 inches, wing 2·8; tail, central rectrices 1·5, lateral 1·8; bill 1.

*Adult female.* Crown like the back, shining green; under surface chestnut, paler on the throat; lateral rectrices (except the outermost pair, which are plain chestnut) tipped with buff.

*Young males* are at first like the females, and gradually assume their sexual characteristic plumage first on the throat and on the abdomen.

Two males (*q* and *r*) in the Gould Collection are in peculiar plumage. The upper and under surface is dusky, the bright throat is of a dull greenish leaden hue, and the median stripe of the crown and breast (normally of a glittering green) are of a dull purple.

*Hab.* South Brazil.

- |                                      |   |                              |
|--------------------------------------|---|------------------------------|
| <i>a.</i> ♂ ad.; <i>b.</i> ♀ ad. sk. | Rio, Brazil ( <i>Youds</i> ).               | Salvin-Godman Coll.          |
| <i>c.</i> ♀ ad. sk.                  | Rio Claro, Goyaz, Brazil ( <i>Joyner</i> ). | Salvin-Godman Coll.          |
| <i>d-h</i> ♂ ad. sk.                 | Brazil (Rio make).                          | Salvin-Godman & Gould Colls. |

<i>i.</i> ♂ ad. sk.	Brazil.	E. Fielding, Esq. [P.].
<i>j.</i> ♂ ad. sk.	Brazil.	Mrs. [P.].
<i>k-n.</i> ♂ juv.; <i>o, p.</i> ♂ var.; <i>q.</i> ♀ var. sk.	Brazil.	Gould Coll.
<i>r.</i> ♂ ad.; <i>s-n.</i> ♀ ad. st.	[Brazil.]	J. Gould [P.].
<i>v.</i> ♀ ad. st.	Rio, Brazil.	R. H. Wood [P.].

## 2. *Clytolæma aurescens.*

*Trochilus* (Lampornis) *aurescens*, *Gould, P. Z. S.* 1846, p. 88.

*Lampornis aurescens*, *Bp. Consp.* i. p. 72.

*Margarochrysis aurescens*, *Reich. Aufz. d. Col.* p. 11.

*Campylopterus aurescens*, *Bp. Rev. Zool.* 1854, p. 250.

*Clytolæma aurescens*, *Gould, Mon. Troch.* iv. pl. 250 (May 1861);  
*id. Intr.* p. 134; *Scl. & Salv. P. Z. S.* 1866, p. 194, 1867, pp. 753,  
979, 1873, p. 288; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 225; *id.*  
*Ann. Soc. Linn. Lyon*, xxii. p. 213; *Elliot, Syn. Troch.* p. 57;  
*Eudes-Desl. Ann. Mus. Caen*, i. p. 254; *Tacz. Orn. Pér.* i. p. 387;  
*d'Hamonv. Bull. Soc. Zool. Fr.* xi. p. 316.

*Polyplancta aurescens*, *Heine, J. f. Orn.* 1863, p. 182.

*Trochilus aurescens*, *Gray, Hand-l. B.* i. p. 140.

*Clytolæma azurescens* (!), *Muls. & Ferr. Class. Troch.* p. 59.

*Adult male.* Upper surface shining green; crown black viewed from the front, with a glittering violet patch extending from the forehead backwards on the middle of the crown to a point between the eyes; chin black; sides and front of the neck glittering golden green; a wide pectoral band chestnut, darkest in the middle; rest of the under surface, including the under tail-coverts, shining golden green; edge of the outermost primary dusky white; under wing-coverts shining green, the longest purple-black; central rectrices golden green, lateral chestnut, tipped and edged with golden green; bill black. Total length about 4.8 inches, wing 2.6; tail, central rectrices 1.3, lateral 1.45; bill 1.

*Female.* Similar to the male but duller, and the forehead dark green like the crown not glittering blue.

*Young males* have the crown like the back, the glittering violet feathers being gradually assumed; the neck is not so bright and the chestnut pectoral band not so definite as in the adult.

*Hab.* Valley of the Upper Amazons and its tributaries.

<i>a.</i> ♂ ad.; <i>b.</i> ♀ ad. sk.	Rotuno, Ecuador ( <i>Buckley</i> ).	Salvin-Godman & Gould Colls.
<i>c.</i> ♂ ad.; <i>d.</i> ♀ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>e, f.</i> ♂ ad. sk.	Chamicuros, Peru ( <i>J. Hauv-</i> <i>well</i> ).	Gould Coll.
<i>g.</i> ♀ ad. sk.	Upper Amazons.	E. Bartlett [C.].
<i>h-l.</i> ♂ ad.; <i>m.</i> ♂ juv.; <i>n, o.</i> ♀ ad. sk.	Pebas, Amazons, Feb., June, & July ( <i>J. Hauvwell</i> ).	Salvin-Godman, Gould, & Selater Colls.
<i>p.</i> Juv. sk.	Ega, Amazons.	H. W. Bates [C.].

## 80. LAMPROLÆMA.

Lamprolæma, *Gould, Mon. Troch.* ii. pl. 61 (May 1856) . . . Type. L. rhami.

*Range.* Southern Mexico and Guatemala.

## 1. Lamprolæma rhami.

*Ornismya rhami*, *Less. Rev. Zool.* 1838, p. 315; *Less. & Delattre, Rev. Zool.* 1839, p. 13.

*Lampornis rhami*, *Bp. Consp.* i. p. 72.

*Delatria rhami*, *Bp. Rev. Zool.* 1854, p. 253; *Scl. P. Z. S.* 1858, p. 297, 1859, p. 367.

*Heliodoxa*  $\delta$ . *Lamprokema rhami*, *Reich. Troch. Enum.* p. 6, pl. 746. ff. 4712-13.

*Lamprolæma rhami*, *Gould, Mon. Troch.* ii. pl. 61 (May 1856); *id. Intr. Troch.* p. 59; *Scl. & Salv. Ibis*, 1859, p. 129; *Salv. Ibis*, 1859, p. 468, 1860, p. 196; *Cab. & Heine, Mus. Hein.* iii. p. 30; *Scl. Cat. Am. B.* p. 289; *id. P. Z. S.* 1864, p. 176; *de Oca, La Nat.* iii. p. 25; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 218, pl. 48, iv. p. 206; *id. Ann. Soc. Linn. Lyon*, xxii. p. 213; *Elliot, Syn. Troch.* p. 32; *Endes-Dest. Ann. Mus. Cuen.* i. p. 246.

*Clytolæma rhami*, *Muls. & Verr. Class. Troch.* p. 59.

*Trochilus rhami*, *Gray, Hand-l. B.* i. p. 140.

*Adult male.* Upper surface grass-green, brighter on the crown, duller on the rump; wings chestnut-red—the larger coverts, the secondaries narrowly, and the primaries widely edged with black; tail deep reddish purple; throat rosy red, on either side black; chest rich purple; abdomen dull black, the flanks washed with dark green; under tail-coverts purple black; bill black. Total length about 5 inches, wing 3.2, tail 2, bill 0.8.

*Adult female.* Under surface dark greyish brown, the feathers of the chest and flanks with obscure greenish spots; the throat usually has a few of the rosy-red feathers of the male.

In the maturing young males the throat-patch extends, and the chest gradually changes from green to blue; the dark edges of the wing-feathers become narrower.

*Hab.* Southern Mexico and Guatemala, in mountain-forests at an elevation of from 6000 to 8000 feet.

<i>a-c.</i> ♂ ad.; <i>d.</i> ♀ ad. sk.	Cofre de Perote, Mexico, July & Nov. ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
<i>e-g.</i> ♂ ad. sk.	Coatepec (Jalapa), Mexico, Nov. ( <i>M. T.</i> )	Salvin-Godman Coll.
<i>h.</i> ♂ juv.; <i>i.</i> ♀ ad. sk.	Coatepec (Jalapa), July ( <i>F. Ferrari-Perez</i> ).	Salvin-Godman Coll.
<i>j.</i> ♂ ad. sk.	Jalapa, July ( <i>M. T.</i> ).	Salvin-Godman Coll.
<i>k, l.</i> ♂ ad. sk.	Jalapa ( <i>de Oca</i> ).	Salvin-Godman & Gould Colls.
<i>m-o.</i> ♂ ad.; <i>p.</i> ♀ ad. sk.	Cordova, Mexico ( <i>Salle</i> ).	Gould Coll.
<i>q.</i> ♀ ad. sk.	S. Mexico ( <i>Floresi</i> ).	Gould Coll.

<i>r-u.</i> ♂ ad. sk.	Omiteme, Guerrero, Mexico, July, Aug. ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
<i>v, w.</i> ♂ ad. sk.	Tonagua, Mexico, Feb. ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
<i>x.</i> ♀ ad. sk.	Totontepec, Feb. ( <i>M. T.</i> ).	Salvin-Godman Coll.
<i>y.</i> ♂ ad. sk.	Oaxaca, Mexico ( <i>Fenochio</i> ).	Salvin-Godman Coll.
<i>z.</i> ♂ ad.; <i>a', b'.</i> ♂ juv.; <i>c'.</i> ♀ ad. sk.	(Mexican skins.)	Gould Coll.
<i>d'-j'.</i> ♂ ad.; <i>j''.</i> ♀ ad. sk.	Santa Maria, near Quezalte- nango, Guatemala, Aug. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>k'-n'.</i> ♂ ad. sk.	San Martin, Quezaltenango, Oct. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>o'-q'.</i> ♂ ad.; <i>r'.</i> ♀ ad. sk.	Calderas, Volcan de Fuego, Guatemala, Sept. ( <i>O. S.</i> ).	Salvin-Godman Coll.
<i>s'.</i> ♂ ad.; <i>t'.</i> ♀ ad. sk.	Volcan de Fuego, Guatemala, Dec. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
<i>u', v'.</i> ♀ ad. sk.	Chilasco, Guatemala, Jan. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
<i>w'.</i> ♀ ad. sk.	Cahabon, Guatemala.	Gould Coll.
<i>x'.</i> ♂ ad. st.	Mexico.	Purchased.

81. DOCIMASTES.

Docimastes, <i>Gould, Mon. Troch.</i> iv. pl. 233 (June 1849)	Type. D. ensiferus.
Docimaster, <i>Bp. Consp. Av.</i> i. p. 74. . . . .	D. ensiferus.

*Range.* Colombia and Ecuador.

1. Docimastes ensiferus.

*Ornismya ensifera*, *Boiss. Rev. Zool.* 1839, p. 354; *id. Mag. Zool.* 1840, *Ois.* pl. 15; *Lodd. P. Z. S.* 1843, p. 122.

*Trochilus derbiamus*, *Fraser, P. Z. S.* 1840, p. 16.

*Docimastes ensiferus*, *Gould, Mon. Troch.* iv. pl. 233 (June 1849); *id. Intr. Troch.* p. 129; *Reich. Aufz. d. Col.* p. 14; *Scl. P. Z. S.* 1860, p. 81; *id. Cat. Am. B.* p. 307; *Muls. & Verr. Class. Troch.* p. 60; *Whitely, P. Z. S.* 1873, p. 189; *Scl. & Salv. P. Z. S.* 1875, p. 235; *Tacz. P. Z. S.* 1874, p. 543, 1880, p. 204, 1882, p. 38; *id. Orn. Pér.* i. p. 375; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 286, pl. 60, iv. p. 211; *id. Ann. Soc. Linn. Lyon*, xxii. p. 215; *Elliot, Syn. Troch.* p. 61; *Bert. J. f. Orn.* 1887, p. 323.

*Docimaster ensiferus*, *Bp. Consp.* i. p. 74; *id. Rev. Zool.* 1854, p. 251.

*Docimastes schliephacki*, *Heine, J. f. Orn.* 1863, p. 215; *Gould, P. Z. S.* 1870, p. 803.

*Trochilus ensiferus*, *Gray, Hand-l. B.* i. p. 136.

*Docimastes ensifer schliephacki*, *Bert. & Tacz. P. Z. S.* 1884, p. 304, 1885, p. 105.

*Adult male.* Upper surface dark shining bronzy green, the crown and nape tinged with copper lustre; cheeks and throat black; rest of the under surface dark shining green; the breast

glittering green; under tail-coverts green, edged with white; tail bronzy green; bill black; feet yellow. Total length about 8·5 inches, wing 3·1; tail, central rectrices 1·35, lateral 2·5; bill 4·1.

*Female.* Like the male on the upper surface; beneath white, each feather with a green discal spot, larger and brighter on the breast and flanks; outermost rectrix on either side whitish on the outer web nearly to the tip, and with a whitish tip; bill usually longer, 4·7 inches.

In *young males* the feathers of the under surface have narrow whitish edges, and the black of the throat is thus less intense, and the green of the abdomen and breast less lustrous.

*O. ensifera*, Boiss., of which *T. derbianus*, Fraser, is simply synonymous, was based upon Colombian specimens. *D. schliephacki*, Heine, applies to the Ecuador bird, in which the bill is of rather longer average length.

*Hab.* Andes from Venezuela and Colombia to Peru.

a. ♀ ad. sk.	Sierra Nevada, Merida, Venezuela, 8000 ft. ( <i>Goering</i> ).	Salvin-Godman Coll.
b-d. ♂ ad.; e. ♂ juv.; f-i. ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
j. ♂ ad. sk.	Pasto, Ecuador, Feb. ( <i>Lehmann</i> ).	Salvin-Godman Coll.
k. ♂ ad.; l. ♀ ad. sk.	Riobamba, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
m. ♂ ad. sk.	San Lucas, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
n. ♀ ad. sk.	Ecuador ( <i>Fraser</i> ).	Gould Coll.
o-s. ♂ ad.; t, u. ♀ ad. sk.	Quito, Ecuador ( <i>Jameson</i> ).	Gould Coll.
v. ♂ ad.; w. ♀ ad. sk.	Ecuador.	Salvin-Godman & Gould Colls.
x. ♂ ad.; y. ♀ ad. st.		Purchased.

## 82. EUGENIA.

Type.

*Eugenia*, *Gould, Mon. Troch.* iv. pl. 234 (May 1856) . . . *E. imperatrix*.

*Range.* Ecuador.

### 1. *Eugenia imperatrix*.

*Eugenia imperatrix*, *Gould, P. Z. S.* 1855, p. 192; *id. Mon. Troch.* iv. pl. 234 (May 1856); *id. Intr. Troch.* p. 130; *Jameson & Fraser, Ibis*, 1859, p. 400; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 198, pl. 45; *id. Ann. Soc. Linn. Lyon*, xxii. p. 212; *Elliot, Syn. Troch.* p. 62; *Eudes-Desl. Ann. Mus. Caen*, i. p. 292.

*Clytolæma imperatrix*, *Muls. & Verr. Class. Troch.* p. 59.

*Trochilus imperatrix*, *Gray, Hand-l. B.* i. p. 137.

*Adult male.* Upper surface dark shining grass-green, darker on the middle of the back; forehead, throat, and under surface as far as the abdomen glittering dark green, turning into glittering golden

green on the abdomen; under tail-coverts dark green; a glittering rosy-coppery spot on the middle of the throat; tail greenish black; bill black. Total length 5.5 inches, wing 3; tail, central rectrices 0.9, lateral 2.5; bill 1.4.

*Female.* Upper surface dark shining grass-green; under surface white, on the abdomen pale buff; each feather of the sides of the neck and breast with a central green spot, these spots on the abdomen being of a more golden hue.

*Young males* are dull green on the upper surface, rather brighter beneath, with a more golden tint on the abdomen; the chin at first is chestnut, the middle of the throat black.

*Hab.* Ecuador.

a. ♂ ad. sk.	Near Pasto, Ecuador ( <i>Lehmann</i> ).	Salvin-Godman Coll.
b, c. ♂ ad.; d. ♂ juv.; e, f. ♀ ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
g-n. ♂ ad.; o, p. ♂ juv.; q-s. ♀ ad. sk.	Environs of Quito, Ecuador ( <i>Jameson</i> ).	Gould Coll. (Probably types of the species.)
t, u ♂ ad.; v-y. ♀ ad. sk.	Ecuador.	Salvin-Godman & Gould Colls.

### 83. HELIODOXA.

	Type.
Heliodoxa, <i>Gould, P. Z. S.</i> 1849, p. 95	H. jacula.
Leadbeatera, <i>Bp. Consp. Av.</i> i. p. 70	H. leadbeateri.
Aspasta, <i>Heine, J. f. Orn.</i> 1863, p. 179	H. leadbeateri.
Hypolia, <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 212 (1875)	H. leadbeateri.
Xanthogenyx, <i>d'Hamonville, Bull. Soc. Zool. Fr.</i> viii. p. 77 (1883)	H. xanthogonys.

*Range.* Costa Rica, Panama, Colombia, to Bolivia, Venezuela, and Guiana.

#### *Key to the Species.*

- a. Middle of the crown glittering blue; throat glittering green; without a gular spot . . . . . *leadbeateri*, p. 317.
- b. Middle of the crown glittering green; throat glittering green; with a blue gular spot.
- a'. Mandible wholly black.
- a''. Entire crown glittering green. . . . . *jacula*, p. 319.
- b'. Middle of the crown glittering green; sides black . . . . . *jamesoni*, p. 320.
- b''. Mandible, except the tip, yellow. . . . . *xanthogonys*, p. 321.

#### 1. *Heliodoxa leadbeateri*.

*Trochilus leadbeateri*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, vi. p. 43 (1843); *id. Rev. Zool.* 1843, p. 102; *Gray, Hand-l. B.* i. p. 137.

*Trochilus otero*, *Tsch. Arch. f. Naturg.* 1844, i. p. 298; *id. Faun. Per.* p. 249, pl. 23. f. 2.

- Leadbeatera grata, *Bp. Consp.* i. p. 70; *id. Rev. Zool.* 1854, p. 251; *Gould, Intr. Troch.* p. 75.  
 Cœligena (Leadbeatera) sagitta, *Reich. Aufz. d. Col.* p. 7.  
 Cœligena sagitta, *Reich. Aufz. d. Col.* p. 23; *id. Troch. Enum.* p. 4, pl. 689. f. 4525, pl. 690. ff. 4527-28.  
 Cœligena (Leadbeatera) typica, *Reich. Aufz. d. Col.* p. 7.  
 Leadbeatera otero, *Bp. Rev. Zool.* 1854, p. 251; *Gould, Intr. Troch.* p. 75; *Tacz. P. Z. S.* 1874, p. 543.  
 Cœligena  $\delta$ . Leadbeatera otero, *Reich. Troch. Enum.* p. 3, pl. 689. ff. 4523-24.  
 Heliodoxa leadbeateri, *Gould, Mon. Troch.* ii. pl. 97 (Sept. 1860); *Cab. & Heine, Mus. Hein.* iii. p. 22; *Sel. Cat. Am. B.* p. 293; *Elliot, Ibis*, 1876, p. 7; *id. Syn. Troch.* p. 65; *Sel. & Salc. P. Z. S.* 1879, p. 627; *Eudes-Dest. Ann. Mus. Caen*, i. p. 283.  
 Heliodoxa otero, *Gould, Mon. Troch.* ii. pl. 96 (Sept. 1860); *Cab. & Heine, Mus. Hein.* iii. p. 22; *Eudes-Dest. Ann. Mus. Caen*, i. p. 285; *Tacz. P. Z. S.* 1882, p. 85.  
 Leadbeatera splendens, *Gould, Intr. Troch.* p. 74.  
 Heliodoxa sagitta, *Cab. & Heine, Mus. Hein.* iii. p. 22.  
 Aspasta leadbeateri, *Heine, J. f. Orn.* 1863, p. 179.  
 Aspasta otero, *Heine, J. f. Orn.* 1863, p. 180.  
 Aspasta splendens, *Heine, J. f. Orn.* 1863, p. 180.  
 Hypolia leadbeateri, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 207; *id. Ann. Soc. Lim. Lyon*, xxii. p. 213.  
 Clytolæma leadbeateri, var. otero, *Muls. & Verr. Class. Troch.* p. 59.  
 Clytolæma leadbeateri, *Muls. & Verr. Class. Troch.* p. 59.  
 Hypolia otero, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 209.  
 Hypolia splendens, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 211.  
 Heliodoxa splendens, *Eudes-Dest. Ann. Mus. Caen*, i. p. 286.  
 Heliodoxa leadbeateri parvula, *Berl. J. f. Orn.* 1887, p. 320.

*Adult male.* Upper surface dark grass-green, more bronzy on the hind neck and upper tail-coverts; crown rich glittering violet-blue, tapering towards the nape, where it is bordered on either side with black; under surface glittering grass-green, brighter on the throat; under tail-coverts narrowly edged with white; tail steel-blue, the central rectrices tinged with bronze; bill black. Total length about 4.5 inches, wing 2.75; tail, central rectrices 1.35, lateral 1.9; bill 0.9.

*Female.* Crown dark shining green; under surface white, each feather with a shining green disc; middle of the abdomen buff; under tail-coverts dull green, edged with dingy buff; lateral rectrices tipped with white.

*Young males* have the feathers of the upper surface edged with rufous, wider and darker on the crown, the throat rufous where the glittering green feathers of the adult are gradually assumed.

Very old females have a patch of light blue feathers on the crown of the same shape as the violet patch of the males.

*Hab.* Andes of South America from Venezuela to Bolivia.

- |                    |  |                     |
|--------------------|--|---------------------|
| a. ♂ ad.; b. ♀ ad. | Caracas, Venezuela.                    | E. Dyson [C.].      |
| sk.                |  |                     |
| c. ♂ ad. sk.       | Caracas, Venezuela ( <i>Goering</i> ). | Salvin-Godman Coll. |
| d. ♀ ad. sk.       | Caracas, Venezuela.                    | Gould Coll.         |



<i>e.</i> ♂ ad. sk.	Puerto Caballo, Venezuela.	Slater Coll.
<i>f.</i> ♂ juv.; <i>g.</i> ♀ ad. sk.	Venezuela ( <i>Spence</i> ).	Slater Coll.
<i>h, i.</i> ♂ ad. sk.	Venezuela.	Salvin-Godman & Gould Colls.
<i>j.</i> ♀ ad. sk.	Venezuela ( <i>Goering</i> ).	Gould Coll.
<i>k-g.</i> ♂ ad.; <i>r-t.</i> ♂ juv.; <i>u-b'.</i> ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman, Gould, & Slater Colls.
<i>c'-e'.</i> ♂ ad.; <i>f', g'.</i> ♀ ad. sk.	Popayan, Colombia.	Gould Coll.
<i>h'.</i> ♂ ad. sk.	Ecuador.	Gould Coll.
<i>i-k'.</i> Sk.	Ecuador.	Gould Coll.
<i>l-n'.</i> ♂ ad.; <i>o'.</i> ♀ ad. sk.	La Paz, Bolivia ( <i>Bridges</i> ).	Gould Coll.
<i>p'.</i> ♂ juv. sk.	Tilotilo, Yungas, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>q'.</i> ♂ ad.; <i>r'.</i> ♀ ad. sk.	Chairo, Yungas ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>s'.</i> ♂ juv. st.	Bolivia.	T. Bridges [C.].
<i>t'.</i> ♂ ad. st.		Purchased.

## 2. *Heliodoxa jacula*.

*Heliodoxa jacula*, *Gould*, *P. Z. S.* 1849, p. 96; *id.* *Mon. Troch.* ii. pl. 94 (Sept. 1858); *id.* *Intr. Troch.* p. 74; *id.* *Ibis*, 1867, p. 247; *Cab. & Heine, Mus. Hein.* iii. p. 22; *Salv. P. Z. S.* 1867, p. 154, 1870, p. 202; *id.* *Ibis*, 1869, p. 283; *Laur. Ann. Lyc. N. Y.* ix. p. 122; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 202, pl. 46; *id.* *Ann. Soc. Linn. Lyon*, xxii. p. 212; *Boucard, P. Z. S.* 1878, p. 59; *Elliot, Syn. Troch.* p. 64; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 287; *Berl. J. f. Orn.* 1887, p. 320.

*Leadbeatera jacula*, *Bp. Consp.* i. p. 70; *id.* *Rev. Zool.* 1854, p. 251.

*Cœligena* (*Leadbeatera*) *jacula*, *Reich. Aufz. d. Col.* p. 7.

*Cœligena jacula*, *Reich. Troch. Enum.* p. 4, pl. 688. f. 4522.

*Heliodoxa henryi*, *Laur. Ann. Lyc. N. Y.* vii. p. 402.

*Clytolæma jacula*, *Muls. & Verr. Class. Troch.* p. 59.

*Trochilus jacula*, *Gray, Hand-l. B.* i. p. 137.

*Adult male.* Upper surface dark shining grass-green; crown and under surface glittering grass-green, duller on the abdomen; a glittering blue gular spot; under tail-coverts greenish brown; tail steel-blue, central rectrices tinged with bronze; bill black. Total length about 4.7 inches, wing 2.8; tail, central rectrices 1.35, lateral 2; bill 1.1.

*Female.* Crown like the back, dark shining grass-green; under surface white, each feather with a bright green discal spot; lateral rectrices tipped with white.

*Young males* have rufous throats; the blue gular spot is developed at an early stage, some time before the bright feathers of the crown begin to appear.

Birds I take to be very old females have a shining green crown of the same shape as that of the male, but paler. The under surface is normal.

Adult males from Central America have rather less bronze on the central rectrices.

*Hab.* Costa Rica, Panama, and Colombia.

a. ♂ ad.; b. ♂ juv.; c, d. ♀ ad.; e. ♀ juv. sk.	Tucurriqui, Costa Rica (Arcé).	Salvin-Godman & Gould Colls.
f. ♀ ad. sk.	Costa Rica ( <i>Carmiol</i> ).	Gould Coll.
g, h. ♂ juv. sk.	Costa Rica ( <i>Eudres</i> ).	Gould Coll.
i. ♂ juv.; j. ♀ ad. sk.	Cordillera de Tolé, Panama (Arcé).	Salvin-Godman Coll.
k. ♀ ad. sk.	Boquete de Chitra, Panama (Arcé).	Gould Coll.
l. ♀ ad. sk.	Castillo, Panama ( <i>Arcé</i> ).	Gould Coll.
m-q. ♂ ad.; r, s. ♂ juv.; t. ♀ ad. sk.	Calovevora, Panama ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
u. ♂ ad. sk.	Santiago de Veraguas, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
v, w. ♂ ad.; x. ♂ juv. sk.	Colombia (Bogota make).	Gould Coll.

### 3. *Heliodoxa jamesoni*.

*Trochilus jamesoni*, *Bourc. Compt. Rend.* xxxii. p. 187; *id. Rev. Zool.* 1851, p. 97; *Gray, Hand-l. B.* i. p. 137.

*Cœligena* (*Leadbeatera*) *jamesoni*, *Reich. Aufz. d. Col.* p. 7.

*Leadbeatera jamesoni*, *Bp. Rev. Zool.* 1854, p. 251.

*Heliodoxa jamesoni*, *Gould, Mon. Troch.* ii. pl. 95 (May 1861); *id. Intr. Troch.* p. 74; *id. P. Z. S.* 1870, p. 803; *Sel. P. Z. S.* 1860, p. 94; *id. Cat. Am. B.* p. 293; *Cab. & Heine, Mus. Hein.* iii. p. 22; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 204; *id. Ann. Soc. Linn. Lyon*, xxii. p. 212; *Elliot, Syn. Troch.* p. 65; *Eudes-Desl. Ann. Mus. Caen*, i. p. 289; *Berl. & Tacz. P. Z. S.* 1883, p. 567, 1884, p. 304.

*Clytolæma jamesoni*, *Muls. & Ferr. Class. Troch.* p. 59.

*Adult male.* Very similar to that of *H. jacula*, but rather larger and with a stouter bill; the crown is black, the forehead glittering green, produced along the middle of the crown as a comparatively narrow stripe.

The *female* is perhaps only distinguishable from that of *H. jacula* by its longer bill.

*Hab.* Ecuador.

a-c. ♂ ad.; d. ♂ juv.; e-j. ♀ ad. sk.	Environs of Quito, Ecuador ( <i>Jameson</i> ).	Gould Coll.
k-m. ♂ ad.; n, o. ♀ ad. sk.	Nanegal, Ecuador ( <i>Fraser</i> ).	Gould & Sclater Colls.
p. ♂ juv. sk.	Citado, Ecuador ( <i>Buckley</i> ).	Gould Coll.
q-s. ♂ ad.; t. ♀ ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
u. ♂ ad.; v. ♀ ad. sk.	Ecuador.	Salvin-Godman Coll.

4. *Heliodoxa xanthogonys*.

*Heliodoxa xanthogonys*, *Salv. & Godm. Ibis*, 1882, p. 80; *Whitely, Ibis*, 1884, p. 357; *Salv. Ibis*, 1885, p. 433.  
*Xanthogenyx salvini*, *d'Hamonv. Bull. Soc. Zool. Fr.* viii. p. 77 (1883).

*Adult male*. Upper surface dark shining grass-green; crown black, with a comparatively narrow glittering green central stripe extending from the forehead; under surface glittering green, with a slight blue tinge; gular spot bright blue; tail steel-blue, the central rectrices slightly tinged with purple; bill black, the mandible for two thirds of its length yellow. Total length about 4 inches, wing 2.45; tail (nearly even), central rectrices 1.3, lateral 1.4; bill 0.95.

*Female*. Uniform dark grass-green above; under surface white, each feather with a bright green discal spot; lateral rectrices tipped with white.

*Young males* have dark throats on which the bright feathers of the adult begin to appear; there are also some rufous feathers about the gape.

*Hab.* British Guiana.

- a. ♂ ad.; b, c. ♀ Merumé Mts., Brit. Guiana, Salvin-Godman Coll.  
 ad. sk. June, July (*H. Whitely*). (Types of the species.)  
 d. ♂ juv. sk. Roraima, Brit. Guiana, Jan. Salvin-Godman Coll.  
 (*H. Whitely*).

## 84. IOLÆMA.

	Type.
<i>Heliodoxa</i> γ. <i>Ionolaima</i> , <i>Reich. Aufz. d. Col.</i> p. 9 . . . .	I. schreibersi.
<i>Ionolaima</i> , <i>Gould, Mon. Troch.</i> ii. pl. 93 (May 1857) . .	I. schreibersi.
<i>Iolæma</i> , <i>Gould, Intr. Troch.</i> p. 73 . . . . .	I. schreibersi.

*Range*. Upper Amazons Valley and Peru.

*Key to the Species.*

- a. Gular spot glittering violet-purple.  
 a'. Breast glittering green . . . . . *schreibersi*, p. 321.  
 b'. Breast black . . . . . *whitelyana*, p. 322.  
 b. Gular spot glittering fiery golden, changing with the incidence of light to golden green. . . . . *luminosa*, p. 323.

1. *Iolæma schreibersi*.

- Trochilus schreibersi*, "*Lodd.*," *Bourc. P. Z. S.* 1847, p. 43; *id. Rev. Zool.* 1847, p. 255.  
*Thalurania schreibersi*, *Bp. Consp.* i. p. 77.  
*Campylopterus schreibersi*, *Bp. Rev. Zool.* 1854, p. 250.  
*Heliodoxa* γ. *Ionolaima schreibersi*, *Reich. Troch. Enum.* p. 6, pl. 745. ff. 4710-11.  
*Ionolaima schreibersi*, *Gould, Mon. Troch.* ii. pl. 93 (May 1857); *id. Intr. Troch.* p. 73; *Tacz. P. Z. S.* 1874, p. 543.  
*Ionolaima frontalis*, *Laur. Ann. Lyc. N. Y.* vi. p. 263.

*Iolæma frontalis*, *Gould, Intr. Troch.* p. 73; *Elliot, Syn. Troch.* p. 59; *Eudes-Desl. Ann. Mus. Caen*, i. p. 274.

*Iolæma schreibersi*, *Scl. & Salv. P. Z. S.* 1867, p. 979, 1873, p. 287; *Muls. & Ferr. Class. Troch.* p. 59; *Pelz. Orn. Bras.* p. 31; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 138, pl. 40, iv. p. 200; *id. Ann. Soc. Linn. Lyon*, xxii. p. 211; *Elliot, Syn. Troch.* p. 58; *Eudes-Desl. Ann. Mus. Caen*, i. p. 275.

*Calothorax schreibersi*, *Gray, Hand-l. B.* i. p. 136.

*Adult male.* Upper surface dark shining grass-green; a glittering green frontal spot; under surface black; a glittering violet-purple gular spot; breast glittering green; flanks washed with green; under tail-coverts and tail dark steel-blue; central rectrices tipped with green; edge of the wing and edge of the outermost primary chestnut; bill black. Total length about 5.5 inches, wing 2.9; tail, central rectrices 1.25, lateral 2.15; bill 1.2.

*Female* (as determined by Hauxwell). Very similar to the male, but with a fulvous rictal stripe.

*Young birds* have more or less fulvous or buff upon the sides of the head stretching from the gape and extending under the eye; the gular spot appears at an early age, but the frontal spot is the last adult feature to be developed.

A specimen from Sarayacu, which I should have thought to be a normal female, has the gular spot, but the breast is much less lustrous and the abdomen much greener; moreover, the central rectrices are green throughout.

*Hab.* Valley of the Upper Amazons and Eastern Ecuador.

a-g. ♂ ad.; l, i.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman & Gould Colls.
♂ juv. sk.		
j, k. ♂ ad.; l, m.	Ecuador.	Salvin-Godman & Gould Colls.
♂ juv. sk.		
n. ♂ juv. sk.	Macas, Ecuador.	Gould Coll.
o. ♂ ad.; p, q.	Pebas, Amazons, July, Aug.	Gould Coll.
♀ ad. sk.	( <i>J. Haurwell</i> ).	

## 2. *Iolæma whitelyana*.

*Iolæma whitelyana*, *Gould, Ann. & Mag. Nat. Hist.* (4) x. p. 452; *Whitely, P. Z. S.* 1873, p. 188; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 141; *id. Ann. Soc. Linn. Lyon*, xxii. p. 211; *Elliot, Syn. Troch.* p. 59; *Eudes-Desl. Ann. Mus. Caen*, i. p. 276; *Sharpe in Gould's Mon. Troch. Suppl.* pl. 12 (Jan. 1883).

*Adult male.* Similar to that of *I. schreibersi*, but with the whole breast up to the gular spot black; frontal spot hardly visible.

*Female.* Like the male, but with a buff rictal stripe and the black of the under surface tinged with green.

The sexes of this species as determined by Whitely confirm the observation of Hauxwell as to those of *I. schreibersi*.

*Hab.* Eastern Peru.

a. ♂ ad.; b. ♀ ad. sk.	Cosnipata, Peru, Aug. ( <i>H. Whitely</i> ).	Gould Coll. (Types of the species.)
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3. *Iolæma luminosa*. (Plate VIII. fig. 1.)

*Iolæma luminosa*, *Elliot, Ibis*, 1876, p. 188; *id. Syn. Troch.* p. 58.

*Young male*. Upper surface dark shining bronze-green, darker and greener on the crown and nape; rump and upper tail-coverts purple-bronze; under surface glittering coppery red; throat black, with a gular spot glittering fiery golden, changing with the incidence of light into glittering green; under tail-coverts edged with dusky white; central rectrices bronze-black, lateral purple-black; bill black. Total length about 4·5 inches, wing 2·7; tail, central rectrices 1·55, lateral 1·75; bill 1·05.

The type is a young male in which the fully adult characters are not quite developed. It remains to be seen whether the adult has a lustrous frontal spot.

*Hab.* — ?

a. ♂ juv. — ? Gould Coll. (Type of species.)

## 85. LAMPRASTER.

Type.

Lampraster, *Tacz. P. Z. S.* 1874, p. 140 . . . . . L. branickii.

*Range*. Peru.

1. *Lampraster branickii*.

*Lampraster branickii*, *Tacz. P. Z. S.* 1874, pp. 140, 543, pl. 21. f. 1; *id. Orn. Pér.* i. p. 286; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 200; *id. Ann. Soc. Linn. Lyon*, xxii. p. 212; *Elliot, Syn. Troch.* p. 63; *Eudes-Desl. Ann. Mus. Caen*, i. p. 290; *Sharpe in Gould's Mon. Troch., Suppl.* pl. 14 (March 1887).

*Adult male*. "Entirely green, the feathers of the crown appearing to be a little darker and bordered narrowly by black, separated by a longitudinal median band starting from the base of the bill and prolonged to the vertex, formed of scaly plumes of a very different green, changing into blue; the green of the wing-coverts is distinctly more golden than that of the back; the fore part of the throat divided by a sort of shield formed of scale-like feathers of a rosy-red colour, taking a slight tone of violet under certain lights, and passing into golden and then into green under other reflections of light; the chin brilliant green; rest of the lower parts of the body of a shade analogous to that of the back, but becoming very brilliant under favourable rays of light: the anal region downy and the under tail-coverts white, as well as the tarsal plumes and a spot behind the eye; wings violet-brown, with the secondaries of a cinnamon-rufous at the extremity, which is dark. the outer quills bordered with rufous; tail-feathers black, with a slight lustre of violet-blue, the two middle ones green; bill black, with the base of the mandible white for a large extent, straight for the entire length, half as long again as the head; feet brownish, the tarsi clothed with short plumes. Total length 3·9, wing 2·65, tail 1·5, bill 1." (*Sharpe, l. s. c., ex Taczanowski.*)

*Hab.* Peru.

## 86. PHÆOLÆMA.

- Type.
- Heliodoxa a. Phaiolaima, *Reich. Aufz. d. Col.* p. 9. . . . P. rubinoides.
- Range.* Colombia and Ecuador.

*Key to the Species.*

- a. Forehead and centre of the crown glittering green.
- a'. Smaller; chin glittering green like the forehead . . . . . *rubinoides*, p. 324.
- b'. Larger; chin fawn-colour like the chest, with hardly any admixture of green . . . . . *cervinigularis*, p. 325.
- b. Forehead and whole crown as well as the chin shining green. . . . . *æquatorialis*, p. 325.

## 1. Phæolæma rubinoides.

*Trochilus rubinoides*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, ix. p. 322 (1846); *id. Rev. Zool.* 1846, p. 316; *Gray, Hand-l. B.* i. p. 140.

*Heliomaster rubinoides*, *Bp. Consp.* i. p. 70.

*Heliodoxa a. Phaiolæma rubinoides*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 743. ff. 4704-5.

*Clytolæma rubinoides*, *Bp. Rev. Zool.* 1854, p. 254; *Muls. & Verr. Class. Troch.* p. 59.

*Phæolæma rubinoides*, *Gould, Mon. Troch.* iv. pl. 268 (Sept. 1858); *id. Intr. Troch.* p. 142; *Cab. & Heine, Mus. Hein.* iii. p. 30; *Sci. Cat. Am. B.* p. 310; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 221, pl. 49, iv. p. 207; *id. Ann. Soc. Linn. Lyon*, xxii. p. 213; *Sci. & Salv. P. Z. S.* 1879, p. 529; *Elliot, Syn. Troch.* p. 55; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 248; *Berl. J. f. Orn.* 1887, p. 320.

*Adult male.* Upper surface shining grass-green; upper tail-coverts golden bronze; centre of the crown, forehead, and chin glittering green; a large patch on the throat glittering rosy copper; sides of the throat pale shining green; rest of the under surface pale chestnut, the flanks washed with green; under tail-coverts pale green, edged with pale chestnut; central rectrices golden bronze, the laterals paler, with the shafts buff; edge of the outermost primary and under wing-coverts pale chestnut; bill black. Total length about 4.5 inches, wing 2.75; tail, central rectrices 1.25, lateral 1.9; bill 1.

*Female.* Like the male, but without the gular spot.

*Hab.* Colombia.

- a, b. ♂ ad. sk. Medellin, Colombia (*T. K. Salmon*). Gould Coll.
- c. i. ♂ ad.; j-l. ♂ juv.; Colombia (Bogota make). Salvin-Godman &  
m. n. ♀ ad. sk. Selater Colls.

2. *Phælœma cervinigularis*. (Plate VIII. fig. 2.)

Similar to *P. rubinoides* as to the colour of the crown, which has a central glittering green stripe. In size it equals *P. æquatorialis*, but differs from that species in the colour of the crown and from both in having the chin pale chestnut like the sides of the throat, with hardly a trace of green. Total length about 5 inches, wing 2·9; tail, central rectrices 1·4, lateral 2; bill 1·3.

Of the two skins in the Museum, one was in Gould's Collection and one in our own, the latter having been obtained from Mr. Whitely. Both are males. The exact locality where this bird is found remains to be discovered; at present I can only say that the types are made up in the manner usual in collections of Humming-birds from Ecuador.

*Hab.* Ecuador?

a. ♂ ad.	Ecuador?	Salvin-Godman Coll.	} (Types of the species.)
b. ♂ ad.	Ecuador?	Gould Coll.	

3. *Phælœma æquatorialis*.

*Phælœma æquatorialis*, *Gould, Mon. Troch.* iv. pl. 264 (May 1860); *id. Intr. Troch.* p. 803; *Scl. P. Z. S.* 1859, p. 145, 1860, p. 70; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 223; *id. Ann. Soc. Linn. Lyon*, xxii. p. 213; *Elliot, Syn. Troch.* p. 55; *Eudes-Desl. Ann. Mus. Caen*, i. p. 250; *Tacz. P. Z. S.* 1882, p. 35; *id. Orn. Pér.* i. p. 292; *Bert. & Tacz. P. Z. S.* 1884, p. 303.

*Phælœma rubinoides*, *Scl. P. Z. S.* 1859, p. 145.

*Iolœma æquatorialis*, *Muls. & Verr. Class. Troch.* p. 59.

*Adult male.* Like that of *P. rubinoides*, but larger; the crown and chin shining green, the former without a central glittering line; gular spot a little paler and redder. Total length about 5 inches, wing 2·9; tail, central rectrices 1·4, lateral 1·9; bill 1·2.

*Female.* Like the male, but without the gular spot.

*Hab.* Ecuador.

a. ♂ ad.; b. ♀ ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
c, d. ♂ ad. sk.	Yanayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
e. ♂ ad.; f. ♀ ad. sk.	Citado, Ecuador ( <i>Buckley</i> ).	Gould Coll.
g, h. ♂ ad. sk.	Quito, Ecuador ( <i>Buckley</i> ).	Gould Coll.
i. ♂ ad. sk.	Ecuador ( <i>Fraser</i> ).	Salvin-Godman Coll.
j-l. ♂ ad.; m. ♀ ad. sk.	Ecuador.	Gould Coll. (Types of the species.)

## 87. HYLONYMPHA.

Type.

*Hylonympha*, *Gould, Ann. & Mag. N. H.* 1873, xii. p. 429 . . . . . *H. macrocerca*.

*Range.* Amazons Valley?

1. *Hylonympha macrocerca*.

*Hylonympha macrocerca*, *Gould, Ann. & Mag. N. H.* 1873, xii. p. 429; *id. Mon. Troch., Suppl.* pl. 27 (Aug. 1880); *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 57; *id. Ann. Soc. Linn. Lyon*, xxii. p. 218; *Elliot, Syn. Troch.* p. 97; *Eudes-Desl. Ann. Mus. Caen*, i. p. 299.

*Adult male.* Upper surface dark shining green, nearly black when viewed from in front, greener when viewed from behind; crown black; forehead and central anterior crown, terminating posteriorly in a point beyond a line drawn between the eyes, glittering violet-blue; under surface as far as the lower breast glittering grass-green; abdomen and under tail-coverts black, flanks washed with green; tail blue-black: bill black: feet dark hazel. Total length about 8.5 inches, wing 2.8; tail, outermost rectrix on either side 5.4, next pair 2.3, central pair 0.9; bill 1.1.

*Adult female.* Upper surface dark shining grass-green; under surface white, each feather with a shining green discal spot; middle of the breast and upper abdomen pure white; lower abdomen and under tail-coverts chestnut; tail blue-black, outermost rectrix with the shaft, half the inner web, and three-fourths of the outer web cinnamon, a dull white spot towards the end of the outer web and extending to the inner web just at the tip of the feather; next rectrix with the basal half of the shaft and the webs adjoining cinnamon. Length of the outermost rectrix 2.1 inches, central pair 1.1.

*Hab.* Uncertain; said to be the Amazons Valley near the middle.

a. ♂ ad. sk.	"N. Brazil."	Gould Coll. (Type of the species.)
b-h. ♂ ad. ; i, j.	"N. Brazil."	Salvin-Godman & Gould Colls.
♀ ad. sk.		

88. *LAFRESNAYA*.

Type.

<i>Lafresnaya</i> , <i>Bp. Compt. Rend.</i> xxx. p. 380 (1850) ..	<i>L. flavicaudata</i> .
<i>Entima</i> , <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 51 .....	<i>L. gayi</i> .
<i>Euclosia</i> , <i>Muls. &amp; Ferr. Class. Troch.</i> p. 63 (1865) ..	<i>L. flavicaudata</i> .

*Range.* Venezuela and Colombia to Peru.

The outermost primary in this genus is narrow, somewhat as in *Aglaeactis*.

*Key to the Species.*

a. Lateral rectrices buff, tipped with bronzy brown.	<i>flavicaudata</i> , p. 326.
b. Lateral rectrices pure white, tipped with bronzy green .....	<i>gayi</i> , p. 327.

1. *Lafresnaya flavicaudata*.

*Trochilus lafresnayi*, *Boiss. Rev. Zool.* 1840, p. 8.  
*Trochilus flavicaudatus*, *Fraser, P. Z. S.* 1840, p. 18.  
*Ornysmia lafresnayi*, *Lodd. P. Z. S.* 1843, p. 122.



*Lafresnaya flavicaudata*, *Bp. Consp.* i. p. 68; *id. Rev. Zool.* 1854, p. 252; *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 8, pl. 785. ff. 4824-25; *Gould, Mon. Troch.* ii. pl. 85 (May 1857); *id. Intr. Troch.* p. 69; *Sci. Cat. Am. B.* p. 292; *Elliot, Syn. Troch.* p. 44; *Eudes-Desl. Ann. Mus. Caen*, i. p. 214.

*Entima lafresnayi*, *Cab. & Heine, Mus. Hein.* iii. p. 51; *Berl. J. f. Orn.* 1887, p. 317.

*Euclosia flavicaudata*, *Muls. & Verr. Class. Troch.* p. 63.

*Enclosia lafresnayi*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 187; *id. Ann. Soc. Linn. Lyon*, xxii. p. 212.

*Calothorax lafresnayi*, *Gray, Hand-l. B.* i. p. 136.

*Adult male.* Upper surface dark shining grass-green; under surface, including the whole throat, chest, and flanks, dark glittering grass-green; middle of the abdomen black; under tail-coverts pale buff tipped with green; middle tail-feathers bronze-green, laterals pale buff tipped with bronzy brown, the outermost pair more widely, the outer web for its terminal half being of the same colour; bill black. Total length about 4.5 inches, wing 2.5, tail 1.6, bill 1.15.

*Adult female.* Under surface buff; throat, chest, and flanks spotted with shining green, each feather bearing a spot near its extremity; tail more widely tipped with bronzy brown than that of the male.

*Hab.* Colombia.

<i>a-g.</i> ♂ ad.; <i>h, i.</i>	Colombia (Bogota make).	Salvin-Godman &
♂ juv.; <i>j-m.</i>		Gould Colls.
♀ ad. sk.		
<i>n-p.</i> Ad. st.		Purchased.

## 2. *Lafresnaya gayi*.

*Trochilus gavi*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, ix. p. 325 (1846).

*Trochilus saulæ*, *Bourc. Rev. Zool.* 1846, p. 309.

*Lafresnaya gayi*, *Bp. Consp.* i. p. 68; *id. Rev. Zool.* 1854, p. 252; *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 8, pl. 786. ff. 4826-27; *Gould, Mon. Troch.* ii. pl. 86 (May 1857); *id. Intr. Troch.* p. 69; *Sci. P. Z. S.* 1860, pp. 81, 94; *id. Cat. Am. B.* p. 292; *Sci. & Salv. P. Z. S.* 1870, p. 782, 1879, p. 528; *Elliot, Syn. Troch.* p. 44; *Eudes-Desl. Ann. Mus. Caen*, i. p. 215; *Tacz. P. Z. S.* 1874, p. 543, 1880, p. 204; *id. Orn. Pér.* i. p. 283; *Tacz. & Berl. P. Z. S.* 1884, p. 303.

*Lafresnaya saulæ*, *Bp. Consp.* i. p. 68; *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 8, pl. 786. ff. 4828-29; *Gould, Intr. Troch.* p. 70.

*Entima gayi*, *Cab. & Heine, Mus. Hein.* iii. p. 51.

*Entima saulæ*, *Heine, J. f. Orn.* 1863, p. 206.

*Euclosia gayi*, *Muls. & Verr. Class. Troch.* p. 63; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 190, pl. 43; *id. Ann. Soc. Linn. Lyon*, xxii. p. 212.

*Calothorax gayi*, *Gray, Hand-l. B.* i. p. 136.

*Adult male.* Precisely like that of *L. flavicaudata*, but the lateral

rectrices instead of being buff are pure white tipped with bronzy green.

*Adult female.* Abdomen white; throat tinged with buff and spotted (as are also the flanks and under tail-coverts) with green; the dark tips to the lateral rectrices are wider than in the male.

*Young males* have the feathers of both the upper and under surfaces edged with buff; the feathers of the throat are subsequently white at the base with green spots at the tip; they afterwards become darker at the base and the green spots larger, so that in the adult the throat is unbroken glittering green.

There is some variation in the colour and extent of the dark tips to the white lateral rectrices. In most specimens these tips are dark bronzy green and even blackish; in others they are of the same green as the extremities of the under tail-coverts.

Birds with the latter character have been called *Trochilus saulæ* by Bourcier and Delattre—a name adopted by several writers, including Gould, but rejected by Elliot. I have not been able to trace these birds to any special locality.

*Hab.* Venezuela and Northern Colombia, Ecuador and Peru.

a. ♂ ad. sk.	Merida, Venezuela ( <i>Goering</i> ).	Salvin-Godman Coll.
b. ♂ ad. sk.	San José, Sierra Nevada de Sta. Marta, Colombia, Mar. ( <i>F. Simons</i> ).	Salvin-Godman Coll.
c. ♂ juv. sk.	Sta. Elena, Cauca Valley, Colombia ( <i>T. K. Salmon</i> ).	Salvin-Godman Coll.
d. ♂ ad.; e. ♀ ad. sk.	Jima, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
f. ♂ ad.; g. ♀ ad. sk.	Ecuador ( <i>Fraser</i> ).	Selater Coll.
h. ♂ ad.; i. ♀ ad. sk.	Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
j-l. ♂ ad.; m o. ♀ ad. sk.	Ecuador.	Gould Coll.
p. ♂ ad. sk.	Peru ( <i>Warszewicz</i> ).	Gould Coll.
q. ♂ ad. sk.	Cachupata, Peru, Nov. ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
r. ♂ ad.; s. ♀ ad. sk.	Peru?	Gould Coll.

### 89. FLORISUGA.

	Type.
Florisuga, <i>Bp. Consp. Av. i. p. 73</i> .....	F. mellivora.
Melanotrochilus, <i>Eudes-Desl. Ann. Mus. Caen, i. p. 224</i> (1880) .....	F. fusca.

*Range.* Southern Mexico to the Amazons Valley and Eastern Brazil.

#### *Key to the Species.*

- a. Head and neck blue; base of the hind neck and abdomen white ..... *mellivora*, p. 329.  
 b. Head, neck, and abdomen black ..... *fusca*, p. 331.

1. *Florisuga mellivora*.

- White-bellied Humming Bird, *Edw.* i. pl. 15. f. 1 ; *Lath. Syn.* i. pt. 2, p. 765.
- Mellivorus surinamensis torquata, *Briss. Orn.* iii. p. 713.
- Oiseaux Mouches à collier dit le Jacobine, *Buff. Hist. Nat. Ois.* vi. p. 34.
- Oiseaux Mouches dit le Jacobine de Cayenne, *Buff. Pl. Enl.* 640. f. 3.
- Trochilus mellivorus, *Linn. Syst. Nat.* i. p. 193 ; *Gm. Syst. Nat.* i. p. 499 ; *Vieill. N. Dict. d'Hist. N.* vii. p. 360 ; *id. Enc. Méth.* p. 562 ; *Less. Ind. Gén. Troch.* p. xx ; *Cab. in Schomb. Reise n. Guiana*, iii. p. 706 ; *Burm. Syst. Ueb.* ii. p. 339.
- Trochilus fimbriatus, *Linn. Syst. Nat.* i. p. 193.
- Oiseau Mouche à gorge tachetée, *Aud. et Vieill. Ois. Dor.* i. p. 61, pl. 22.
- Oiseaux Mouches à collier, *Aud. et Vieill. Ois. Dor.* i. p. 63, pls. 23, 24.
- Le Colibri à gorge bleu, *Aud. et Vieill. Ois. Dor.* i. p. 144, pl. 66.
- Mellisuga surinamensis, *Steph. in Shaw's Gen. Zool.* xiv. p. 243.
- Ornismya mellivora, *Less. Hist. Nat. Ois.-Mouches*, pp. xxiii, 90, pls. 21, 22.
- Trochilus flabelliferus, *Gould, P. Z. S.* 1846, p. 45.
- Florisuga flabellifera, *Bp. Consp.* i. p. 74 ; *id. Rev. Zool.* 1-54, p. 253 ; *Gould, Mon. Troch.* ii. pl. 114 (Nov. 1851) ; *id. Intr. Troch.* p. 81 ; *Reich. Aufz. d. Col.* p. 14 ; *Cab. & Heine, Mus. Hein.* iii. p. 29 ; *Sci. Cat. Am. B.* p. 295 ; *Muls. & Ferr. Class. Troch.* p. 47.
- Florisuga mellivora, *Bp. Consp.* i. p. 73 ; *id. Rev. Zool.* 1854, p. 253 ; *Reich. Aufz. d. Col.* p. 14 ; *Gould, Mon. Troch.* ii. pl. 113 (Nov. 1851) ; *id. Intr. Troch.* p. 80 ; *Moore, P. Z. S.* 1859, p. 53 ; *Sci. & Salv. Ibis*, 1859, p. 128 ; *id. P. Z. S.* 1864, p. 365, 1867, pp. 584, 753, 979, 1868, p. 628, 1870, p. 837, 1873, p. 287, 1879, p. 529 ; *Cab. & Heine, Mus. Hein.* iii. p. 29 ; *Sci. P. Z. S.* 1860, p. 95 ; *id. Cat. Am. B.* p. 295 ; *E. C. Taylor, Ibis*, 1863, p. 91 ; *Muls. & Ferr. Class. Troch.* p. 47 ; *Salv. P. Z. S.* 1867, p. 155 ; *id. Ibis*, 1872, p. 319 ; *id. Cat. Strickl. Coll.* p. 363 ; *Laur. Ann. Lyc. N. Y.* vii. p. 292, ix. p. 122 ; *id. Pr. Bost. Soc. N. H.* xiv. p. 284 ; *id. Mem. Bost. Soc. N. H.* ii. p. 291 ; *Pelz. Orn. Bras.* p. 30 ; *Layard, Ibis*, 1873, p. 388 ; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 178, iv. p. 204 ; *id. Ann. Soc. Linn. Lyon*, xxii. p. 212 ; *Elliot, Syn. Troch.* p. 48 ; *Eudes-Desl. Ann. Mus. Caen*, i. p. 221 ; *Tacz. P. Z. S.* 1880, p. 304 ; *id. Orn. Pér.* i. p. 297 ; *Tacz. & Berl. P. Z. S.* 1883, p. 566 ; *Berl. J. f. Orn.* 1887, p. 317 ; *id. Pr. U.S. Nat. Mus.* xi. p. 561.
- Florisuga ferrugineiceps, *Reich. Aufz. d. Col.* p. 14.
- Topaza mellivora, *Léot. Ois. Trin.* p. 141 (1866) ; *Gray, Hand-l. B.* i. p. 134.
- Topaza flabellifera, *Gray, Hand-l. B.* i. p. 134.
- Mellisuga mellivora (lapsu), *Salv. & Godm. Ibis*, 1880, p. 172.
- ? *Florisuga sullei*, *Boucard, The Humming Bird*, i. p. 18 (1891).

*Adult male.* Upper surface dark shining grass-green, base of the hind neck white, whole head and neck rich shining blue, back of the neck tinged with green ; abdomen white ; flanks shining green ; middle rectrices bluish green, laterals white, tipped and all but the outermost pair edged outwardly with purple-black ; bill black. Total length about 4 inches, wing 2.6, tail 1.4, bill 0.9.

*Adult female.* Upper surface uniform golden green; under surface green, the feathers of the throat, chest, and flanks edged with white; middle of the abdomen nearly pure white; under tail-coverts gray at the base, tipped with white, and with a wide subterminal blue-black bar; outermost lateral rectrices blue-black, tipped with white and with white on the outer web towards the base; remainder shining green, with a narrow white tip and wide subterminal blue-black bar.

*Young males* have the throat nearly white or fulvous, the blue feathers of the throat begin to appear in the middle and spread to the sides; the head is green at first; the central rectrices and the next pair are white at the base, steel-blue at the tip, with a subterminal greenish bar; the outermost pair pure white, the next with a steel-blue spot on the tip of the inner web and a narrow edge to the outer.

*Hab.* Tropical America in low-lying lands, from Southern Mexico to the Amazon Valley.

a. ♂ ad. sk.	Belize, Brit. Honduras ( <i>F. Blaneaux</i> ).	Salvin-Godman Coll.
b. ♀ ad. sk.	Western District, Brit. Honduras, Nov. ( <i>F. B.</i> ).	Salvin-Godman Coll.
c. ♂ ad.; d. ♂ juv. sk.	Honduras.	E. Dyson [C.].
e, f. ♂ ad.; g. ♀ ad. sk.	Choctum, Guatemala, Feb. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
h, i. ♂ ad. sk.	Guatemala ( <i>Skinner</i> ).	Gould Coll.
j-m. ♂ ad. sk.	Chontales, Nicaragua ( <i>T. Belt</i> ).	Salvin-Godman Coll.
n. ♂ ad.; o. ♂ juv.; p-r. ♀ ad. sk.	Costa Rica, May ( <i>Endres</i> ).	Salvin-Godman & Gould Colls.
s. ♀ ad. sk.	Volcan de Chiriqui ( <i>Arcé</i> ).	Salvin-Godman Coll.
t. ♂ ad. sk.	Cordillera de Tolé, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
u, v. ♂ ad.; w. ♂ juv. sk.	Santiago de Veraguas, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
x, y. ♂ ad. sk.	Lion Hill, Panama ( <i>McLeanau</i> ).	Salvin-Godman & Sclater Colls.
z, a'. ♂ ad.; b. ♀ ad. sk.	Paraiso Station, Panama ( <i>Hughes</i> ).	Salvin-Godman Coll.
c'. ♂ ad. sk.	Miuca, Sierra Nevada de Sta. Marta, Colombia, Feb. ( <i>F. Simons</i> ).	Salvin-Godman Coll.
d-f'. ♂ ad.; g'. ♂ juv.; h', i'. ♀ ad. sk.	Colombia (Bogota make).	Gould Coll.
j', k'. ♂ ad. sk.	Quito, Ecuador.	Salvin-Godman Coll.
l'. ♂ ad. sk.	Ecuador.	Salvin-Godman Coll.
m'. ♂ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
n', o'. ♂ ad.; p'. ♂ juv. sk.	Trinidad.	Gould Coll.
q'. ♀ ad. sk.	Tobago I. ( <i>F. A. Ober</i> ).	H. K. Coale.
r'. ♂ ad. sk.	Merumé Mts., Brit. Guiana, July ( <i>H. Whitely</i> ).	Salvin-Godman Coll.

s'. ♂ ad. sk.	R. Atapurow, Brit. Guiana, Jan. ( <i>H. W.</i> ).	Salvin-Godman Coll.
l'. ♂ ad.; u'. ♂ juv. sk.	(Cayenne make.)	Salvin-Godman & Sclater Colls.
v'. ♂ ad.; w'. ♀ ad. sk.	Para. Oct. ( <i>E. L. Layard</i> ).	Tweeddale Coll.
x'. ♂ juv. sk.	Para ( <i>A. R. Wallace</i> ).	Salvin-Godman Coll.
y'. ♂ ad. sk.	Rio Negro, July ( <i>A. R. W.</i> ).	Salvin-Godman Coll.
z'. ♂ ad.; a'', b''.	Cobati, R. Negro, Nov. ( <i>A.</i>	Salvin-Godman Coll.
♀ ad. sk.	<i>R. W.</i> ).	
c''-e''. ♂ ad.; f''.	Upper Amazons ( <i>E. Bartlett</i> ).	Gould Coll.
g''. ♀ ad. sk.		
h''. ♂ ad. sk.	Iquitos, Amazons, May ( <i>H.</i>	Gould Coll.
	<i>Whitely</i> ).	
i'', j''. ♂ ad.; k''.	Pebas, Amazons, April, May ( <i>J.</i>	Salvin-Godman,
l'. ♀ ad. sk.	<i>Haurwell</i> ).	Tweeddale, & Gould Colls.
m''. ♂ juv. sk.	Rio Javari, Amazons ( <i>H. W.</i>	Gould Coll.
	<i>Bates</i> ).	
o''. ♂ ad. st.	Demerara.	Purchased.
p'', q''. ♂ ad.; r''.	Honduras.	E. Dyson [C.].
Juv. st.		

## 2. *Florisuga fusca*.

*Trochilus fuscus*, *Vieill. N. Dict. d'Hist. N.* vii. p. 348; *id. Enc. Méth.* p. 552; *Less. Hist. Nat. Ois.-Mouches, Suppl.* p. 98.

*Mellisuga atra*, *Steph. in Shaw's Gen. Zool.* xiv. p. 243.

*Colibri leucopygius*, *Spix, Av. Bras.* i. p. 81, pl. 81. f. 3.

*Trochilus atratus*, *Licht. Verz. Doubl.* p. 14.

*Trochilus ater*, *Wied, Reise.* i. p. 366, ii. p. 136; *id. Beitr.* iv. p. 52.

*Trochilus niger*, *Sw. Zool. Ill.* n. pl. 82.

*Ornismya lugubris*, *Less. Hist. Nat. Ois.-Mouches*, pp. xvi, 132, pls. 38, 39; *id. Ind. Gén. Troch.* p. vii.

*Florisuga atra*, *Bp. Consp.* i. p. 74; *Burm. Syst. Ueb.* ii. p. 338; *Gould, Mon. Troch.* ii. pl. 115 (Nov. 1851); *id. Intr. Troch.* p. 81; *Muls. & Verr. Class. Troch.* p. 47.

*Ornismya nigra*, *Bp. Consp.* i. p. 81.

*Florisuga fusca*, *Reich. Aufz. d. Col.* p. 14; *Bp. Rev. Zool.* 1854, p. 253; *Cab. & Heine, Mus. Hein.* iii. p. 29; *Scl. Cat. Am. B.* p. 295; *Pelz. Orn. Bras.* p. 30; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 104; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 183, iv. p. 204; *id. Ann. Soc. Linn. Lyon*, xxii. p. 212; *Elliot, Syn. Troch.* p. 48; *Salv. Cat. Strickl. Coll.* p. 363; *Allen, Bull. Am. Mus. N. H.* ii. p. 257.

*Topaza fusca*, *Gray, Hand-l. B.* i. p. 134.

*Melanotrochilus fuscus*, *Eudes-Desl. Ann. Mus. Caen*, i. p. 225.

*Adult male.* Upper and under surface black, with a purple gloss on the upper tail-coverts and middle rectrices; wing-coverts shining olive-green; flanks mixed with white; under tail-coverts very dark purple-black, lateral rectrices white tipped with purple-black; bill black. Total length about 5 inches, wing 3.2; tail, central feathers 1.6, lateral 2; bill 1.05.

*Female.* Similar to the male.

*Young birds* have the feathers of the upper surface and the upper

tail-coverts edged with rufous, the sides of the throat rufous, and rufous edges to the feathers distributed over the under surface; the six central rectrices are purple-black, the outermost pair pure white, the next white on the outer web and shaft nearly to the tip.

*Hab.* Southern and Eastern Brazil.

<i>a, b.</i> ♂ ad. sk.	Pernambuco ( <i>W. A. Forbes</i> ).	Salvin-Godman Coll.
<i>c.</i> ♂ ad.; <i>d, e.</i>	Bahia, Brazil ( <i>Wucherer</i> ).	Salvin-Godman Coll.
Juv. sk.		
<i>f, g.</i> Ad. sk.	Novo Fribourgo, Rio, Brazil ( <i>Fouds</i> ).	Salvin-Godman Coll.
<i>h, i.</i> Juv. sk.	Brazil (Rio make).	Gould Coll.
<i>j, k.</i> Ad. sk.	S.E. Brazil ( <i>Rogers</i> ).	Gould Coll.
<i>l.</i> ♂ ad. st.		Purchased.

### 90. TOPAZA.

Polytmus, <i>Boie, Isis</i> , 1831, p. 545 ( <i>nec Briss.</i> ) . . . . .	Type.
Topaza, <i>G. R. Gray, List Gen. Birds</i> , p. 13 (1840) . . . . .	T. pella.
	T. pella.

*Range.* Guiana and the Amazons Valley.

#### *Key to the Species.*

- a.* Lateral rectrices cinnamon . . . . . *pella*, p. 332.  
*b.* Lateral rectrices purple-black . . . . . *pyra*, p. 233.

#### 1. *Topaza pella.*

Long-tailed red Humming Bird, *Edw. Glean. N. H.* i. pl. 32.

Polytmus surinamensis, *Briss. Orn.* iii. p. 690.

Trochilus pella, *Linn. Syst. Nat.* i. p. 189; *Gm. Syst. Nat.* i. p. 485; *Vieill. N. Dict. d'Hist. N.* vii. p. 355; *id. Enc. Méth.* p. 554; *Less. Hist. Nat. Col.* pp. 21, 27, 31, pls. 2, 3, 4, 5; *id. Ind. Gén. Troch.* p. xvi; *Cab. in Schomb. Guiana*, iii. p. 707; *Burm. Syst. Ueb. Th. Bras.* ii. p. 327; *Muls. & Ferr. Class. Troch.* p. 45; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 123; *id. Ann. Soc. Linn. Lyon*, xxii. p. 210.

Colibri de Cayenne, *D'Aub. Pl. Enl.* 599. f. 1.

Topaz Humming Bird, *Lath. Syn.* i. p. 746.

Le Colibri Topaz, *Aud. Ois. Dor.* i. p. 18, pls. 2, 3.

Topaza pella, *Gray, List Gen. B.* p. 13 (1840); *id. Gen. B.* i. p. 109; *id. Hand-l. B.* i. p. 134; *Bp. Consp. Av.* i. p. 73; *id. Rev. Zool.* 1854, p. 250; *Gould, Mon. Troch.* ii. pl. 66 (Nov. 1851); *id. Intr. Troch.* p. 61; *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 9, pl. 797. ff. 4853-55; *Cab. & Heine, Mus. Hein.* iii. p. 16; *Scl. Cat. Am. B.* p. 290; *Pelz. Orn. Bras.* p. 30; *Elliot, Syn. Troch.* p. 95; *Eudes-Desl. Ann. Mus. Caen*, i. p. 178; *Salv. Cat. Strickl. Coll.* p. 361; *id. Ibis*, 1885, p. 432.

*Adult male.* Upper surface shining golden red, becoming greenish orange on the rump and upper tail-coverts and more glittering; head, including the lores, sides, and a narrow pectoral band, black; throat glittering greenish gold, rather more golden in the middle; rest of the under surface rich shining crimson; under tail-coverts shining

green; wings dark purple; inner primaries, except the tips and the secondaries, cinnamon; central rectrices bronze with black tips, next pair long, curving outwards, purple-black, lateral rectrices cinnamon: bill black; feet hazel. Total length about 7 inches, wing 3.1; tail, pair next the central rectrices (chord) 3.3, central pair 1.9; bill 1.25.

*Adult female.* Upper surface shining grass-green; beneath a little brighter and more golden, throat in the middle shining crimson; tail purple-black except the central pair of feathers, which are deep grass-green, and the two laterals on either side, which are chiefly cinnamon towards the distal end.

*Hab.* Guiana.

a. ♂ ad.; b. ♀ ad. sk.	Bartica Grove, Brit. Guiana, May & Sept. ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
c. ♀ ad. sk.	R. Atapuro, Brit. Guiana, Jan. ( <i>H. W.</i> ).	Salvin-Godman Coll.
d-g. ♂ ad.; h, i. ♀ ad. sk.	Demerara.	Salvin-Godman & Gould Colls.
j. ♂ ad.; k. ♂ juv. sk.	N. Brazil.	Salvin-Godman Coll.
l-q. ♂ ad.; r, s. ♀ ad. sk.	(Cayenne make.)	Salvin-Godman & Gould Colls.
t. ♂ juv. sk.	(Cayenne make.)	Purchased.
u. ♀ ad. st.	Demerara.	Purchased.
v. ♂ ad. st.		Purchased.

## 2. *Topaza pyra*.

*Trochilus (Topaza) pyra*, *Gould, P. Z. S.* 1846, p. 85.  
*Topaza pyra*, *Gray, Gen. B. i.* p. 110; *id. Hand-l. B. i.* p. 134; *Gould, Mon. Troch.* ii. pl. 65 (Nov. 1851); *id. Intr. Troch.* p. 62; *Bp. Consp. Av.* i. p. 73; *id. Rev. Zool.* 1854, p. 250; *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 9, pl. 798. ff. 4856-57; *Cab. & Heine, Mus. Hein.* iii. p. 16; *Sel. & Salv. P. Z. S.* 1867, pp. 584, 593; *Elliot, Syn. Troch.* p. 95; *Eudes-Desl. Ann. Mus. Caen*, i. p. 181.  
*Trochilus pyra*, *Muls. & Verr. Class. Troch.* p. 45; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 127, pl. 38; *id. Ann. Soc. Lim. Lyon*, xxii. p. 210.

*Adult male.* Similar to that of *T. pella*, but redder on the upper surface, a more conspicuous golden spot on the throat, no cinnamon on the wings, and the lateral rectrices wholly purple-black instead of cinnamon.

*Adult female.* Has the lateral rectrices purple-black, with the outer web of the outermost feather on either side dull cinnamon.

*Hab.* Rio Negro Valley and Eastern Ecuador.

a-c. ♂ ad.; d. ♀ ad. sk.	Rotuno, Ecuador ( <i>Buckley</i> ).	Salvin-Godman & Gould Colls.
e-i. ♂ ad.; j. ♂ juv.; k. ♀ ad. sk.	Rio Negro.	Gould Coll. (Types of the species.)

## 91. OREOTROCHILUS.

	Type.
Oreotrochilus, <i>Gould, P. Z. S.</i> 1847, p. 10.....	O. estella.
Orotrochilus, <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 15 .....	O. pichincha.

*Range.* Andes from Ecuador to Chili.

*Key to the Species.*

- a. Whole head, including the crown and throat, deep shining violet-blue.
- a'. Throat uniform violet-blue ..... *pichincha*, p. 334.
- b'. Throat with a large central green patch .... *chimborazo*, p. 335.
- b. Crown brown with a greenish tinge, the same colour as the back.
- c'. Middle of the abdomen chestnut ..... *estelle*, p. 335.
- d'. Middle of the abdomen deep blue-black.
- a''. Flanks white ..... *leucopleurus*, p. 336.
- b''. Flanks chestnut.
- a'''. Tail uniform greenish black ..... *melanogaster*, p. 337.
- b'''. Lateral rectrices pale buff, edged with bluish black ..... *adela*, p. 337.

1. *Oreotrochilus pichincha*.

*Trochilus pichincha*, *Bourc. & Muls. Mém. Acad. Sc. Lyon*, ii. p. 427 (1850).

*Oreotrochilus jamesoni*, *Jard. Contr. Orn.* 1849, p. 42, 1850, p. 27, pl. 43

*Oreochilus pichincha*, *Bp. Consp.* i. p. 71; *id. Rev. Zool.* 1854, p. 250; *Gould, Mon. Troch.* ii. pl. 68 (Nov. 1851); *id. Intr. Troch.* p. 63; *Reich. Aufz. d. Col.* p. 15; *Jardine, Ibis*, 1859, p. 115; *Scl. P. Z. S.* 1859, p. 79; *id. Cat. Am. B.* p. 290; *Jameson & Fraser, Ibis*, 1859, p. 399; *Cab. & Heine, Mus. Hein.* iii. p. 15; *Muls. & Verr. Class. Troch.* p. 47; *Gray, Hand-l. B.* i. p. 123; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 161, iv. p. 202; *id. Ann. Soc. Linn. Lyon*, xxii. p. 211; *Elliot, Syn. Troch.* p. 35; *Eudes-Desl. Ann. Mus. Caen*, i. p. 170; *Salv. Cat. Strickl. Coll.* p. 361.

*Adult male.* Upper surface dull shining olive-green, the whole head including the throat shining violet-blue, the latter bordered below with black; rest of the under surface white, the middle of the abdomen and the flanks blackish brown; under tail-coverts brown, narrowly edged with dull white; central tail-feathers very dark green, the next pair nearly white, the rest becoming darker towards the outermost pair, which are steel-blue and white only on the inner web towards the base; bill black. Total length about 5.2 inches, wing 2.95, tail 2, bill 1.

*Adult female.* Upper surface dull shining olive-green; under surface ashy, each feather edged with dull white; throat white, spotted with ashy; central tail-feathers dark green, the rest white at the base and with white tips.

In the *young male* the head is dull bluish green, and the blue feathers of the adult appear irregularly over the crown and throat;



the white of the under surface becomes purer as maturity is acquired.

*Hab.* Andes of Ecuador, on the volcanoes of Pichincha and Cotopaxi at high elevations.

a. ♂ ad.; b. ♀ ad. sk.	Volcan de Pichincha, Ecuador ( <i>Fraser</i> ).	Salvin-Godman Coll.
c. ♀ ad. sk.	Ruco Pichincha, May ( <i>Fraser</i> ).	Sclater Coll.
d. ♂ ad. sk.	Pichincha ( <i>Buckley</i> ).	Salvin-Godman Coll.
e-p. ♂ ad.; q-u. ♂ juv.; v-y. ♀ ad. sk.	Ecuador.	Gould Coll.
z, a'. ♂ ad. sk.	Ecuador.	Salvin-Godman Coll.
b'. ♂ ad. st.		J. Bourcier [P.] (Probably a typical specimen.)
c'. ♂ ad.; d'. ♀ ad. st.		Purchased.

## 2. Oreotrochilus chimborazo.

*Trochilus chimborazo*, *Delattre & Bourc. Rev. Zool.* 1846, p. 305.

*Oreotrochilus chimborazo*, *Gould, P. Z. S.* 1847, p. 10; *id. Mon.*

*Troch.* ii. pl. 69 (Nov. 1851); *id. Intr. Troch.* p. 62; *Bp. Consp.*

i. p. 76; *id. Rev. Zool.* 1854, p. 250; *Reich. Aufz. d. Col.* p. 15;

*Fraser, Ibis*, 1859, p. 208; *Jameson & Fraser, Ibis*, 1859, p. 399;

*Scl. P. Z. S.* 1860, p. 79; *id. Cat. Am. B.* p. 290; *Cab. & Heine,*

*Mus. Hein.* iii. p. 15; *Muls. & Ferr. Class. Troch.* p. 47; *Gray,*

*Hand-l. B.* i. p. 123; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 166,

pl. 42, iv. p. 204; *id. Ann. Soc. Linn. Lyon*, xxii. p. 211; *Elliot,*

*Syn. Troch.* p. 35; *Eudes-Desl. Ann. Mus. Caen*, i. p. 172; *Tacz.*

*& Berl. P. Z. S.* 1885, p. 102.

*Adult male.* Very similar to that of *O. pichincha*, but with a large patch of shining green on the throat, just above the black border which divides the blue throat from the white breast.

*Adult female.* Undistinguishable from that of *O. pichincha*.

*Hab.* Andes of Ecuador, on the volcano of Chimborazo at a high elevation.

a. ♂ ad.; b. ♀ ad. sk.	Panza, Chimborazo, Ecuador, Jan. ( <i>Fraser</i> ).	Sclater Coll.
c. ♂ ad.; d. ♀ ad. sk.	Chimborazo ( <i>Fraser</i> ).	Salvin-Godman Coll.
e, f. ♂ ad. sk.	Chimborazo ( <i>Buckley</i> ).	Salvin-Godman Coll.
g. ♂ ad.; h. ♀ ad. sk.	Chimborazo.	Purchased.
i-n. ♂ ad.; o-r. ♀ ad. sk.	Ecuador.	Gould Coll.

## 3. Oreotrochilus estellæ.

*Trochilus estellæ*, *d'Orb. & Lafr. Syn. Av.* ii. p. 32.

*Orthorhynchus estellæ*, *d'Orb. Voy. Am. MÉR.* iv. p. 376.

*Trochilus ceciliæ*, *Less. Rev. Zool.* 1839, p. 43.

*Oreotrochilus estellæ*, *Gould, P. Z. S.* 1847, p. 10; *id. Mon. Troch.*

ii. pl. 70 (June 1849); *id. Intr. Troch.* p. 63; *Bp. Consp.* i. p. 76;

*id. Rev. Zool.* 1854, p. 250; *Reich. Aufz. d. Col.* p. 15; *Muls. &*

*Ferr. Class. Troch.* p. 47; *Scl. & Salv. P. Z. S.* 1867, p. 987, 1868,

p. 569, 1879, p. 627; *Elliot, Ibis*, 1877, p. 142; *id. Syn. Troch.*

p. 36; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 175; *Tacz. Orn. Pér.* i. 277.

*Orotrochilus estellæ*, *Cab. & Heine, Mus. Hein.* iii. p. 169; *Gray, Hand-l. B.* i. p. 123; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 169; *id. Ann. Soc. Linn. Lyon*, xxii. p. 211.

*Adult male.* Upper surface olive-brown, the crown a little darker; throat glittering green, the feathers white at the base, lower margin of the throat black; rest of the under surface white, the middle of the abdomen chestnut, and the flanks and under tail-coverts dull brown; central tail-feathers dark green, the next pair nearly white, the rest edged outwardly with brown, the outermost pair being also brown towards the tip; bill black. Total length about 5 inches, wing 2.95, tail 2.1, bill 1.1.

*Adult female.* Upper surface like that of the male; under surface, including the under tail-coverts, brown, the throat paler, spotted with brown; central rectrices dark green, the next pair tipped with white, the next white with a wide subterminal dark bar, the next with this bar narrower and interrupted, and the outermost pair white with the terminal half of the outer web dark.

*Hab.* Andes of Southern Peru and Bolivia.

a. ♂ ad. sk.	Peru ( <i>H. Rowlands</i> ).	Salvin-Godman Coll.
b. ♀ ad. sk.	Pitumarca, Peru, April ( <i>H. Whitely</i> ).	Gould Coll.
c. ♂ ad. sk.	Mines of S. Baldomero, N.E. side of Sorato, Bolivia, alt. 12,000 ft. ( <i>Inwards</i> ).	Gould Coll.
d. ♂ ad.; e. ♀ ad. sk.	Cachira, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
f. ♂ ad. sk.	Bolivia ( <i>D. Forbes</i> ).	Slater Coll.
g-m. ♂ ad.; n. ♀ ad. sk.	Bolivia ( <i>Bridges</i> ).	Gould Coll.
o, p. ♂ ad. st.	Bolivia.	Bridges [C].

#### 4. *Orotrochilus leucopleurus*.

*Orotrochilus leucopleurus*, *Gould, P. Z. S.* 1847, p. 10; *id. Mon. Troch.* ii. pl. 71 (June 1849); *id. Intr. Troch.* p. 63; *Bp. Consp.* i. p. 71; *id. Rev. Zool.* 1854, p. 250; *Reich. Aufz. d. Col.* p. 15; *Sci. Cat. Am. B.* p. 290; *id. P. Z. S.* 1867, p. 328, 1886, p. 398; *Muls. & Verr. Class. Troch.* p. 47; *Gray, Hand-l. B.* i. p. 123; *Elliot, Syn. Troch.* p. 36; *Tacz. P. Z. S.* 1879, p. 237; *id. Orn. Pér.* i. p. 278; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 173; *Salv. Cat. Strickl. Coll.* p. 361; *E. W. White, P. Z. S.* 1882, p. 615; *Sci. & Huds. Arg. Orn.* ii. p. 1.

*Trochilus leucopleurus*, *Cassin, in Gillies's Expl. Exp.* ii. p. 187.

*Orotrochilus leucopleurus*, *Cab. & Heine, Mus. Hein.* iii. p. 16; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 172, iv. p. 204; *id. Ann. Soc. Linn. Lyon*, xxii. p. 211.

*Adult male.* Upper surface like that of *O. estellæ*, the throat also similar, but the middle of the abdomen is blue-black instead of chestnut, and the central rectrices steel-blue instead of dark green; the outer feathers are more narrowly and definitely edged with steel-blue, and the outermost pair narrower.

The *female* resembles that sex of *O. estelle*, but the outermost rectrices have a subterminal dark bar, and the rest are more definitely marked.

*Hab.* Andes of Chili, at high elevations.

a, b. ♂ ad.; c-e. ♀ ad. sk.	Chilian Andes ( <i>Leybold</i> ).	Salvin-Godman Coll.
f. ♂ ad. sk.	Chilian Andes ( <i>Weisshaupt</i> ).	Salvin-Godman Coll.
g. ♂ ad.; h. ♀ ad. sk.	Chilian Andes ( <i>Reed</i> ).	Salvin-Godman Coll.
i. ♂ juv. sk.	Andes of Santiago, Chili ( <i>Landbeck</i> ).	Slater Coll.
j. ♂ ad.; k. ♂ juv. sk.	Chili ( <i>Dalgleish</i> ).	Slater Coll.
l-n. ♂ ad.; o, p. ♀ ad. sk.	Aconcagua, Chili ( <i>Bridges</i> ).	Gould Coll.
q. ♂ ad.; r. ♀ ad. st.	Chili.	Bridges [C.].

### 5. *Oreotrochilus melanogaster*.

*Oreotrochilus melanogaster*, *Gould, P. Z. S.* 1847, p. 10; *id. Mon. Troch.* ii. pl. 72 (Sept. 1859); *id. Intr. Troch.* p. 64; *Bp. Consp.* i. p. 76; *id. Rev. Zool.* 1854, p. 250; *Reich. Aufz. d. Col.* p. 15; *Muls. & Verr. Class. Troch.* p. 47; *Tacz. P. Z. S.* 1874, p. 541; *id. Orn. Pér.* i. p. 279; *Elliot, Syn. Troch.* p. 36; *Eudes-Desl. Ann. Mus. Caen*, i. p. 177.

*Oreotrochilus melanogaster*, *Cab. & Heine, Mus. Hein.* iii. p. 15; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 176; *id. Ann. Soc. Linn. Lyon*, xxii. p. 211.

*Adult male.* Upper surface olive-brown, the upper tail-coverts tinged with bronze; tail uniform greenish black; throat glittering green, the rest of the under surface blue-black, the flanks dull chestnut, and the under tail-coverts greenish brown, with narrow rufous margin to each feather; bill black. Total length about 5 inches, wing 2.85, tail 1.9, bill 0.95.

*Adult female.* Upper parts light brown with a greenish lustre; upper tail-coverts shining green, throat unspotted; underparts brownish white, tinged with buff; under tail-coverts buffy brown; tail shining green, all the lateral feathers tipped with white. (*Elliot, l. s. c.*)

*Hab.* Andes of Peru.

a. ♂ ad. sk.	Junin, Peru ( <i>Jelski</i> ).	Slater Coll.
b. ♂ ad. sk.	Peru ( <i>ex Gould</i> ).	Salvin-Godman Coll.
c-e. Ad. sk.	Peru.	Gould Coll.

(Types of the species.)

### 6. *Oreotrochilus adela*.

*Trochilus adela*, *d'Orb. & Lafr. Syn. Av.* p. 32.

*Orthorhynchus adela*, *d'Orb. Voy. Am. MÉR.* iv. p. 377, pl. 61. f. 2.

*Oreotrochilus adela*, *Gould, P. Z. S.* 1847, p. 10; *id. Mon. Troch.* ii. pl. 73 (June 1849); *id. Intr. Troch.* p. 64; *Bp. Consp.* i. p. 76; *id. Rev. Zool.* 1854, p. 250; *Reich. Aufz. d. Col.* p. 15; *Scl. Cat. Am. B.* p. 290; *Muls. & Verr. Class. Troch.* p. 47; *Elliot, Ibis*,

- 1877, p. 142; *id. Syn. Troch.* p. 37; *Sci. & Salv. P. Z. S.* 1879, p. 627; *Eudes-Desl. Ann. Mus. Caen*, i. p. 176.  
*Orotrochilus adela*, *Cab. & Heine, Mus. Hein.* iii. p. 15; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 174; *id. Ann. Soc. Linn. Lyon*, xxii. p. 211.

*Adult male.* Like that of *O. melanogaster*, but with the abdomen more narrowly blue-black, and the flanks broadly and conspicuously deep chestnut; the lateral rectrices are pale buff edged with bluish black, instead of being uniform greenish black; bill black. Total length about 5 inches, wing 2.65, tail 2, bill 1.3.

*Adult female.* Under surface chestnut; throat whitish, thickly spotted with brown; lateral rectrices dull white, with a wide sub-terminal dark bar.

*Hab.* Andes of Bolivia.

- |  |                                      |                        |
|--|--------------------------------------|------------------------|
| a. ♂ ad. sk.                           | Cachira, Bolivia ( <i>Buckley</i> ). | Salvin-Godman Coll.    |
| b. ♀ ad. sk.                           | Misqui, Bolivia ( <i>Buckley</i> ).  | Salvin-Godman Coll.    |
| c, d. ♂ ad.; e, f. ♀ ad. sk.           | Bolivia ( <i>Buckley</i> ).          | Gould Coll.            |
| g-i. ♂ ad.; j. ♂ juv.; k, l. ♀ ad. sk. | [Bolivia.]                           | Gould & Selater Colls. |

## 92. OREONYMPHA.

*Oreonympha*, *Gould, P. Z. S.* 1869, p. 295 ..... Type. *O. nobilis*.

*Range.* Highlands of Southern Peru.

### 1. *Oreonympha nobilis*.

*Oreonympha nobilis*, *Gould, P. Z. S.* 1869, p. 295; *id. Mon. Troch., Suppl.* pl. 42 (Aug. 1880); *Sci. & Salv. P. Z. S.* 1869, p. 600; *Whiteley, P. Z. S.* 1874, p. 675; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 175, pl. 86; *id. Ann. Soc. Linn. Lyon*, xxii. p. 222; *Elliot, Syn. Troch.* p. 157; *Tacz. Orn. Pér.* i. p. 344.

*Adult male.* Upper surface shining bronzy brown, a broad band from the forehead over the middle of the crown very dark brown, on either side of which is a wide band of glittering blue; sides of the head and throat nearly black; chin and middle of the throat glittering green, terminating in a few long glittering reddish amethyst feathers; sides of the neck and under surface whitish, rather more dusky on the flanks and abdomen; under tail-coverts bronzy brown edged with whitish; central rectrices bronzy brown, outermost pair pure white, with the distal third of the outer part of the inner web bronzy brown, remaining rectrices white at the base, bronzy brown towards the distal end; bill black. Total length about 6.5 inches, wing 3.3; tail, central rectrices 1.75, lateral 2.85; bill 1.2.

*Female.* Upper surface like that of the male, the crown greenish blue, the feathers of the middle broadly edged with dark brown; throat black, a few glittering green feathers on the chin.

*Hab.* Highlands of Southern Peru.

a, b. ♂ ad. ; c. ♀ ad. ; d. ♀ juv. sk.	Tinta, Peru, Jan., May, June, Dec. ( <i>H. Whitely</i> ).	Gould Coll.
e. ♂ ad. sk.	Tinta, May ( <i>H. W.</i> ).	(Types of the species.) Salvin-Godman Coll.
f. ♀ ad. sk.	Huatado, Peru, July ( <i>H. W.</i> ).	Salvin-Godman Coll.
g. ♂ ad. sk.	Huatado, Dec.	H. Whitely [C.].

## 93. OXYPOGON\*.

Oxygogon, *Gould, P. Z. S.* 1848, p. 14 ..... Type.  
O. guerini.

*Range.* Andes of Venezuela and Colombia.

*Key to the Species.*

- a. Lateral rectrices purple-bronze, with the shafts only white; elongated gular feathers white . . . *lindeni*, p. 339.
- b. Lateral rectrices white, with bronzy-brown tips and edges.
- a'. Central elongated gular feathers glittering green . . . . . *guerini*, p. 340.
- b'. Central elongated gular feathers glittering blue . . . . . *cyanolemus*, p. 341.

## 1. Oxygogon lindeni.

*Ornismya lindeni*, *Boiss. Rev. Zool.* 1840, p. 253.

*Trochilus lindeni*, *Gould, P. Z. S.* 1848, p. 14; *Gray, Hand-l. B. i.* p. 141.

*Oxygogon lindeni*, *Gould, Mon. Troch.* iii. pl. 183 (June 1849); *id. Intr. Troch.* p. 108; *Bp. Consp. Av.* i. p. 79; *id. Rev. Zool.* 1854, p. 253; *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 825. ff. 4936-8; *Cab. & Heine, Mus. Hein.* iii. p. 67; *Sci. Cat. Am. B.* p. 302; *Muls. & Verr. Class. Troch.* p. 73; *Sci. & Salv. P. Z. S.* 1870, p. 782; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 182, iv. p. 219; *id. Ann. Soc. Linn. Lyon*, xxii. p. 222; *Elliot, Syn. Troch.* p. 156.

*Adult male.* Upper surface dark shining olive-green; crown and sides of the head black; a median stripe of white over the middle of the crown, branching towards each nostril, and produced backwards forming a portion of a white crest, rest of the crest-feathers black; chin white, with a median row of small glittering green discal spots, and surrounded by a black border continuous with the black of the sides of the head, this black region is again bordered by a whitish margin; the lower throat-feathers are prolonged into a beard of white plumes extending as far as the breast; rest of the under surface dark olive-green like the back, middle of the abdomen

\* I do not know the bird described as:—

OXYPOGON STUEBELI, *Meyer, Zeitschr. ges. Orn.* i. p. 204 (1884); *Sharpe, in Gould's Suppl. Mon. Troch.*

From a female specimen in bad condition obtained on the Volcan de Tolima, Colombia.

greyish : under tail-coverts olive-green ; central rectrices olive-green, remainder purplish bronze, with the shafts for three parts of their length white ; bill black. Total length about 5 inches, wing 2·9 ; tail, central rectrices 1·8, lateral 2·25 ; bill 0·5.

*Female*. Without the elongated feathers of the crest and throat ; crown dull greenish brown ; throat and breast white, each feather with a dusky discal spot.

*Hab.* Highlands of Venezuela.

a. ♂ ad. sk.	Paramo of Merida, Venezuela ( <i>A. Goering</i> ).	Salvin-Godman Coll.
b. ♀ ad. sk.	Sierra Nevada, Merida ( <i>A. Goering</i> ).	Salvin-Godman Coll.
c. ♀ ad. sk.	Merida ( <i>Goering</i> ).	Gould Coll.
d-i. ♂ ad. sk. ; j,	Merida.	Gould Coll.
k. Juv. sk.		
l. ♂ ad. sk.	"New Granada."	Sclater Coll.
m. ♂ ad. st.	Venezuela.	Purchased.

## 2. *Oxygogon guerini*.

*Ornismya guerini*, *Boiss. Rev. Zool.* 1840, p. 7 ; *Lodd. P. Z. S.* 1843, p. 122.

*Trochilus parvirostris*, *Fraser, P. Z. S.* 1840, p. 18.

*Trochilus guerini*, *Gould, P. Z. S.* 1848, p. 14 ; *Gray, Hand-l. B. i.* p. 141.

*Oxygogon guerini*, *Gould, Mon. Troch.* iii. pl. 182 (June 1849) ; *id. Intr. Troch.* p. 108 ; *Bp. Consp. Av.* i. p. 79 ; *id. Rev. Zool.* 1854, p. 253 ; *Reich. Aufz. d. Col.* p. 12 ; *id. Troch. Enum.* p. 10, pl. 624. ff. 4932-5 ; *Cab. & Heine, Mus. Hein.* iii. p. 67 ; *Scl. Cat. Am. B.* p. 302 ; *Muls. & Ferr. Class. Troch.* p. 73 ; *Wyatt, Ibis*, 1871, p. 377 ; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 178, pl. 87, iv. p. 219 ; *id. Ann. Soc. Linn. Lyon*, xxii. p. 222 ; *Elliot, Syn. Troch.* p. 156.

*Adult male*. Similar to that of *O. lindeni*, but with the crown and sides of the head and throat smoky black, the former tinged with very dark bronze : all the white portions of the crest and sides of the neck less pure and slightly tinged with very pale buff ; the green spots of the feathers of the centre of the throat are much elongated, and form a long glittering green gular patch ; the lateral rectrices have a large elongated central white patch involving the shaft and the adjoining portions of the web on either side, and in the outermost pair reaching on the outer web to the margin. Total length about 4·5 inches, wing 2·8 ; tail, central rectrices 1·6, lateral 2·1 ; bill 0·5.

*Female*. Differs from that of *O. lindeni* in the markings of the lateral rectrices, in which it resembles its male.

*Hab.* Highlands of Colombia, vicinity of Bogota, &c.

a. ♂ ad. sk.	Paramo of Pamplona, Colombia ( <i>C. W. Wyatt</i> ).	Salvin-Godman Coll.
b-g. ♂ ad. sk.	Colombia (Bogota make).	Salvin - Godman, Gould, & Slater Colls.

<i>h, i.</i> ♂ juv. sk.	Colombia (Bogota make).	Gould Coll.
<i>j.</i> ♀ ad. sk.		
<i>k.</i> ♂ ad.; <i>l.</i> ♀ ad. st.	Bogota.	Purchased.
<i>m.</i> ♂ ad.; <i>n.</i> ♀ ad. st.		Purchased.

### 3. *Oxygogon cyanolæmus*.

*Oxygogon cyanolæmus*, *Salv. & Godm. Ibis*, 1880, p. 172, pl. 4. f. 2;  
*Sharpe in Gould's Mon. Troch., Suppl.* pl. 41 (Jan. 1883);  
*d'Hamonv. Bull. Soc. Zool. Fr.* viii. p. 79.

*Adult male.* Resembles that of *O. guerini*, but has the sides of the crown greener, and the elongated feathers of the middle of the throat glittering violet-blue instead of green; the lateral rectrices also are more extensively white. Total length about 4.5 inches, wing 2.9; tail, central rectrices 1.7, lateral 2.2; bill 0.55.

*Female.* May be distinguished by the greater amount of white on the lateral rectrices, which extends across those feathers, leaving the tip alone bronzy brown.

*Hab.* Highlands of Northern Colombia.

<i>a-c.</i> ♂ ad.; <i>d.</i> ♀ ad. sk.	Sierra Nevada, Santa Marta, Colombia, alt. 11,000 ft., July (F. Simons).	Salvin-Godman Coll.
<i>e.</i> ♂ ad.; <i>f.</i> ♀ ad. sk.	Sierra Nevada, Santa Marta, alt. 11,000 ft., July (F. Simons).	Gould Coll.

(Types of the species.)

### 94. RHAMPHOMICRON.

Type.

Rhamphomicron, <i>Bp. Consp. Av.</i> i. p. 79. . . . .	<i>R. microrhynchum</i> .
Rhamphomicron $\gamma$ , <i>Chalcostigma</i> , <i>Reich. Aufz.</i>	
<i>d. Col.</i> p. 12 . . . . .	<i>R. heteropogon</i> .
<i>Chalcostigma</i> , <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 67.	<i>R. heteropogon</i> .
<i>Lampropogon</i> , <i>Bp. Rev. Zool.</i> 1854, p. 252 . . . . .	<i>R. heteropogon</i> .
Ramphomicron (Eupogonus), <i>Muls. &amp; Ferr.</i>	
<i>Classif. Troch.</i> p. 73 (1865) . . . . .	<i>R. herrani</i> .
Eupogonus, <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 222.	

*Range.* Andes from Northern Colombia to Bolivia.

This genus is a somewhat composite one, and might be separated into three or perhaps four, for which the following names are available:—*Rhamphomicron* for section *a'* of the subjoined key, *Chalcostigma* or *Lampropogon* for *b'*, and *Eupogonus* for *b*. This last section might be again separated, and in this case *R. ruficeps* would require a new generic name.

#### Key to the Species.

- a.* Tail deeply forked, the outermost pair of rectrices longest, the rest graduating to the central pair.
- a'.* Bill shorter, slightly decurved; glittering gular feathers uniform. (*Rhamphomicron*.)
- a''.* Upper surface rich purple . . . . . *microrhynchum*, p. 312.
- b''.* Upper surface black . . . . . *dorsale*, p. 343.

- b'*. Bill longer, nearly straight; glittering gular feathers bicolorous, ending in elongated plumes. (*Lampropogon*.)
- c''*. Upper surface greenish bronze; tail bronzy brown . . . . . *heteropogon*, p. 343.
- d''*. Upper surface and tail greenish olive. . . . . *olivaceum*, p. 344.
- e''*. Upper surface dark violet-blue; tail rather greener.
- a'''*. Elongated gular feathers glittering amethyst . . . . . *stanleyi*, p. 344.
- b'''*. Elongated gular feathers glittering plumbeous . . . . . *vulcani*, p. 345.
- b*. Tail less deeply forked; all the rectrices except the shorter central pair subequal. (*Eupogonus*.)
- c'*. Larger lateral rectrices tipped with white. *herrani*, p. 345.
- d'*. Smaller rectrices without white tips . . . . *ruficeps*, p. 346.

### 1. *Rhamphomicron microrhynchum*.

*Ornismya microrhyncha*, *Boiss. Rev. Zool.* 1839, p. 354; *id. Mag. Zool.* 1840, *Ois.* pl. 16.

*Trochilus brachyrhynchus*, *Fraser, P. Z. S.* 1840, p. 16.

*Rhamphomicron microrhyncha*, *Bp. Consp. Av.* i. p. 79.

*Rhamphomicron microrhynchum*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 818. ff. 4915-8; *Sci. Cat. Am. B.* p. 303; *Whitely, P. Z. S.* 1873, p. 190; *Tacz. P. Z. S.* 1874, p. 544, 1880, p. 207; *id. Orn. Pér.* i. p. 349; *Elliot, Syn. Troch.* p. 160; *Berl. & Tacz. P. Z. S.* 1884, p. 305.

*Trochilus microrhynchus*, *Gray, Hand-l. B.* i. p. 141.

*Rhamphomicron microrhynchus*, *Gould, Mon. Troch.* iii. pl. 189 (Oct. 1852); *id. Intr. Troch.* p. 109; *Muls. & Ferr. Class. Troch.* p. 73; *Bp. Rev. Zool.* 1854, p. 153; *Cab. & Heine, Mus. Hein.* iii. p. 70; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 162, pl. 84, iv. p. 219; *id. Ann. Soc. Linn. Lyon*, xxii. p. 221.

*Adult male*. Upper surface rich shining purple, upper tail-coverts slightly bronzed; under surface shining grass-green, throat glittering green, lower abdomen tinged with buff; under tail-coverts greenish edged with buff; tail purple-black; bill black. Total length about 4 inches, wing 2.05; tail, central rectrices 1.1, lateral 2.05; bill 0.4.

*Female*. Upper surface shining grass-green; upper tail-coverts bronze; under surface buffy white, each feather with a shining green discal spot; under tail-coverts chestnut, central rectrices bronzy black, lateral purple-black tipped with white; bill black. Total length about 3 inches, wing 1.8; tail, central rectrices 1.1, lateral 1.25; bill 0.4.

*Hab.* Highlands of Colombia and Ecuador.

- a-d*. ♂ ad.; *e-m*. ♂ juv.; *n, o*. ♀ ad. sk. Colombia (Bogota make). Salvin-Godman, Gould, & Selater Colls.
- p-r*. ♂ ad. sk. Intac, Ecuador (*Buckley*). Salvin-Godman Coll.
- s-u*. ♂ ad. sk. Quito, Ecuador. Gould Coll.
- v, w*. ♂ ad.; *x, y*. ♂ juv. sk. Ecuador. Salvin-Godman & Gould Colls.
- z*. ♀ ad. st. Bogota. Purchased.
- a'*. ♀ ad. st. Bogota. Purchased.



2. *Rhamphomicron dorsale*.

*Rhamphomicron dorsale*, *Salv. & Godm. Ibis*, 1880, p. 172, pl. 5 ;  
*Sharpe in Gould's Mon. Troch., Suppl.* pl. 43 (Jan. 1883).

*Adult male*. Upper surface black ; upper tail-coverts tinged with purple-bronze ; sides of the throat black, middle of the throat glittering greenish-gold ; rest of the under surface dusky, washed with bronzy green ; under tail-coverts dusky green, edged with pale grey ; tail purplish black ; bill black. Total length about 4.2 inches, wing 2.3 ; tail, central rectrices 1.15, lateral 2 ; bill 0.5.

*Female*. Upper surface shining grass-green ; upper tail-coverts purple-bronze ; under surface buffy white ; throat and flank-feathers with shining green discal spots ; lateral rectrices tipped with white. Length of the central rectrices 1.1, lateral 1.5.

*Hab.* Highlands of Northern Colombia.

a. ♂ ad. ; b. ♀ ad. sk. Sierra Nevada de Santa Marta, Colombia, July (*F. Simons*).  
 Salvín-Godman Coll. (Types of the species.)

3. *Rhamphomicron heteropogon*.

*Ornismya heteropogon*, *Boiss. Rev. Zool.* 1839, p. 355 ; *id. Mag. Zool.*

1840, *Ois.* pl. 12 ; *Lodd. P. Z. S.* 1843, p. 122.

*Trochilus coruscus*, *Fraser, P. Z. S.* 1840, p. 15.

*Rhamphomicron heteropogon*, *Bp. Consp. Av.* i. p. 79 ; *Gould, Mon.*

*Troch.* iii. pl. 184 (Oct. 1854) ; *id. Intr. Troch.* p. 109 ; *Sci. Cat.*

*Am. B.* p. 302 ; *Muls. & Ferr. Class. Troch.* p. 73 ; *Wyatt, Ibis*,

1871, p. 377 ; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 167 ; *id. Ann.*

*Soc. Linn. Lyon*, xxii. p. 221 ; *Elliot, Syn. Troch.* p. 153.

*Rhamphomicron* γ. *Chalcostigma heteropogon*, *Reich. Aufz. d. Col.*

p. 12 ; *id. Troch. Enum.* p. 10, pl. 820, ff. 4922-3.

*Lampropogon heteropogon*, *Cab. & Heine, Mus. Hein.* iii. p. 67.

*Trochilus heteropogon*, *Gray, Hand-l. B.* i. p. 141.

*Adult male*. Upper surface shining greenish bronze, becoming deeper redder bronze on the back of the neck, rump, and upper tail-coverts ; under surface bronzy green ; chin and throat glittering green, followed by a tuft of elongated amethyst feathers surrounded by a bronzy-black border ; middle of the abdomen and under tail-coverts buff, the latter with paler edges ; tail shining bronzy brown ; bill black. Total length about 4.8 inches, wing 2.7 ; tail, central rectrices 1.5, lateral 2.4 ; bill 0.65.

*Female*. Upper surface like that of the male ; throat nearly like the rest of the under surface, the feathers with greenish discs, but without glittering or elongated plumes.

*Hab.* Colombia.

a. ♂ ad. sk. Paramo of Pamplona, Colombia  
 (*C. W. Wyatt*).  
 Salvín-Godman Coll.

b-i. ♂ ad. ; j, k. Colombia (Bogotá make).  
 Salvín-Godman &  
 Gould Colls.

♂ juv. ; l-n.  
 ♀ ad. sk.

o, p. ♂ ad. st. Purchased.

4. *Rhamphomicron olivaceum*.

*Rhamphomicron olivaceum*, *Laur. Ann. Lyc. N. Y.* viii. p. 44 (1867); *Tacz. P. Z. S.* 1874, p. 544; *id. Orn. Pér.* i. p. 347; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 169, pl. 85; *Elliot, Syn. Troch.* p. 158; *Scl. & Salv. P. Z. S.* 1879, p. 628; *Scl. P. Z. S.* 1881, p. 488; *Sharpe in Gould's Mon. Troch., Suppl.* pl. 44 (1883).

*Adult male.* Upper surface olive, tinged with green; under surface dusky brown, blacker on the throat, on the middle of which is an elongated glittering stripe, green on the chin, and passing through fiery orange into glittering purple on the longest feathers; tail like the back greenish olive; bill black. Total length about 4.6 inches, wing 3.2; tail, central rectrices 1.8, lateral 2.15; bill 0.65.

*Adult female.* Similar to the male, but the throat unadorned, each feather dusky brown with a paler margin.

*Hab.* Andes of Peru.

a. ♂ ad. sk.	Junin, Peru ( <i>Jelski</i> ).	Slater Coll.
b. ♀ ad. sk.	Andes of Lima, Peru ( <i>Nation</i> ).	Slater Coll.

5. *Rhamphomicron stanleyi*.

*Trochilus stanleyi*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon* (2) ii. p. 199 (1850); *Gray, Hand-l. B.* i. p. 141.

*Rhamphomicron stanleyi*, *Gould, Mon. Troch.* iii. pl. 185 (Oct. 1852); *id. Intr. Troch.* p. 109; *Scl. P. Z. S.* 1860, p. 81; *id. Cat. Am. B.* p. 302; *Muls. & Ferr. Class. Troch.* p. 73; *Tacz. P. Z. S.* 1874, p. 504; *id. Orn. Pér.* i. p. 345; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 164; *id. Ann. Soc. Linn. Lyon*, xvii. p. 221; *Elliot, Syn. Troch.* p. 159.

*Rhamphomicron*  $\gamma$ . *Chaleostigma stanleyi*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 819, ff. 4919-21.

*Lampropogon stanleyi*, *Bp. Rev. Zool.* 1854, p. 253.

*Adult male.* Upper surface shining dark violet-blue; crown, wing- and upper tail-coverts shining dark bronzy green with a bluish shade; under surface dusky black with a tinge of green; sides of the head and throat black; middle of the throat glittering green, followed by elongated amethyst plumes; under tail-coverts purplish with pale dusky edges; tail dark greenish blue; bill black. Total length about 4.5 inches, wing 2.8; tail, central rectrices 1.45, lateral 2.35; bill 0.65.

*Female.* Similar to the male, but the throat like the rest of the under surface

*Hab.* Ecuador.

a, b. ♂ ad. sk.	Pichincha, Ecuador ( <i>Fraser</i> ).	Slater Coll.
c. Juv. sk.	Pichincha.	Salvin-Godman Coll.
d, e. ♂ juv. sk.	Quito, Ecuador.	Gould Coll.
f-k. ♂ ad.: l. ♀ ad. sk.	Ecuador.	Salvin-Godman & Gould Colls.
m. ♂ juv.: n. ♀ ad. sk.	[Ecuador.]	Purchased.
o, p. ♂ ♀ ad. st.		J. Bourcier [P.]

(Probably typical specimens.)

6. *Rhamphomicron vulcani*.

*Rhamphomicron vulcani*, *Gould, Contr. Orn.* 1852, p. 135; *id. Mon. Troch.* iii. pl. 186 (Sept. 1861); *id. Intr. Troch.* p. 109; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 164; *id. Ann. Soc. Linn. Lyon*, xxii. p. 221.

*Rhamphomicron*  $\gamma$ . *Chalcostigma vulcani*, *Reich. Aufz. d. Col.* p. 12. *Lampropogon vulcani*, *Bp. Rev. Zool.* 1854, p. 253.

*Rhamphomicron stanleyi*, var. *vulcani*, *Muls. & Ferr. Class. Troch.* p. 73.

*Trochilus vulcani*, *Gray, Hand-l. B. i.* p. 141.

*Adult male*. Similar to that of *R. stanleyi*, but the sides of the head and throat more sooty, not so densely black, and the elongated throat-plumes glittering plumbeous rather than amethyst.

This Bolivian bird, though separated from *R. stanleyi* by Gould and figured in his monograph, was united to *R. stanleyi* by Mr. Elliot, who could see no difference between them. The specimens before me appear to justify Gould's judgment on this point.

*Hab.* Bolivia.

a. ♂ ad. sk.	Bolivia ( <i>Warszewicz</i> ).	Gould Coll. (Type of the species.)
b. ♂ ad. sk.	Western side of Sorata, Bolivia, May ( <i>D. Forbes</i> ).	Gould Coll.
c. ♂ ad. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.
d, e. ♂ ad.; f, g.	[Bolivia.]	Salvin-Godman & Gould Colls.
♀ ad. sk.		

7. *Rhamphomicron herrani*.

*Trochilus herrani*, *Delattre & Bourc. Rev. Zool.* 1846, p. 309; *Gray, Hand-l. B. i.* p. 141.

*Calothorax herrani*, *Bp. Consp. Av.* i. p. 85.

*Rhamphomicron herrani*, *Gould, Mon. Troch.* iii. pl. 187 (Oct. 1852); *id. Intr. Troch.* p. 109; *Muls. & Ferr. Class. Troch.* p. 73; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 172, iv. p. 219; *Elliot, Syn. Troch.* p. 159.

*Rhamphomicron*  $\gamma$ . *Chalcostigma herrani*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 822. ff. 4926-8.

*Lampropogon herrani*, *Bp. Rev. Zool.* 1854, p. 253.

*Eupogonus herrani*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 222.

*Adult male*. Upper surface shining green, becoming bronze on the rump and upper tail-coverts: crown black, with a narrow median occipital fulvous stripe, widening and becoming rufous on the forehead: under surface dusky tinged with green; throat black, with the chin glittering green, changing into an elongated glittering fiery-red median gular tuft; under tail-coverts buff with darker discs; tail steel-blue, the central rectrices tinged with purple, the lateral tipped with white: bill black. Total length about 4.75 inches, wing 2.85; tail, central rectrices 1.75, lateral 2.1; bill 0.65

*Female.* Similar to the male, but the throat like the rest of the under surface, unadorned.

*Hab.* Ecuador and Colombia.

a. Juv. sk.	Quindiu Mts., Colombia ( <i>Warszewicz</i> ).	Gould Coll.
b. ♂ ad. sk.	Pasto, Ecuador ( <i>Lehmann</i> ).	Salvin-Godman Coll.
c. ♂ ad. sk.	Bordonillo, near Pasto ( <i>Lehmann</i> ).	Salvin-Godman Coll.
d. ♂ ad.; e. ♀ ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
f. Juv. sk.	Quito, Ecuador ( <i>Buckley</i> ).	Gould Coll.
g. ♂ ad. sk.	Pichincha, Ecuador ( <i>Whymper</i> ).	Slater Coll.
h-g. ♂ ad.; r-u. ♂ juv.; v-y. ♀ ad. sk.	Ecuador.	Salvin-Godman & Gould Colls.

### 8. *Rhamphomicron ruficeps*.

*Trochilus* (—?) *ruficeps*, *Gould, P. Z. S.* 1846, p. 89.

*Rhamphomicron ruficeps*, *Bp. Consp. Av.* i. p. 79; *Gould, Mon. Troch.* iii. pl. 188 (Oct. 1852); *id. Intr. Troch.* p. 109; *Muls. & Verr. Class. Troch.* p. 73; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 171; *Elliot, Syn. Troch.* p. 160; *Sci. & Salv. P. Z. S.* 1879, p. 628; *Tacz. P. Z. S.* 1880, p. 207, 1882, p. 36; *id. Orn. Pér.* i. p. 348.

*Rhamphomicron γ*. *Chalcostigma ruficeps*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 821. ff. 4924-5.

*Lampropogon ruficeps*, *Bp. Rev. Zool.* 1854, p. 253.

*Trochilus ruficeps*, *Gray, Hand-l. B.* i. p. 141.

*Eupogonius ruficeps*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 222.

*Adult male.* Upper surface shining bronzy green; crown dull rufous; under surface buff, whiter on the middle of the abdomen; chin and middle of the throat glittering green, each feather of the sides of the neck, breast, and flanks with a glittering disc; tail bronzy green like the back; bill black. Total length about 3·5 inches, wing 2·3; tail, central rectrices 1·3, lateral 1·6; bill 0·6.

*Female.* Similar to the male, but the crown shining bronzy green like the back, and the chin and throat buff, each feather with a green disc.

*Hab.* Bolivia.

a. ♂ ad.; b. ♀ ad. sk.	Bolivia ( <i>Warszewicz</i> ).	Gould Coll.
c. ♂ ad.; d. ♀ ad. sk.	Tilotilo, Yungas, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
e-g. ♂ ad.; h. ♀ ad. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.
i. ♂ ad. sk.	[Bolivia.]	Gould Coll.

(Probably the type of the species.)



## 96. PATAGONA.

Type.

Patagona, Gray, *List Gen. B.* (1840), p. 18 ..... P. gigas.  
 Hypermetra, Cab. & Heine, *Mus. Hein.* iii. p. 80 (1860) .. P. gigas.

*Range.* Andes from Ecuador to Chili and the Argentine Republic.

## 1. Patagona gigas.

- Trochilus gigas, *Vieill. Gal. Ois.* i. p. 296, pl. 180; *Gould, Voy. Beagle*, iii. p. 111; *Fraser, P. Z. S.* 1843, p. 114; *Cassin in Gilliss's Expl. Exp.* ii. p. 186; *Gray, Hund-l. B.* i. p. 150.  
 Ornismya tristis, *Less. Hist. Nat. Ois.-Mouches*, pp. xii, 43, pl. 3.  
 Trochilus tristis, *Less. Ind. Gén. Troch.* p. iv.  
 Cynanthus tristis, *Less. Traité d'Orn.* p. 272.  
 Ornismya gigantea, *d'Orb. & Lafr. Syn. Ar.* p. 26.  
 Patagona gigas, *Bp. Consp.* i. p. 75; *id. Rev. Zool.* 1854, p. 251; *Reich. Aufz. d. Col.* p. 17; *Gould, Mon. Troch.* iv. pl. 232 (May 1855); *id. Intr. Troch.* p. 127; *Des Murs in Custeln. Voy.* i. p. 38; *Jameson & Fraser, Ibis*, 1859, p. 399; *Scl. P. Z. S.* 1860, p. 81, 1867, p. 328; *id. Cat. Am. B.* p. 307; *Muls. & Ferr. Class. Troch.* p. 56; *Scl. & Salv. P. Z. S.* 1867, p. 988, 1868, p. 569, 1869, p. 154, 1879, p. 629; *Tacz. P. Z. S.* 1874, p. 545, 1879, p. 238; *id. Orn. Pér.* i. p. 373; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 194, pl. 44, iv. p. 204; *id. Ann. Soc. Linn. Lyon*, xxii. p. 212; *Elliot, Ibis*, 1877, p. 134; *id. Syn. Troch.* p. 67; *E. W. White, P. Z. S.* 1882, p. 615; *Salv. Cat. Strickl. Coll.* p. 366; *Scl. & Huds. Arg. Orn.* ii. p. 4.  
 Hypermetra gigas, *Cab. & Heine, Mus. Hein.* iii. p. 81; *Heine, J. f. Orn.* 1863, p. 216.

*Adult male.* Upper surface brown faintly washed with green, each feather with a pale dusky edge; a patch of white on the rump; under surface dark rufous, especially on the throat and abdomen; breast-feathers brown at the base, with rufous margins; chin dusky white, each feather with a brown centre; under tail-coverts white, the longest feathers with a dusky disc; tail greenish brown, the outermost pair of rectrices pale dusky with dark tip, the next pair paler at the base; bill black. Total length 8.5 inches, wing 5.2; tail, central rectrices 2.8, lateral 3.4; bill 1.8.

*Female* like the male.

*Young birds* have whitish tips to the feathers of the upper surface, including the wing-primaries and the rectrices. They also appear to be more uniformly rufescent on the under surface.

Some specimens, especially from Ecuador and Peru, are of a uniform deep rufous colour beneath. These may be in normal female plumage, but I am uncertain on this point. A female shot at Arequipa on June 10 (*i. e.* in mid-winter) is in abraded plumage; the under surface is wholly rufous, but on the throat a few new deep rufous feathers are shown. The upper surface of this specimen

shows signs of immaturity. Birds from Peru northwards are larger than those from Chili.

*Hab.* Andes of South America from Ecuador to Chili.

<i>a, b.</i> ♂ ad. sk.	Riobamba, Ecuador ( <i>Fraser, Buckley</i> ).	Salvin-Godman & Selater Colls.
<i>c.</i> ♂ ad. sk.	Ecuador ( <i>Fraser</i> ).	Salvin-Godman Coll.
<i>d.</i> Ad. sk.	Ecuador.	Salvin-Godman Coll.
<i>e.</i> ♀ ad. sk.	Arequipa, Peru, June ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
<i>f.</i> ♂ ad. sk.	Tinta, Peru, Jan. ( <i>H. W.</i> )	Salvin-Godman Coll.
<i>g-i.</i> ad. sk.	Bolivia ( <i>D. Forbes, Buckley</i> ).	Gould Coll.
<i>j.</i> ♂ ad.; <i>k.</i> ♀ ad. sk.	Chilian Andes, Jan.	Gould Coll.
<i>l.</i> ♂ ad.; <i>m.</i> ♀ ad. sk.	Coquimbo, Chili, Aug. ( <i>Dr. Coppinger</i> ).	Salvin-Godman Coll.
<i>n, o.</i> Sk.	Chili ( <i>E. C. Reed, Dillwyn</i> ).	Salvin-Godman & Selater Colls.
<i>p.</i> Sk.	Pampas Argentinas ( <i>Leybold</i> ).	Salvin-Godman Coll.
<i>q.</i> ♂ ad. sk.	Fuerte de Andalgada, Catamarca, Argent. Rep., Sept. ( <i>E. W. White</i> ).	Salvin-Godman Coll.
<i>r.</i> Ad. st.	Chili.	Lord Byron [P.].
<i>s.</i> Ad. st.	Chili.	Bridges [C.].
<i>t.</i> Ad.; <i>u.</i> Juv. st.		Purchased.

## 97. AGLÆACTIS.

Type.

*Aglæactis*, *Gould, P. Z. S.* 1848, p. 11..... *A. cupreipennis*.

*Aglaiactis*, *Cab. & Heine, Mus. Hein.* iii. p. 69.

*Range.* Andes from Colombia to Bolivia.

*Key to the Species.*

- a.* Tail longer, slightly forked; general plumage more or less rufous-brown or dark buff; central rectrices chiefly bronze, rufous only at the base.
- a'.* Pectoral tuft buff.
- a''.* Lower back glittering amethyst, passing through glittering golden to grass-green on the upper tail-coverts..... *cupreipennis*, p. 350.
- b''.* Lower back darker glittering amethyst, more golden green on the rump and violet on the upper tail-coverts.... *caumatomota*, p. 351.
- b'.* Pectoral tuft white..... *castelnaudi*, p. 351.
- b.* Tail shorter, more rounded; general plumage black; central rectrices chestnut, tipped and edged with blackish brown..... *pamela*, p. 352.

1. *Aglæactis cupreipennis*.

*Trochilus cupreipennis*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, vi. p. 46 (1843); *id. Rev. Zool.* 1843, p. 71; *Gray, Hand-l. B.* i. p. 140.

*Aglæactis cupreipennis*, *Bp. Consp. Av.* i. p. 73; *id. Rev. Zool.* 1854, p. 253; *Gould, Mon. Troch.* iii. pl. 179 (Sept. 1856); *id. Intr. Troch.* p. 106; *Jameson & Fraser, Ibis*, 1859, p. 400; *Scl. P. Z. S.* 1860, pp. 60, 81; *id. Cat. Am. B.* p. 302; *Muls. & Verr. Class. Troch.* p. 66; *Wyatt, Ibis*, 1871, p. 377; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 24, iv. p. 215; *id. Ann. Soc. Linn. Lyon*, xxii. p. 218; *Elliot, Syn. Troch.* p. 186; *Tucz. P. Z. S.* 1882, p. 36; *id. Orn. Pér.* i. p. 340; *Berl. & Tacz. P. Z. S.* 1884, p. 304; *Berl. J. f. Orn.* 1887, p. 324.

*Aglæactis cupreipennis*, *Cab. & Heine, Mus. Hein.* iii. p. 69.

*Helianthea*  $\delta$ . *Aglæactis cupreipennis*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 737. ff. 4689-90.

*Aglæactis æquatorialis*, *Cab. & Heine, Mus. Hein.* iii. p. 70; *Heine, J. f. Orn.* 1863, p. 211.

*Aglæactis æquatorialis*, *Gould, Intr. Troch.* p. 106; *Scl. Cat. Am. B.* p. 302.

*Aglæactis cupreipennis*, var. *æquatorialis*, *Muls. & Verr. Class. Troch.* i. p. 66; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 218.

*Aglæactis parvula*, *Gould, Intr. Troch.* p. 106.

*Aglæactis parvula*, *Heine, J. f. Orn.* 1863, p. 211.

*Aglæactis cupreipennis*, var. *parvula*, *Muls. & Verr. Class. Troch.* p. 66; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 218; *Tacz. P. Z. S.* 1880, p. 207.

*Trochilus æquatorialis*, *Gray, Hand-l. B.* i. p. 140.

*Adult male.* Upper surface dark brown, faintly washed with dark bronzy green, darker on the crown; lower back when viewed from behind glittering amethyst, becoming golden green on the rump and passing into grass-green on the upper tail-coverts; under surface rufous; ear-coverts and chin browner, an indistinct tuft of buff feathers on the breast; rectrices rufous, the central pair nearly wholly greenish bronze, the basal two-thirds of the shafts only and the webs immediately adjoining rufous, the remainder with broad tips and with the outer webs greenish; bill black, the base of the mandible flesh-colour. Total length about 4.7 inches, wing 3.5; tail, central rectrices 1.65, lateral 1.8; bill 0.9.

*Female.* Similar to the male, but with the back less brilliant.

The Ecuador bird has been separated from the Colombian as *A. æquatorialis* and the Peruvian as *A. parvula*, but the differences seem to me to be slight and variable.

*Hab.* Colombia, Ecuador, Peru.

<i>a-d.</i> ♂ ad.; <i>e,</i>	Colombia (Bogota make).	Salvin-Godman, Gould, & Selater Colls.
<i>f.</i> ♀ ad. sk.		
<i>g.</i> ♂ ad. sk.	Pasto, Ecuador ( <i>Lehmann</i> ).	Salvin-Godman Coll.
<i>h, i.</i> ♂ ad. sk.	Quito, Ecuador.	Gould Coll.
<i>j-l.</i> ♂ ad.; <i>m.</i>	Ecuador ( <i>Fraser</i> ).	Salvin-Godman, Gould, & Selater Colls.
♂ juv. sk.		



<i>n-p.</i> ♂ ad.; <i>q-s.</i> ♀ ad. sk.	Ecuador.	Salvin-Godman & Gould Colls.
<i>t.</i> ♂ ad. sk.	Cutervo, Peru ( <i>Stolzmann</i> ).	Selater Coll.
<i>u, v.</i> Ad. sk.	Peru ( <i>Warszewicz</i> ).	Gould Coll.
		(Types of <i>A. parvula</i> , Gould.)
<i>w.</i> Ad. st.		Purchased.

## 2. *Aglæactis caumatonota*.

*Aglæactis caumatonota*, *Gould, P. Z. S.* 1848, p. 12; *id. Intr. Troch.* p. 106; *id. Mon. Troch., Suppl.* pl. 49 (Aug. 1880); *Bp. Consp. Av.* i. p. 73; *Whitely, P. Z. S.* 1873, p. 190; *Tacz. P. Z. S.* 1874, p. 543; *id. Orn. Pér.* i. p. 342; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 26, iv. p. 215; *id. Ann. Soc. Linn. Lyon*, xxii. p. 218; *Elliot, Syn. Troch.* p. 186; *Berl. Pr. U. S. Nat. Mus.* xi. p. 561.

*Helianthea* ♂. *Aglæactis caumatonota*, *Reich. Aufz. d. Col.* p. 9.

*Aglaiactis caumatonota*, *Cab. & Heine, Mus. Hein.* iii. p. 70.

*Aglæactis cupreipennis*, var. *caumatonota*, *Muls. & Ferr. Class. Troch.* p. 66.

*Aglæactis olivaceocauda*, *Laur. Ann. Lyc. N. Y.* viii. p. 470.

*Adult male.* Similar to that of *A. cupreipennis*, but rather darker, especially on the chin, breast, and flanks, the pale pectoral spots thus showing more plainly; lower back richer amethyst, with less glittering golden green on the rump and with the upper tail-coverts purplish amethyst; bill wholly black. Total length about 4·7 inches, wing 3·1; tail, central rectrices 1·65, lateral 1·85; bill 0·9.

*Female.* Similar to the male, but rather paler, and the lower part of the back less bright.

*Hab.* Peru.

<i>a.</i> Juv. sk.	[Peru.]	Gould Coll.
		(Type of the species.)
<i>b.</i> ♂ ad.; <i>c-e.</i> ♀ ad. sk.	Cachupata, Peru, Oct., Nov.	Salvin-Godman Coll.
	( <i>H. Whitely</i> ).	

## 3. *Aglæactis castelnaudi*.

*Trochilus castelnaudi*, *Bourc. & Muls. Rev. Zool.* 1848, p. 270.

*Aglæactis castelnaudi*, *Bp. Consp. Av.* i. p. 73; *id. Rev. Zool.* 1854, p. 253; *Des Murs in Casteln. Voy.* i. p. 38; *Gould, Mon. Troch.* iii. pl. 180 (May 1857); *id. Intr. Troch.* p. 107; *Whitely, P. Z. S.* 1873, p. 190; *Tacz. P. Z. S.* 1874, p. 544; *id. Orn. Pér.* i. p. 343; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 21, iv. p. 215; *id. Ann. Soc. Linn. Lyon*, xxii. p. 213; *Elliot, Syn. Troch.* p. 187.

*Helianthea* ♂. *Aglæactis castelnaudi*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 739. ff. 4693-4.

*Aglaiactis castelnaudi*, *Cab. & Heine, Mus. Hein.* iii. p. 69.

*Adult male.* Similar to the preceding species, but with darker plumage, especially on the under surface, which is dark brown, a spot on the throat and the middle of the abdomen alone being dark rufous; the pectoral tuft of elongated plumes is conspicuous, being white instead of buff, and the glittering feathers of the upper surface are of a purple-amethyst, without any admixture of golden or grass-green.

*Female.* Similar to the male, but apparently without the glittering feathers of the lower back.

*Hab.* Peru.

- |      |            |                                   |                          |
|------|------------|-----------------------------------|--------------------------|
| a.   | ♀ ? sk.    | Cusco, Peru ( <i>Castelnau</i> ). | Gould Coll.              |
|      |            |                                   | (A type of the species.) |
| b-c. | ♂ ad. ; f. | Cachupata, Peru, Oct., Nov.       | Salvin-Godman &          |
|      | ♀ ad. sk.  | ( <i>H. Whiteley</i> ).           | Gould Colls.             |

#### 4. *Aglæactis pamela*.

*Orthorhynchus pamela*, *d'Orb. & Lafr. Syn. Ar.* ii. p. 29; *d'Orb. Voy. Am. Sept.* iv. *Ois.* p. 375, pl. 60. f. 1.

*Aglæactis pamela*, *Bp. Consp. Ar.* i. p. 73; *id. Rev. Zool.* 1854, p. 253; *Gould, Mon. Troch.* iii. pl. 181 (Sept. 1856); *id. Intr. Troch.* p. 107; *Muls. & Verr. Class. Troch.* p. 66; *Elliot, Ibis*, 1877, p. 137; *id. Syn. Troch.* p. 187; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 19, pl. 68; *id. Ann. Soc. Linn. Lyon*, xxii. p. 218; *Scl. & Salv. P. Z. S.* 1879, p. 628.

*Helianthea* ♂. *Aglæactis pamela*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 738. ff. 4691-2.

*Aglæactis pamela*, *Cab. & Heine, Mus. Hein.* iii. p. 69.

*Trochilus pamela*, *Gray, Hand-l. B.* i. p. 141.

*Adult male.* Black; lower part of the back, rump, and upper tail-coverts glittering bluish grass-green; pectoral tuft white and very conspicuous; under tail-coverts and tail chestnut, the latter tipped and edged with blackish brown; bill black. Total length about 4.3 inches, wing 2.75, tail 1.6, bill 0.85.

*Female.* Similar to the male but rather browner.

*Hab.* Bolivia.

- |       |              |                                      |                     |
|-------|--------------|--------------------------------------|---------------------|
| a, b. | ♂ ad. ; c,   | Unduavi, Bolivia ( <i>Bridges</i> ). | Salvin-Godman &     |
|       | d. ♀ ? sk.   |                                      | Gould Colls.        |
| e.    | ♂ ad. ; f. ♀ | Unduavi ( <i>Buckley</i> ).          | Salvin-Godman Coll. |
|       | ad. sk.      |                                      |                     |
| g.    | ♀ ? sk.      | Consata, Bolivia ( <i>Buckley</i> ). | Sclater Coll.       |
| h-l.  | ♂ ad. sk.    | Bolivia ( <i>Buckley</i> ).          | Gould Coll.         |

#### 98. *BELLONA*.

*Bellona*, *Muls. & Verr. Classif. Troch.* p. 75 (1865) . . . . . Type.  
*Orthorhynchus, auctt.* B. cristata.

*Range.* Lesser Antilles.

#### *Key to the Species.*

- |    |   |                           |
|----|---|---------------------------|
| a. | Forehead and crown glittering green, the posterior feathers of the latter produced into a crest of glittering blue. . . . . | <i>cristata</i> , p. 353. |
| b. | Crest greener, the blue colour restricted to the tips of the longer feathers . . . . .                                      | <i>ornata</i> , p. 354.   |
| c. | Crest almost wholly green, the tips of the longer feathers slightly tinged with blue. . . . .                               | <i>exilis</i> , p. 354.   |

1. *Bellona cristata*.

- Crested Humming Bird, *Edw. Nat. Hist.* i. pl. 37.  
 Oiseau-Mouche Huppé, *Buff. Hist. Nat. Ois.* vi. p. 22.  
 Oiseau-Mouche Huppé de Cayenne, *D'Aub. Pl. Enl.* 227. f. 1.  
 Mellisuga cristata, *Briss. Orn.* iii. p. 714, pl. 37. f. 2.  
 Trochilus cristatus, *Linn. Syst. Nat.* i. p. 192; *Gm. Syst. Nat.* i. p. 498; *Lath. Ind. Orn.* p. 317; *Less. Ind. Gén. Troch.* p. xxx; *Schomb. Hist. Barb.* p. 681; *Gray, Hand-l. B.* i. p. 147.  
 Trochilus puniceus, *Gm. Syst. Nat.* i. p. 497.  
 Trochilus pileatus, *Lath. Ind. Orn.* p. 318; *Vieill. N. Dict. d'Hist.* N. vii. p. 365; *id. Enc. Méth.* p. 566?  
 Oiseau-Mouche huppé bleu, *Aud. Ois. Dor.* i. p. 154, pl. 63 (?).  
 Ornismya cristata, *Less. Hist. Nat. Ois.-Mouches*, pp. xxxix, 113, pls. 31, 32.  
 Orthorhynchus cristatus, *Bp. Consp. Av.* i. p. 83; *id. Rev. Zool.* 1854, p. 256; *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 9, pl. 807. ff. 4876-7; *Gould, Mon. Troch.* iv. pl. 205 (May 1857); *id. Intr. Troch.* p. 116; *Cab. & Heine, Mus. Hein.* iii. p. 61; *Elliot, Ibis*, 1872, p. 355; *Salv. Ibis*, 1873, p. 334; *Sel. P. Z. S.* 1874, p. 175; *Laur. Pr. U.S. Nat. Mus.* i. pp. 272, 487.  
 Bellona cristata, *Muls. & Verr. Class. Troch.* p. 75; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 193, pl. 89; *id. Ann. Soc. Linn. Lyon*, xxii. p. 222; *Elliot, Syn. Troch.* p. 177; *Cory, Ibis*, 1886, p. 472; *id. B. West Ind.* p. 151 (pt.).  
 Orthorhynchus emigrans, *Laur. Ann. Lyc. N. Y. Ac. Sc.* i. p. 50.

*Adult male.* Upper surface dark grass-green; forehead and anterior portion of the crown glittering green; posterior portion and elongated feathers of the crest glittering violet-blue; sides of the neck and under surface smoky black, paler on the chin and throat; under tail-coverts and tail purple-black; bill black. Total length about 3.7 inches, wing 1.95, tail 1.1, bill 0.7.

*Female.* Upper surface including the crown shining dark grass-green; under surface smoky; central rectrices wholly and the rest at the base shining grass-green, the latter with a wide subterminal steel-blue band and tipped with grey.

*Hab.* West Indies: Barbados, Grenadines, and Grenada Islands.

- |                        |   |                                       |
|------------------------|---|---------------------------------------|
| a. ♂ ad.; b. ♀ ad. sk. | Barbados, West Indies.  | Sir R. Schomburgk.                    |
| c. ♂ ad. st.           | Barbados.   | Sir R. Schomburgk.                    |
| d. ♂ ad. sk.           | Barbados ( <i>Tucker</i> ).                                       | Gould Coll.                           |
| e. ♂ ad.; f. ♀ ad. sk. | Barbados.   | Gould Coll.                           |
| g. ♂ ad. sk.           | Barbados ( <i>Briggs</i> ).                                       | Slater Coll.                          |
| h. ♂ ad. sk.           | Grenada, West Indies ( <i>F. A. Ober</i> ).                       | Slater Coll.                          |
| i, j. ♂ ad. sk.        | Mustigne, Grenadine Is., W. I., June ( <i>Mrs. H. H. Smith</i> ). | Salvin-Godman Coll.                   |
| k. ♂ ad. sk.           | Venezuela ??  | Salvin-Godman Coll.                   |
| l n. ♂ ad. sk.         | ( <i>ex G. N. Lawrence</i> ).                                     | Salvin-Godman, Gould, & Slater Colls. |

(Typical of *O. emigrans*.)

2. *Bellona ornata*.

*Orthorhynchus ornatus*, *Gould, Mon. Troch.* iv. pl. 206 (Sept. 1861);  
*id. Intr. Troch.* p. 117; *Scl. P. Z. S.* 1871, p. 372, 1872, p. 651;  
*Elliot, Ibis*, 1872, pp. 355; *Lavr. Pr. U. S. Nat. Mus.* i. pp. 192, 487;  
*Lister, Ibis*, 1880, p. 42.

*Bellona hectoris*, *Muls. & Ferr. Class. Troch.* p. 75.

*Adult male*. Intermediate between those of *B. cristata* and *B. exilis*, the glittering blue of the elongated feathers of the head restricted to the tips of the longer plumes.

*Hab.* St. Vincent, West Indies.

<i>a, b.</i> ♂ ad; <i>c.</i>	— ?	Gould Coll.
♀ ad. sk.		(Types of <i>O. ornatus</i> .)
<i>d.</i> ♂ ad. sk.	St. Vincent, West Indies ( <i>ex G. N. Lawrence</i> ).	Salvin-Godman Coll.
<i>e-m.</i> ♂ ad.; <i>n.</i>	St. Vincent, W. I., April, Aug.,	Salvin-Godman Coll.
♀ ad. sk.	and Sept. ( <i>Mrs. H. H. Smith</i> ).	

3. *Bellona exilis*.

*Trochilus exilis*, *Gm. Syst. Nat.* i. p. 484; *Lath. Ind. Orn.* p. 310;  
*Vieill. Enc. Méth.* p. 550; *Gray, Hand-l. B.* i. p. 147.

*Trochilus cristatellus*, *Lath. Ind. Orn. Suppl.* p. xxxix; *Vieill. N. Dict. d'Hist. N.* vii. p. 352; *id. Enc. Méth.* p. 556.

Oiseaux-Mouche huppé, *Aud. Ois. Dor.* p. 110, pls. 47, 48.

*Trochilus cristatus*, *Vieill. N. Dict. d'Hist. N.* vii. p. 365; *id. Enc. Méth.* p. 565 (*nec Linn.*).

*Orthorhynchus chlorolophus*, *Bp. Consp. Av.* i. p. 83.

*Orthorhynchus exilis*, *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 9, pl. 807, f. 4879; *Bp. Rev. Zool.* 1854, p. 256; *Gould, Mon. Troch.* iv. pl. 207 (May 1857); *id. Intr. Troch.* p. 117; *A. & E. Newton, Ibis*, 1859, p. 141; *Cab. & Heine, Mus. Hein.* iii. p. 61; *Scl. Cat. Am. B.* p. 304; *E. C. Taylor, Ibis*, 1864, p. 170; *Muls. & Ferr. Class. Troch.* p. 75; *Elliot, Ibis*, 1872, p. 355; *Gundl. J. f. Orn.* 1878, p. 182; *Lavr. Pr. U. S. Nat. Mus.* i. pp. 61, 187, 234, 278, 458, 487; *Grisdale, Ibis*, 1882, p. 490.

*Trochilus* (*Orthorhynchus*) *exilis*, *Sundev. Œfr. K. Vet.-Ak. Förh.* 1869, p. 600.

*Bellona exilis*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 196; *id. Ann. Soc. Linn. Lyon*, xxii. p. 222; *Elliot, Syn. Troch.* p. 179; *Cory, B. West Ind.* p. 152.

*Adult male*. Similar to those of *B. ornata* and *B. cristata*, but the crest faintly tinged with blue at the tips of the longer feathers: the forehead, crown, and crest being nearly of a uniform glittering green.

*Hab.* West Indies from Santa Lucia northwards to the Virgin Islands and Puerto Rico (?).

<i>a.</i> ♂ ad; <i>b.</i> ♀ ad. sk.	Virgin Gorda, West Indies, ( <i>C. S. Winch</i> ).	Salvin-Godman Coll.
<i>c.</i> ♂ ad. sk.	St. Kitts, West Indies ( <i>C. S. Winch</i> ).	Salvin-Godman Coll.
<i>d.</i> ♂ ad. sk.	St. Kitts, Dec. ( <i>G. Armstrong</i> ).	Salvin-Godman Coll.

<i>e.</i> ♂ ad. sk.	St. Thomas, West Indies ( <i>A. Newton</i> ).	Slater Coll.
<i>f.</i> ♂ ad.; <i>g.</i> ♀ ad. sk.	St. Thomas, W. I.	Gould Coll.
<i>h.</i> ♂ ad. sk.	Nevis, W. I.	Salvin-Godman Coll.
<i>i.</i> ♂ ad. sk.	Dominica, W. I. ( <i>F. Ober</i> ).	Salvin-Godman & Slater Colls.
<i>j.</i> ♂ ad. sk.	Martinique, W. I. ( <i>E. C. Taylor</i> ).	Slater Coll.
<i>k.</i> ♂ ad. sk.	Martinique, Nov. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>l.</i> ♂ ad. sk.	Santa Lucia, W. I. ( <i>Semper</i> ).	Salvin-Godman & Slater Colls.
<i>m, n.</i> ♂ ♀ ad. st.		Purchased.

## 99. LODDIGESIA.

	Type.
Loddigesia, " <i>Gould</i> ," <i>Bp. Consp. Av.</i> i. p. 80 (1849) . .	<i>L. mirabilis</i> .
Loddigesia, <i>Gould, Mon. Troch.</i> iii. pl. 161 (Sept. 1861).	
Loddigesiornis, <i>Bp. Compt. Rend.</i> xxx. p. 381 (1850) . .	<i>L. mirabilis</i> .
Orthorhynchus ♂. <i>Mulsantia, Reich. Aufz. d. Col.</i> p. 12. .	<i>L. mirabilis</i> .
Thaumantoessa, <i>Heine, J. f. Orn.</i> 1863, p. 209 . . . . .	<i>L. mirabilis</i> .

*Range.* Central Peru.

1. *Loddigesia mirabilis*.

*Trochilus mirabilis*, *Bourc. P. Z. S.* 1847, p. 42.

*Loddigesia mirabilis*, *Bp. Consp. Av.* i. p. 80; *Gould, Mon. Troch.* iii. pl. 161 (Sept. 1861); *id. Intr. Troch.* p. 99; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 252; *id. Ann. Soc. Linn. Lyon*, xxii. p. 224; *Elliot, Syn. Troch.* p. 145; *Scl. & Salv. Ibis*, 1880, p. 152; *Tacz. & Stolzm. P. Z. S.* 1881, p. 827; *Tacz. P. Z. S.* 1882, p. 35; *id. Orn. Pér.* i. p. 318.

*Loddigesiornis mirabilis*, *Bp. Compt. Rend.* xxx. p. 381; *id. Rev. Zool.* 1854, p. 256.

Orthorhynchus ♂. *Mulsantia mirabilis*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 9, pl. 810. f. 4888.

*Thaumantoessa mirabilis*, *Heine, J. f. Orn.* 1863, p. 209.

*Platura mirabilis*, *Muls. & Verr. Class. Troch.* p. 80.

*Adult male.* Upper surface shining grass-green, becoming darker and more bronzy on the upper back and back of the neck, brighter on the upper tail-coverts; forehead, crown, and elongated crest-plumes glittering blue; under surface white, middle of the throat glittering bluish green, passing through green into bronze on the sides, and margined with black; middle of the breast and abdomen bronzy black; under tail-coverts shining green, the longest (measuring 2·8 inches) becoming steel-blue and tipped with white; central rectrices very short and covered by the longer upper tail-coverts, shining green, the outermost pair steel-blue, very long, and curved and crossing one another twice, once near the base and again about 1·3 from the base; a narrow decreasing web on either side, expanding into a large disc nearly an inch in diameter at the

end; the intermediate rectrices appear to be wholly wanting; bill black. Total length to the end of the longest under tail-coverts about 5 inches, wing 1.55; tail, longest rectrices about 5.5; bill 0.7.

*Female.* Upper surface shining grass-green, darker and more bronzy on the crown; under surface white, the sides of the neck and flanks with shining green discal spots; central rectrices green like the back; remainder graduated, steel-blue, grey at the base, the outermost pair having the webs reduced in width for about three-fourths of their length, and then expanding so as to form a small spatule.

*Young male.* Similar to the female, but an elongated pair of under tail-coverts; the central pair of rectrices shorter, the three intermediate ones on either side not visible, the outermost pair straight, with the webs narrower than in the female, and the spatule larger. The glittering feathers of the throat appear before those of the crown.

*Hab.* Central Peru.

- a. ♂ ad.; ♀ ad. sk. Tamiapampa, Peru, Nov. (J. Salvin-Godman Coll. *Stolzmann*).  
 c. ♂ juv. sk. Chachapoyas, Peru, Nov. (J. Salvin-Godman Coll. *Stolzmann*).

#### 100. CEPHALOLEPIS.

- Cephallepis, *Lodd. P. Z. S.* 1830, p. 12 ..... C. delalandi. Type.  
 Cephalolepis, *Cab. & Heine, Mus. Hein.* iii. p. 61 ..... C. delalandi.

*Range.* Brazil.

#### *Key to the Species.*

- a. Crown glittering grass-green ..... *delalandi*, p. 356.  
 b. Crown glittering violet-blue ..... *lodligesi*, p. 357.

#### 1. *Cephalolepis delalandi.*

- Trochilus delalandi*, *Vieill. N. Dict. d'Hist. N.* xxiii. p. 427; *id. Enc. Méth.* p. 558; *Temm. Pl. Col.* 18. ff. 1, 2; *Sw. Birds Bras.* pl. 22; *Less. Ind. Gén. Troch.* p. xxix; *Gray, Hand-l. B. i.* p. 148.  
*Trochilus versicolor*, *Vieill. N. Dict. d'Hist. N.* xxiii. p. 430; *id. Enc. Méth.* p. 560.  
*Cephallepis delalandi*, *Lodd. P. Z. S.* 1830, p. 12; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 187, pl. 88; *id. Ann. Soc. Linn. Lyon*, xxii. p. 222.  
*Ornismya delalandi*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxxviii, 95, pl. 23; *id. Suppl. Ois.-Mouches*, p. 136, pl. 19.  
*Cephallepis delalandi*, *Bp. Consp. Av.* i. p. 83; *id. Rev. Zool.* 1854, p. 256.  
*Orthorhynchus γ. Cephallepis delalandi*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 9, pl. 808. ff. 4880-3.  
*Cephallepis delalandi*, *Gould, Mon. Troch.* pl. 208 (Oct. 1854); *id. Intr. Troch.* p. 118.  
*Orthorhynchus delalandi*, *Burm. Syst. Ueb.* ii. p. 351.

*Cephalolepis delalandi*, *Cab. & Heine, Mus. Hein.* iii. p. 61; *Scl. Cat. Am. B.* p. 304; *Pelz. Orn. Bras.* p. 33; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 111; *Elliot, Syn. Troch.* p. 180; *Salv. Cat. Strickl. Coll.* p. 365.

*Bellona delalandi*, *Muls. & Ferr. Class. Troch.* p. 75.

*Cephalolepis beskii*, *Pelz. Orn. Bras.* p. 58.

*Cephalolepis beskii*, *Elliot, Ibis*, 1874, p. 262.

*Cephalolepis beskii*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 222.

*Adult male.* Upper surface shining bronzy grass-green; crown and the shorter of the elongated occipital plumes glittering green; longest occipital plume black; middle of the under surface shining violet-blue; chin, sides of the neck, and flanks grey; discs of the under tail-coverts tinged with green; central rectrices bronze-green, lateral steel-blue, green at the base and tipped with grey; bill black. Total length about 3.3 inches, wing 1.95, tail 1.3, bill 0.65.

*Female.* Uncrested; crown like the back, under surface entirely dusky grey.

*Young males* commence their adult dress by assuming scattered violet-blue feathers on the middle of the under surface; the long occipital plume appears before the glittering feathers of the crown.

There appears to be some variation in the males of this bird, but no materials are at hand to show if they are in any way localized. One of these forms or varieties has been described as *C. beskii*. It has, according to Mr. Elliot, a bluer crown and the breast lighter blue than *C. delalandi*. Another, described by Mr. Elliot but unnamed, has the crown "shiny black" and the breast darker blue than the typical form. A specimen before me has the crown like the type, but the abdomen much greener and the breast of an indigo rather than a violet tint.

*Hab.* South-eastern Brazil.

<i>a-h.</i> ♂ ad.;	<i>i, j.</i> ♂ juv.;	Brazil.	Salvin-Godman, Gould, & Selater Colls.
<i>k-m.</i> ♀ ad. sk.			
<i>n.</i> ♂ ad. sk.		Brazil.	Mrs. Ince [P.].
<i>o, p.</i> ♂ ad.;	<i>q, r.</i> ♂ juv. st.		Purchased.

## 2. *Cephalolepis loddigesi*.

*Trochilus loddigesi*, *Gould, P. Z. S.* 1830-31, p. 12; *Less. Hist. Nat.* p. 138, pl. 51; *id. Ind. Gén. Troch.* p. xxx.

*Cephalolepis loddigesi*, *Bp. Consp. Av.* i. p. 83; *id. Rev. Zool.* 1854, p. 256; *Gould, Mon. Troch.* pl. 209 (Oct. 1854); *id. Intr. Troch.* p. 118.

*Orthorhynchus γ.* *Cephalolepis loddigesi*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 9, pl. 809, ff. 4884-7.

*Orthorhynchus loddigesi*, *Burm. Syst. Ucb.* ii. p. 352.

*Cephalolepis loddigesi*, *Cab. & Heine, Mus. Hein.* iii. p. 61; *Pelz. Orn. Bras.* p. 33; *Elliot, Syn. Troch.* p. 180.

*Bellona loddigesi*, *Muls. & Ferr. Class. Troch.* p. 75.

*Cephalolepis loddigesi*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 191; *id. Ann. Soc. Linn. Lyon*, xxii. p. 222.

*Adult male.* Similar to that of *C. delalandi*, but with the crown glittering violet-blue instead of green; the middle of the under surface is much darker, and the lateral rectrices have much more green at the base; the bill, too, is longer (0·8 inch).

The *female* resembles that sex of *C. delalandi*, but may be distinguished by the greater extent of the green at the base of the ateral rectrices.

*Hab.* Southern Brazil.

a. ♂ ad. sk.	Rio Grande do Sul, Brazil ( <i>H. v. Ihring</i> ).	Salvin-Godman Coll.
b. ♂ ad.; c. ♀ ad. sk.	Brazil.	Salvin-Godman & Gould Colls.

### 101. ABEILLIA.

Abeillia, <i>Bp. Consp. Av.</i> i. p. 79 (1849).....	Type. A. typica.
Basilinna γ. Baucis, <i>Reich. Aufz. d. Col.</i> p. 13.....	A. typica.
Myiabeillia, <i>Bp. Rev. Zool.</i> 1854, p. 253.....	A. typica.
Baucis, <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 72.....	A. typica.

*Range.* Southern Mexico and Guatemala.

#### 1. Abeillia typica.

*Ornismya abeillei*, *Del. & Less. Rev. Zool.* 1839, p. 16.

*Ramphomicon abeillei*, *Bp. Consp. Av.* i. p. 79.

*Abeillia typica*, *Bp. Consp. Av.* i. p. 79; *Elliot, Syn. Troch.* p. 184.

*Basilinna γ. Baucis abeillei*, *Reich. Aufz. d. Col.* p. 13.

*Myiabeillia typica*, *Bp. Rev. Zool.* 1854, p. 253; *Gould, Mon. Troch.* pl. 211 (Oct. 1854); *id. Intr. Troch.* p. 119; *Scl. & Salv. Ibis*, 1859, p. 128; *Salv. Ibis*, 1860, pp. 195, 262, 263; *Scl. Cat. Am. B.* p. 304; *de Oca, La Nat.* iii. p. 205.

*Baucis abeillei*, *Cab. & Heine, Mus. Hein.* iii. p. 72; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 143, iv. p. 219; *id. Ann. Soc. Linn. Lyon*, xxii. p. 221.

*Adelomya abeillei*, *Muls. & Verr. Class. Troch.* p. 71.

*Trochilus abeillei*, *Gray, Hand-l. B.* i. p. 142.

*Adult male.* Upper surface shining grass-green, rather more bronze on the crown and middle of the back; a large postocular white spot; ear-coverts black; chin and upper throat glittering grass-green, bordered below by black; rest of the under surface dusky grey, the feathers of the sides of the neck and flanks and under tail-coverts with shining green discs; central rectrices bronzy green, lateral steel-blue, green at the base and tipped with grey; bill black. Total length about 3·2 inches, wing 0·85, tail 1·15, bill 0·6.

*Female.* Like the male, but with the under surface wholly pale dusky grey.

*Hab.* Mexico and Guatemala.

a. ♂ ad.; b. ♂ juv.; c. ♀ ad. sk.	Mexico ( <i>Flores</i> ).	Gould Coll.
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d. ♂ ad. ; e. ♀ ad. sk.	Coban, Guatemala, Nov. (O. <i>Salvin</i> ).	Salvin-Godman & Sclater Colls.
f. ♂ ad. sk.	Coban ( <i>Skinner</i> ).	Gould Coll.
g. ♂ ad. sk.	Volcan de Fuego, Guatemala, Sept., Oct. (O. <i>Salvin</i> ).	Salvin-Godman Coll.
h. ♀ ad. sk.	Pie de la Cuesta, San Marcos, Guatemala, Nov. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
i. ♂ ad. sk.		Purchased.

## 102. KLAIS.

	Type.
Basilinna β. Klais, <i>Reich. Aufz. d. Col.</i> p. 13 . . . . .	K. guimeti.
Guimeti, "Reich," <i>Bp. Ann. Sc. Nat.</i> sér. 4, i. p. 137 . . .	K. guimeti.
Klais, <i>Gould, Mon. Troch.</i> iv. pl. 110 (Sept. 1857) . . . . .	K. guimeti.

*Range.* Central America as far north as Nicaragua ; Colombia, Venezuela, and the Upper Amazons Valley.

## 1. Klais guimeti.

*Trochilus guimeti*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, vi. p. 88, pl. 2 (1843) ; *id. Rev. Zool.* 1843, p. 12.

Basilinna β. Klais guimeti, *Reich. Aufz. d. Col.* p. 13.

Myiabeillia guimeti, *Bp. Rev. Zool.* 1854, p. 253.

Klais guimeti, *Gould, Mon. Troch.* iv. pl. 110 (Sept. 1857) ; *id. Intr. Troch.* p. 119 ; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 139, pl. 82 ; *id. Ann. Soc. Linn. Lyon*, xxii. p. 221 ; *Boucard, P. Z. S.* 1878, p. 69 ; *Elliot, Syn. Troch.* p. 184 ; *Tacz. Orn. Pér.* i. p. 364 ; *Berl. J. f. Orn.* 1887, p. 319.

Mellisuga meritti, *Lawr. Ann. Lyc. N. Y.* vii. p. 110 ; *Gould, Ibis*, 1860, p. 309.

Basilinna guimeti, *Cab. & Heine, Mus. Hein.* iii. p. 45.

Klais guimeti, *Scl. Cat. Am. B.* p. 304 ; *Heine, J. f. Orn.* 1863, p. 196 ; *Salv. P. Z. S.* 1867, p. 155 ; *Scl. & Salv. P. Z. S.* 1867, p. 753, 1873, p. 288 ; *Tacz. P. Z. S.* 1882, p. 37.

Adelomya guimeti, *Muls. & Verr. Class. Troch.* p. 70.

Klais meritti, *Salv. P. Z. S.* 1870, p. 209 ; *id. Ibis*, 1872, p. 319.

Hylocharis guimeti, *Gray, Hand-l. B.* i. p. 152.

*Adult male.* Upper surface shining grass-green, blacker on the back of the neck and upper back, bluer on the rump and upper tail-coverts ; crown and throat glittering violet-blue ; sides of the head black ; under surface grey, sides of the neck and flanks washed with green ; central rectrices bluish green, lateral steel-blue, green at the base and narrowly tipped with white ; bill black. Total length about 3·4 inches, wing 2, tail 1·2, bill 0·6.

*Female.* Similar to the male, with a paler glittering blue crown ; the under surface, however, is wholly pale grey, and the lateral rectrices have larger white tips.

*Hab.* Central America from Nicaragua to Panama ; Colombia, Venezuela, and the Upper Amazons Valley.

a-c. ♂ ad. sk.	Chontales, Nicaragua ( <i>Bell</i> ).	Salvin-Godman Coll.
d-f. ♂ ad. ; g. ♂ juv. ; h, i. ♀ ad. sk.	Costa Rica ( <i>Endres</i> ).	Salvin-Godman & Gould Colls.

<i>j.</i> ♂ ad. ; <i>k, l.</i> ♂ juv. sk.	Chiriqui ( <i>E. Arcé</i> ).	Salvin-Godman & Selater Colls.
<i>m.</i> ♂ ad. sk.	Laguna del Castillo, Panama ( <i>E. Arcé</i> ).	Salvin-Godman Coll.
<i>n.</i> ♂ ad. ; <i>o.</i> ♂ juv. sk.	Santiago de Veraguas ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>p, q.</i> ♂ ad. ; <i>r.</i> ♀ ad. sk.	Santa Fé, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>s, t.</i> ♂ ad. ; <i>u.</i> ♀ ad. sk.	Chepo, Panama ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
<i>v-z.</i> ♂ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>a'.</i> ♂ ad. sk.	Ecuador ( <i>Buckley</i> ).	Gould Coll.
<i>b', c'.</i> ♂ ad. ; <i>d'.</i> ♂ juv. sk.	Upper Amazons ( <i>Bartlett</i> ).	Gould Coll.
<i>e', f'.</i> ♂ ad. sk.	Venezuela.	Salvin-Godman & Gould Colls.
<i>g'.</i> ♂ ad. sk.	San Esteban, Venezuela.	Selater Coll.
<i>h', i'.</i> ♂ ad. st.		Purchased.

## 103. ERIOCNEMIS.

	Type.
Eriopus, <i>Gould, P. Z. S.</i> 1847, p. 16 ( <i>nee Treitschke</i> ).	<i>E. vestita</i> .
Eriocnemis, <i>Reich. Syst. Av.</i> pl. xl. (1849) . . . . .	<i>E. vestita</i> .
Eriocnemis <i>a.</i> Engyte, <i>Reich. Aufz. d. Col.</i> p. 9 (1854) . . . . .	<i>E. alinae</i> .
Eriocnemis <i>γ.</i> Threptria, <i>Reich. Aufz. d. Col.</i> p. 9 (1854) . . . . .	<i>E. mosquera</i> .
Eriocnemis <i>δ.</i> Phemonoe, <i>Reich. Aufz. d. Col.</i> p. 9 (1854) . . . . .	<i>E. luciani</i> .
Aline, " <i>Reich.</i> ,"	} <i>Ep. Ann. Sc. Nat.</i> sér. 4, i. p. 137 (1854).
Mosquera, " <i>Reich.</i> ,"	
Luciani, " <i>Reich.</i> ,"	
Derbyomyia, <i>Ep. Ann. Sc. Nat.</i> sér. 4, i. p. 137.	
Erebenna, <i>Muls. &amp; Ferr. Class. Troch.</i> p. 66. . . . .	<i>E. derbyi</i> .
Eriocnemis (Niche), <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. pp. 217, 218 . . . . .	<i>E. glaucopoides</i> .
Eriocnemis (Pholoë), <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. pp. 217, 218 . . . . .	<i>E. dysehius</i> .
Eriocnemis (Nania), <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. pp. 217, 218 . . . . .	<i>E. cupreiventris</i> .
Eriona, <i>Muls. Hist. Nat. Ois.-Mouches</i> , iii. p. 28 . .	<i>E. godini</i> .

*Range.* Andes from Venezuela and Colombia to Bolivia.

As a whole, *Eriocnemis* is a tolerably homogeneous genus, though it contains several fairly well-marked sections. All, however, have the legs clothed with downy feathers, which form a very conspicuous feature, the shape of the tail serving to separate the other genera also possessing it. The most distinct member of the genus is *E. derbyi*, which not only has the tufts of the legs differently coloured in the sexes, but also has the outermost rectrix on either side of very singular shape, the outer web being evanescent almost to the tip of the feather, which is very acute. The female shows this peculiarity to a less extent. Should it be thought advisable to

separate *E. derbyi* generically, the name *Erebenna*, Muls. & Verr., is available for it. Of the other species of *Eriocnemis*, *E. incultus* seems the most aberrant, but of it I do not know enough to pronounce a definite opinion upon its affinities.

The tufts on the legs clothe the tibia and the proximal portion of the tarsus. I have called them "tibial tufts" and not "tarsal tufts," the term used by Mr. Elliot.

*Key to the Species.*

- a. Under tail-coverts glittering green.  
*a*<sup>1</sup>. Tufts of the tibiæ black ..... *derbyi*, p. 362.  
*b*<sup>1</sup>. Tufts of the tibiæ white ..... *alinæ*\*, p. 363.
- b. Under tail-coverts more or less blue.  
*c*<sup>1</sup>. Under tail-coverts glittering blue.  
*a*<sup>2</sup>. A definite glittering blue gular patch.  
*a*<sup>3</sup>. Abdomen glittering green.  
*a*<sup>4</sup>. A black pectoral band ..... *vestita*, p. 363.  
*b*<sup>4</sup>. No pectoral band ..... *smaragdinipectus*, p. 364.  
*b*<sup>3</sup>. Abdomen glittering amethyst .... *ventralis*, p. 364.  
*c*<sup>2</sup>. Abdomen nearly black ..... *nigrivestis*, p. 365.  
*b*<sup>2</sup>. A diffused greenish-blue gular patch . *godini*, p. 365.  
*c*<sup>2</sup>. No gular patch.  
*d*<sup>2</sup>. Forehead bluish green or violet-blue.  
*c*<sup>1</sup>. Forehead bluish green ..... *luciani*, p. 366.  
*d*<sup>1</sup>. Forehead violet-blue ..... *glaucepoides*, p. 367.  
*e*<sup>2</sup>. Forehead shining green.  
*e*<sup>1</sup>. Abdomen reddish copper ..... *cupreiventris* †, p. 367.  
*f*<sup>1</sup>. Abdomen darker redder copper. . *chrysurama*, p. 368.
- d*<sup>1</sup>. Under tail-coverts dull dark purple-blue.  
*d*<sup>2</sup>. General plumage dark bronzy brown . *simplex*, p. 368.  
*e*<sup>1</sup>. General plumage purplish black .... *dyselius*, p. 368.

\* *ERIOCNEMIS DYBOWSKII*, *Tacz. P. Z. S.* 1882, p. 39; *id. Orn. Pér.* i. p. 394, from Ray-Urmana, Peru (*J. Stolzmann*), is evidently allied to *E. alinæ*. *Taczanowski's* description of the male is as follows:—

"*E. supra aureo-viridis*: subtus splendide viridis, abdomine splendidissimo; pectore medio albo, viridi maculato; subcaudalibus splendide viridibus; pedibus albo papposis; remigibus nigricantibus nitore violaceo; cauda profunde emarginata, aureo-viridi; rostrum rectum, subcylindricum, dimidia parte corporis longius, nigrum; pedes nigricantes. Long. tot. 106, vol 157, aile 52, queue 33, bec 22 millim.

"*Hab.* Ray-Urmana, Peru, 7000-8000 pieds (*Stolzmann*)."

† The following bird is also unknown to me, but apparently belongs here:—

*ERIOCNEMIS SAPPHIROPYGIA*, *Tacz. P. Z. S.* 1874, pp. 139, 545; *id. Orn. Pér.* i. p. 397; *Sharpe in Gould's Mon. Troch.*, *Suppl.* pl. 50 (Jan. 1883).

"*E. capite viridi, dorso tectricibusque alarum subcupreo viridibus, uropygio et tectricibus caudæ superioribus viridibus; subtus viridi nitidus, subcaudalibus splendide sapphirinis; pedibus albo papposis; cauda emarginata, tectricibus latis saturate ceruleis.*

"*Hab.* Maraymoc, Peru (*Jelski*)."  
 (*Tacz. l. s. c.*)

- c. Under tail-coverts shining green; abdomen rich greenish or reddish copper.  
 e'. Upper tail-coverts and central rectrices shining green ..... *mosquera*, p. 369.  
 f'. Upper tail-coverts purplish coppery green, central rectrices purple-black .. *isaacsoni*, p. 369.  
 d. Under tail-coverts green; under surface greenish or bronzy green.  
 g'. Tibial tufts half white, half pale chestnut.  
 f''. Under surface greenish ..... *aurelicæ*, p. 370.  
 g''. Under surface bronzy green ..... *russata*, p. 370.  
 h'. Tibial tufts pale chestnut ..... *assimilis*, p. 371.  
 e. Under tail-coverts and under surface dark grey.  
 i'. Tibial tufts wholly white ..... *lugens*, p. 371.  
 j'. Tibial tufts half white, half pale chestnut. *squamata*, p. 371.  
 f. Under tail-coverts grey, tinged with bluish green and edged with white ..... *incultus*, p. 372.

### 1. *Eriocnemis derbyi*.

*Trochilus derbyi*, *Del. & Bourc. Rev. Zool.* 1846, p. 306.

*Eriopus derbyi*, *Gould, P. Z. S.* 1847, p. 17; *Bp. Consp. Av.* i. p. 80.

*Eriocnemis*  $\gamma$ . *Threptia derbyi*, *Reich. Aufz. d. Col.* p. 9; *id. Troch.*

*Enum.* p. 6, pl. 728. ff. 4666-7, pl. 741. ff. 4698-9.

*Eriocnemis derbyanus*, *Bp. Rev. Zool.* 1854, p. 252.

*Eriocnemis derbyanus*, *Gould, Mon. Troch.* iv. pl. 279 (May 1858).

*Eriocnemis derbyana*, *Gould, Intr. Troch.* p. 145; *Muls. Ann. Soc.*

*Linn. Lyon.* xxii. p. 218; *Elliot, Syn. Troch.* p. 189; *Tacz. Orn.*

*Pér.* i. p. 395.

*Erebenna derbyi*, *Muls. & Ferr. Class. Troch.* p. 66.

*Eriocnemis derbyi*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 40.

*Hylocharis derbyi*, *Gray, Hand-l. B.* i. p. 153.

*Adult male.* Upper surface rich shining bronze-green, reddish bronze on the rump; the longer tail-coverts brilliant glittering green; under surface glittering golden green, tinged with bronze on the sides of the throat; under tail-coverts very brilliant glittering green; tibial tufts black; tail nearly black, the outermost rectrices pointed, the outer web being almost obsolete; bill black. Total length about 3.8 inches, wing 2.3; tail, central rectrices 1.1, lateral 1.3; bill 0.95.

*Female.* Similar to the male, but with the forehead tinged with bluish green, the bases of the feathers of the throat white, and the tibial tufts white.

*Hab.* Southern Colombia and the adjoining part of Ecuador.

- a-d. ♂ ad.; e-g. Volcan de Puracé, Colombia Gould Coll.  
 ♀ ad. sk. (*Delattre*).  
 h-j. ♂ ad. sk. Near Pasto, Colombia (*Lehmann*). Salvin-Godman & Gould Colls.  
 k. ♂ ad.; l, m. Ecuador (*Buckley*). Salvin-Godman Coll.  
 ♀ ad. sk.  
 n, o. ♂ ad.; p, Ecuador. Gould & Selater Colls.  
 q. ♀ ad. sk.

2. *Eriocnemis alinæ*.

*Ornismya alinæ*, *Bourc. Ann. Sc. Phys. et Nat. Lyon*, v. p. 343, pl. 20 (1842); *id. Rev. Zool.* 1842, p. 373.

*Eriopus alinæ*, *Bp. Consp. Av.* i. p. 80.

*Eriocnemis a. Engypte alinæ*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 5, pl. 726, ff. 4655-6.

*Eriocnemys alinæ*, *Bp. Rev. Zool.* 1854, p. 252.

*Eriocnemis alinæ*, *Gould, Mon. Troch.* iv. pl. 280 (May 1859); *id. Intr. Troch.* p. 145; *Cab. & Heine, Mus. Hein.* iii. p. 73; *Scl. Cat. Am. B.* p. 311; *Muls. & Verr. Class. Troch.* p. 65; *Whitely, P. Z. S.* 1873, p. 784; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 30, iv. p. 216; *id. Ann. Soc. Linn. Lyon*, xxii. p. 217; *Elliot, Syn. Troch.* p. 191; *Berl. J. f. Orn.* 1887, p. 321.

*Hylocharis alinæ*, *Gray, Hand-l. B.* i. p. 152.

*Adult male*. Upper surface shining grass-green; forehead and under surface, including the under tail-coverts, glittering grass-green; bases of the feathers of the throat and breast white, which colour shows between the glittering green discal spots; tibial tufts white; tail shining olive-green; bill black. Total length about 3·5 inches, wing 2·1; tail, central rectrices 0·85, lateral 1·3; bill 0·75.

*Female*. Probably resembles the male.

*E. dybowskii*, which I do not know, is evidently a close ally of *E. alinæ* (see page 361).

*Hab.* Colombia and Northern Ecuador.

<i>a-h.</i> Ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>i-l.</i> Ad. sk.	Pasto, Ecuador ( <i>Lehmann</i> ).	Salvin-Godman & Gould Colls.
<i>m.</i> Ad. st.		Purchased.

3. *Eriocnemis vestita*.

*Ornismya vestita*, *Longuem. Rev. Zool.* 1838, p. 314; *Lodd. P. Z. S.* 1843, p. 122.

*Trochilus uropygialis*, *Fraser, P. Z. S.* 1840, p. 15.

*Ornismya glomata*, *Less. Echo du Monde Sav.* 1843 (*fide Elliot*).

*Eriopus vestita*, *Bp. Consp. Av.* i. p. 80.

*Eriocnemis vestita*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 726, ff. 4657-9; *Gould, Mon. Troch.* iv. pl. 275 (May 1859); *id. Intr. Troch.* p. 145; *Cab. & Heine, Mus. Hein.* iii. p. 73; *Scl. Cat. Am. B.* p. 311; *Muls. & Verr. Class. Troch.* p. 65; *Scl. & Salv. P. Z. S.* 1870, p. 782; *Elliot, Ibis*, 1876, p. 10; *id. Syn. Troch.* p. 193; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 32, iv. p. 216; *id. Ann. Soc. Linn. Lyon*, xxii. p. 152; *Berl. J. f. Orn.* 1887, p. 322.

*Eriocnemys vestitus*, *Bp. Rev. Zool.* 1854, p. 252.

*Mellisuga ridolphii*, *Benvenuti, Ann. R. Mus. Tor.* 1865, p. 305.

*Hylocharis vestita*, *Gray, Hand-l. B.* i. p. 152.

*Adult female*. Upper surface shining grass-green; rump and upper tail-coverts very brilliant glittering golden green; under surface shining grass-green, becoming brighter and more golden on

the abdomen; a large gular patch glittering violet-blue, bordered below by a black band; under tail-coverts glittering violet-blue; tail steel-blue, base of the central rectrices green; tibial tufts white; bill black. Total length about 4 inches, wing 2·3; tail, central rectrices 1·1, lateral 1·65; bill 0·8.

*Female*. Similar to the male on the upper surface, but rather lighter green, and the rump less brilliant; beneath, the throat and breast are pale chestnut, the abdomen white; each of the feathers of the whole under surface having a shining green discal spot, which is small on the breast and middle of the abdomen; the gular spot is pale violet-blue.

*Hab.* Venezuela and Colombia.

a. ♂ ad. sk.	Paramo of Merida, Venezuela ( <i>A. Goering</i> ).	Salvin-Godman Coll.
b. ♂ ad. sk.	Merida ( <i>Goering</i> ).	Salvin-Godman Coll.
c-h. ♂ ad.; i-l. ♂ juv.; m-r. ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman, Gould, & Selater Colls.
s, t. ♂ ad. st.		Purchased.
u. ♀ ad. st.	Bogota.	Purchased.

#### 4. *Eriocnemis smaragdinipectus*.

*Eriocnemis smaragdinipectus*, *Gould, Ann. & Mag. N. H.* 1868, i. p. 322; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 217; *Elliot, Ibis*, 1872, p. 295; *id. Syn. Troch.* p. 194; *Tacz. & Berl. P. Z. S.* 1885, p. 105.

*Adult male*. Very similar to that of *E. vestita*, but without the black border beneath the violet-blue gular patch, the bright green of the rest of the under surface extending to the lower margin of that spot.

*Hab.* Ecuador.

a-f. ♂ ad.; g, h. ♀ ad. sk.	Quito, Ecuador.	Gould Coll. (Types of the species.)
i, j. ♂ ad. sk.	San Lucas, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
k. ♂ ad.; l. ♀ ad. sk.	San Rafael, Ecuador ( <i>Stolzmann</i> ).	Selater Coll.
m. ♀ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.

#### 5. *Eriocnemis ventralis*. (Plate IX. fig. 2.)

*Adult male*. Upper surface shining grass-green, becoming bronzy black on the hind neck and crown, and glittering olive-green on the rump and upper tail-coverts; under surface with the throat bronzy black, a glittering blue gular patch; breast glittering green, shading into glittering amethyst on the abdomen; under tail-coverts glittering purplish blue; tail steel-blue; tibial tufts pure white; bill black. Total length about 3·9 inches, wing 2·25; tail, central rectrices 1·05, lateral 1·65; bill 0·85.

A species belonging to the same section of the genus as *E. vestita*,

but differing from that bird and all others in the colour of the abdomen, which is of a similar tint to that of *Helianthea typica*.

*Hab.* Colombia.

a. ♂ ad. sk. Colombia (Bogota make). Salvin-Godman Coll.  
(Type of the species.)

### 6. *Eriocnemis nigrivestis*.

*Trochilus nigrivestis*, *Bourc. Ann. Sc. Phys. et Nat. Lyon*, (2) iv. p. 144 (1852).

*Eriocnemis nigrivestis*, *Reich. Aufz. d. Col.* p. 9; *Bp. Rev. Zool.* 1854, p. 252; *Gould, Mon. Troch.* iv. pl. 276 (May 1858); *id. Intr. Troch.* p. 145; *Muls. & Verr. Class. Troch.* p. 65; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 38, iv. p. 216; *id. Ann. Soc. Linn. Lyon*, xxii. p. 217; *Elliot, Syn. Troch.* p. 194.

*Hylocharis nigrivestis*, *Gray, Hand-l. B.* i. p. 152.

*Adult male.* Upper surface nearly black, a green tinge in certain lights on the forehead, crown, and rump; upper tail-coverts dark shining indigo-blue; under surface black, washed with very dark purple, the flanks with green; a gular patch and under tail-coverts glittering dark violet-blue; tibial tufts white; tail dark steel-blue; bill black. Total length about 3·8 inches, wing 2·35; tail, central rectrices 1·05, lateral 1·45; bill 0·75.

*Female.* Upper surface shining bronzy green, becoming glittering grass-green on the upper tail-coverts; under surface shining golden green, with the bases of the feathers of the throat buff, those of the abdomen white; a gular patch of pale greenish blue; under tail-coverts violet-blue; tibial tufts white; bill black.

*Hab.* Ecuador.

a, b. ♂ ad.; c. ♀ ad. sk. Intac, Ecuador (*Buckley*). Salvin-Godman Coll.  
d. ♂ ad.; e. ♀ ad. sk. Pichincha, Ecuador (*E. Whymper*). Sclater Coll.  
f. ♂ ad.; g, h. ♀ ad. sk. Sarayacu, Ecuador (*Buckley*). Salvin-Godman Coll.  
i. ♂ ad. sk. Cochabamba, near Otobila, Ecuador. Gould Coll.  
j-n. ♂ ad.; o, p. ♀ ad. sk. Ecuador. Salvin-Godman & Gould Colls.

### 5. *Eriocnemis godini*.

*Trochilus godini*, *Bourc. Compt. Rend.* xxxii. p. 186 (1851).

*Eriocnemis godini*, *Reich. Aufz. d. Col.* p. 9; *Gould, Mon. Troch.* iv. pl. 277 (May 1861); *id. Intr. Troch.* p. 145; *Muls. & Verr. Class. Troch.* p. 65; *Elliot, Ibis*, 1872, p. 295; *id. Syn. Troch.* p. 193; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 36.

*Eriocnemis godini*, *Bp. Rev. Zool.* 1854, p. 252.

*Adult male.* Upper surface shining bronzy green, becoming glittering green on the rump and upper tail-coverts; under surface

glittering golden green, more coppery on the abdomen; a glittering blue gular spot without definite edges, but gradually shading into the glittering green of the rest of the throat; tibial tufts pure white; under tail-coverts glittering blue; tail steel-blue; bill black. Total length about 4.5 inches, wing 2.4; tail, central rectrices 1.2, lateral 1.75; bill 0.85.

*Female.* Similar to the male, but the colours of the plumage less vivid, and the blue gular spot nearly obsolete.

The female of this bird is very like that of *E. smaragdinipectus*, but the blue gular spot is nearly obsolete. The female of *E. nigrivestis* is smaller and greener on both upper and under surfaces.

*Hab.* Ecuador.

a. ♂ ad. sk.	Ecuador ( <i>Bourcier</i> ).	Gould Coll. (Types of the species.)
b. ♀ ad. sk.	Ecuador.	Gould Coll.
c. ♂ ad. sk.	Ecuador.	Salvin-Godman Coll.

### S. *Eriocnemis luciani*.

*Trochilus luciani*, *Bourc. Ann. Sc. Phys. et Nat. Lyon*, vii. p. 324 (1847).

*Eriopus luciani*, *Bp. Consp. Av.* i. p. 80.

*Eriocnemis luciani*, *Gould, Mon. Troch.* iv. pl. 273 (Oct. 1853); *id. Intr. Troch.* p. 144; *Sci. P. Z. S.* 1860, pp. 81, 94; *id. Cat. Am. B.* p. 311; *Muls. & Verr. Class. Troch.* p. 65; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 47, iv. p. 216; *id. Ann. Soc. Linn. Lyon*, xxii. p. 217; *Elliot, Syn. Troch.* p. 192; *Berl. & Tacz. P. Z. S.* 1884, p. 303, 1885, p. 105.

*Eriocnemis* ♂. *Pheemonoe luciani*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 730. ff. 4671-2.

*Eriocnemys luciani*, *Bp. Rev. Zool.* 1854, p. 252.

*Hylocharis luciani*, *Gray, Hand-l. B.* i. p. 152.

*Adult male.* Upper surface shining grass-green, becoming bluish green on the forehead, and rather brighter on the upper tail-coverts; under surface shining golden green; under tail-coverts glittering violet-blue; tibial tufts white; tail steel-blue, the central rectrices slightly tinged with bronze; bill black. Total length about 5 inches, wing 2.8; tail, central rectrices 1, lateral 2.25; bill 1.

*Female.* Similar to the male.

*Hab.* Ecuador.

a. ♂ ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
b. ♂ ad. sk.	Pichincha, Ecuador ( <i>Fraser</i> ).	Salvin-Godman Coll.
c. ♂ ad. sk.	Ecuador ( <i>Fraser</i> ).	Slater Coll.
d. ♂ ad. sk.	Quito, Ecuador.	Gould Coll.
e. ♀ ad. sk.	San Rafael, Ecuador ( <i>Stolzmann</i> ).	Slater Coll.
f-o. Ad. sk.	Ecuador.	Salvin-Godman & Gould Colls.



9. *Eriocnemis glaucopoides*.

- Ornismya glaucopoides*, *d'Orb. & Lafr. Syn. Av.* ii. p. 27.  
*Trochilus d'orbignyi*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, ix. p. 320 (1846).  
*Celegina a. Thalurania glaucopoides*, *Reich. Aufz. d. Col.* p. 7.  
*Eriocnemis* ♂. *Phemonoe d'orbignyi*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 741. f. 4697.  
*Thalurania glaucopoides*, *Bp. Rev. Zool.* 1854, p. 254.  
*Eriocnemis glaucopoides*, *Elliot, Ibis*, 1877, p. 136; *id. Syn. Troch.* p. 191; *Sci. & Salv. P. Z. S.* 1879, p. 630.  
*Eriocnemys orbignyi*, *Bp. Rev. Zool.* 1854, p. 252.  
*Eriocnemis d'orbignyi*, *Gould, Mon. Troch.* iv. pl. 278 (Sept. 1861); *id. Intr. Troch.* p. 145; *Muls. & Ferr. Class. Troch.* p. 65; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 29, iv. p. 215; *id. Ann. Soc. Linn. Lyon*, xxii. p. 217.

“*Male*. Forehead violet-blue, a white spot behind the eye; upper surface bronzy green; under surface glittering golden green, washed with blue on the throat and chest; tail bluish black; bill black; tarsal tufts pure white; under tail-coverts shining blue. Total length  $4\frac{1}{2}$  inches, wing 2, tail  $1\frac{1}{2}$ , culmen  $\frac{3}{4}$ . Unique type in Paris Museum.” (*Elliot, l. s. c.*)

Mr. Elliot examined the type of this species in the Paris Museum, and the above is his description of it. Its alliance is apparently with *E. luciani*, but the violet-blue forehead distinguishes it.

*Hab.* Valle Grande, Bolivia.

10. *Eriocnemis cupreiventris* \*.

- Trochilus cupreiventris*, *Fraser, P. Z. S.* 1840, p. 15.  
*Eriopus cupreiventris*, *Bp. Consp. Av.* i. p. 80.  
*Eriocnemis cupreiventris*, *Gould, Mon. Troch.* iv. pls. 270 (Oct. 1853), 271 (May 1852); *id. Intr. Troch.* p. 143; *Cab. & Heine, Mus. Hein.* iii. p. 73; *Sci. Cat. Am. B.* p. 311; *Muls. & Ferr. Class. Troch.* p. 65; *Sci. & Salv. P. Z. S.* 1875, p. 235; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 45, iv. p. 216; *id. Ann. Soc. Linn. Lyon*, xxii. p. 217; *Elliot, Syn. Troch.* p. 192; *Berl. J. f. Orn.* 1887, p. 321.  
*Eriocnemis* ♂. *Phemonoe cupreiventris*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 729. ff. 4668-9.  
*Eriocnemys cupreiventris*, *Bp. Rev. Zool.* 1854, p. 252.  
*Hylocharis cupreiventris*, *Gray, Hand-l. B.* i. p. 152.

*Adult male*. Upper surface shining bronzy green, greener on the rump, more bronze on the crown and forehead; throat more glittering green, passing into reddish copper on the abdomen; under tail-coverts glittering blue; tail dark steel-blue; bill black. Total length about 4.5 inches, wing 2.5; tail, central rectrices I, lateral 1.7; bill 0.9.

*Female* similar to the male.

\* I do not know the bird from Colombia described by Dr. Meyer as *ERIOCNEMIS AUREA* (*Auk*, vii. p. 315, 1890).

*Young* similar to the adult, but with the throat nearly black: the mandible towards the base flesh-colour.

*Hab.* Colombia.

<i>a-h.</i> Ad. ; <i>i-n.</i>	Colombia (Bogota make).	Salvin-Godman, Gould, & Selater Colls.
Juv. sk.		Purchased.
<i>o-q.</i> Ad. st.		

### 11. *Eriocnemis chrySORAMA.*

*Eriocnemis chrySORAMA*, *Elliot, Ann. & Mag. N. H.* 1874, xiii. p. 375; *id. Syn. Troch.* p. 193; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 44, pl. 69; *id. Ann. Soc. Linn. Lyon*, xxii. p. 217.

*Adult male.* Very similar to that of *E. cupreiventris*, but decidedly darker, the abdomen much darker reddish copper.

I am not altogether satisfied as to the distinctness of this bird; a good series of skins from definite localities is required to establish it with certainty.

*Hab.* Colombia?, Ecuador.

<i>a, b.</i> ♂ ad. sk.	[Colombia.]	Gould Coll.
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### 12. *Eriocnemis simplex.*

*Eriopus simplex*, *Gould, P. Z. S.* 1849, p. 96; *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 729. f. 4670.  
*Eriocnemis simplex*, *Gould, Mon. Troch.* iv. pl. 271 (May 1852).  
*Eriocnemys simplex*, *Bp. Rev. Zool.* 1854, p. 252.

*Male?* Very much darker than *E. cupreiventris*, and without any glittering colours, the general tint being very dark greenish olive-bronze, rather more rufescent on the upper surface and darker on the crown.

This is again one of the doubtful forms of *E. cupreiventris*, but certainly as much entitled to recognition as *E. chrySORAMA* and others.

*Hab.* Colombia.

<i>a, b.</i> ♂? ad.? sk.	Colombia (Bogota make).	Gould Coll. (Types of the species.)
<i>b.</i> Var.	Bogota.	Gould Coll.

### 11. *Eriocnemis dyselius.* (Plate IX. fig. 1.)

*Eriocnemis dyselius*, *Elliot, Ibis*, 1872, p. 294; *id. Syn. Troch.* p. 194.  
*Eriocnemis dyselia*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 50, pl. 71; *id. Ann. Soc. Linn. Lyon*, xxii. p. 217.

*Male?* Upper and under surfaces black, slightly glossed with purple; under tail-coverts and tail dark steel-blue, with a tinge of

purple; tibial tufts pure white; bill black. Total length about 4.3 inches, wing 2.3; tail, central rectrices 1.05, lateral 1.6; bill 0.9.

A curious bird, perhaps a melanism of *E. cupreiventris*!

*Hab.* Ecuador, Colombia?

a. Ad. ? sk. A skin of Bogota make ? Gould Coll.  
(Compared with the type.)

#### 14. *Eriocnemis mosquera*.

*Trochilus mosquera*, *Bourc. & Del. Rev. Zool.* 1846, p. 306.

*Eriopus mosquera*, *Bp. Consp. Ar.* i. p. 80.

*Eriocnemis mosquera*, *Gould. Mon. Troch.* iv. pl. 274 (Oct. 1853);  
*id. Intr. Troch.* p. 144; *Muls. & Verr. Class. Troch.* p. 65; *Muls.*  
*Hist. Nat. Ois.-Mouches*, iii. p. 49, pl. 70; *id. Ann. Soc. Linn.*  
*Lyon*, xxii. p. 217; *Elliot, Syn. Troch.* p. 191; *Tacz. & Berl.*  
*P. Z. S.* 1885, p. 105.

*Eriocnemis*  $\gamma$ . *Threptia mosquera*, *Reich. Aufz. d. Col.* p. 9; *id.*  
*Troch. Enum.* p. 6, pl. 727. ff. 4662-3.

*Eriocnemys mosquera*, *Bp. Rev. Zool.* 1854, p. 252.

*Hylocharis mosquera*, *Gray, Hand-l. B.* i. p. 152.

*Adult male.* Upper surface shining bronzy grass-green, more golden and brighter on the upper tail-coverts; under surface bright reddish copper, more bronzy on the breast; bases of the feathers of the throat white, those of the breast dark buff, those of the abdomen dark; under tail-coverts dark, washed with green; tibial tufts white; tail dark green, the median rectrices and the tips of the rest brighter; bill black. Total length about 5 inches, wing 2.85; tail, central rectrices 1.15, lateral 2.2; bill 0.9.

*Female.* Like the male.

*Hab.* Colombia and Ecuador.

a-d. Ad. sk.	Pasto, Ecuador ( <i>Delattre</i> ).	Salvin-Godman & Gould Colls.
e, f. Ad. sk.	Pasto ( <i>Lehmann</i> ).	Salvin-Godman Coll.
g, h. Ad. sk.	Itaic, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
i. Ad. sk.	Pichincha, Ecuador ( <i>E. Whymper</i> ).	Selater Coll.
j. Ad. sk.	Ecuador.	Salvin-Godman Coll.
k. Ad. st.	[Ecuador.]	Gould Coll.

#### 15. *Eriocnemis isaacsoni*.

*Ornismya isaacsoni*, *Parz. Rev. Zool.* 1845, p. 95.

*Eriopus isaacsoni*, *Bp. Consp.* i. p. 80.

*Eriocnemis*  $\delta$ . *Phenonoë isaacsoni*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 741. f. 4700.

*Eriocnemis isaacsoni*, *Bp. Rev. Zool.* 1854, p. 252; *Gould, Mon. Troch.* iv. pl. 272 (May 1858); *id. Intr. Troch.* p. 144.

*Helianthea isaacsoni*, *Elliot, Ibis*, 1872, p. 294, 1874, p. 331; *id. Syn. Troch.* p. 71.

*Saturia isaacsoni*, *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 299, pl. 61, iv. p. 212; *id. Ann. Soc. Linn. Lyon*, xxii. p. 217; *Berl. J. f. Orn.* 1887, p. 323.

*Adult male.* Upper surface dark shining green, a little brighter on the forehead; upper tail-coverts bright purplish coppery-green; throat glittering green, coppery on the sides, and becoming fiery-coppery on the abdomen; under tail-coverts bright green; tail uniform purple-black, slightly tinged with green on the under surface; bill black. Total length about 4·5 inches, wing 2·65; tail, central rectrices 1·1, lateral 1·7; bill 1·2. (Type in Derby Museum, Liverpool.)

Mr. Elliot describes a bird in his collection, supposed to be of this species, as having "a small spot of very luminous light grass-green on the forehead," and the upper tail-coverts as "brilliant metallic grass-green." These characters do not exist in the type before me. Mr. Elliot also transfers the species from *Eriocnemis* to *Helianthea*, which seems to me unnecessary.

*Hab.* Colombia.

#### 16. *Eriocnemis aureliæ.*

*Trochilus aureliæ*, Bourc. & Muls. *Ann. Sc. Phys. et Nat. Lyon*, ix. p. 315, pl. 10 (1846); *id.* *Rev. Zool.* 1846, p. 316.

*Eriopus aureliæ*, Bp. *Consp. Av.* i. p. 80.

*Eriocnemis aureliæ*, Reich. *Aufz. d. Col.* p. 9; *id.* *Troch. Enum.* p. 6, pl. 727. ff. 4660-1; Gould, *Mon. Troch.* iv. pl. 283 (Sept. 1855); *id.* *Intr. Troch.* p. 146; *Scl. Cat. Am. B.* p. 311; Muls. & Ferr. *Class. Troch.* p. 65; Muls. *Hist. Nat. Ois.-Mouches*, iii. p. 51, iv. p. 216; *id.* *Ann. Soc. Linn. Lyon*, xxii. p. 218; Elliot, *Syn. Troch.* p. 190; *Scl. & Salv. P. Z. S.* 1879, p. 530; *Berl. J. f. Orn.* 1887, p. 522.

*Eriocnemys aurelia*, Bp. *Rev. Zool.* 1854, p. 252.

*Hylocharis aureliæ*, Gray, *Hand-l. B.* i. p. 152.

*Adult male.* Upper surface shining grass-green, bronzy on the occiput and upper tail-coverts; under surface, including the under tail-coverts, dark shining grass-green, darker on the throat; tibial tufts partly white, partly pale chestnut; tail steel-blue. Total length about 4 inches, wing 2·5; tail, central rectrices 1·45, lateral 1·7; bill 0·85.

*Female.* Similar to the male.

*Hab.* Colombia.

<i>a-g.</i> Ad. sk.	Medellin, Colombia ( <i>T. K. Salmon</i> ).	Salvin-Godman & Gould Colls.
<i>h-r.</i> Ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.

#### 17. *Eriocnemis russata.*

*Eriocnemis russata*, Gould, *P. Z. S.* 1871, p. 505; Muls. *Ann. Soc. Linn. Lyon*, xxii. p. 218.

*Adult male.* Very similar to that of *E. aureliæ*, but much darker, the middle of the back and crown more bronzy and the entire under surface bronzy green; the bill longer.

*Hab.* Ecuador.

a. Ad. sk.	Ecuador.	Gould Coll. (Type of the species.)
b. Ad. sk.	Quito, Ecuador.	Gould Coll.
c. Ad. sk.	Napo, Ecuador.	Gould Coll.
d. Ad. sk.	Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
e, f. Ad. sk.	[Ecuador.]	Gould Coll.

18. *Eriocnemis assimilis*.

*Eriocnemis assimilis*, *Elliot, Bull. Soc. Zool. Fr.* 1876, p. 227; *id.*

*Syn. Troch.* p. 189; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 216.

*Eriocnemis aurelie*, *Sci. & Salv. P. Z. S.* 1879, p. 630.

*Eriocnemis affinis*, *Tacz. P. Z. S.* 1882, p. 39; *id. Orn. Pér.* i. p. 396.

*Adult male.* Very similar to that of *E. aurelie*, but with the tibial tufts wholly buff, without any portion white.

*Hab.* Peru and Bolivia.

a. ♂ ad. sk.	Huasampilla, Peru, April ( <i>H. Whitely</i> ).	Gould Coll.
b. Ad. sk.	Tilotilo, Yungas, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
c. ♂ sk.	Apollo, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
d-f. Ad. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.

19. *Eriocnemis lugens*.

*Eriopus lugens*, *Gould, Contr. Orn.* 1851, p. 140.

*Eriocnemis* γ. *Threptia lugens*, *Reich. Aufz. d. Col.* p. 9; *id. Troch. Enum.* p. 6, pl. 740. ff. 4695-6.

*Eriocnemys lugens*, *Bp. Rev. Zool.* 1854, p. 252.

*Eriocnemis lugens*, *Gould, Mon. Troch.* iv. pl. 282 (Oct. 1854); *id. Intr. Troch.* p. 146; *Muls. & Ferr. Class. Troch.* p. 65; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 53; *id. Ann. Soc. Linn. Lyon*, xxii. p. 218; *Elliot, Syn. Troch.* p. 190; *Sci. & Salv. P. Z. S.* 1879, p. 530.

*Hylocharis lugens*, *Gray, Hand-l. B.* i. p. 152.

*Adult male.* Upper surface shining bronzy green, darker and more rufescent on the crown, nape, and upper tail-coverts; under surface dark grey, the feathers of the throat edged with white and the flanks washed with green; tibial tufts wholly white; tail steel-blue. Total length about 4 inches, wing 2.55, tail 1.6, bill 0.85.

*Hab.* Ecuador.

a, b. Ad. sk.	Baiza, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
c. Ad. sk.	Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
d-m. Ad. sk.	Ecuador.	Salvin-Godman & Gould, Colls.

20. *Eriocnemis squamata*.

*Eriocnemis squamata*, *Gould, P. Z. S.* 1860, p. 311; *id. Mon. Troch.* iv. pl. 281 (May 1861); *id. Intr. Troch.* p. 146; *Muls. & Ferr. Class. Troch.* p. 65; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 55; *id. Ann. Soc. Linn. Lyon*, xxii. p. 218; *Elliot, Syn. Troch.* p. 190.

*Adult male.* Very similar to that of *E. lugens*, but with the tibial tufts partly white, partly pale chestnut.

*Hab.* Ecuador.

a. Ad. sk.	Ecuador ( <i>Jameson</i> ).	Gould Coll. (Type of the species.)
b. Ad. sk.	Quito, Ecuador ( <i>Jameson</i> ).	Gould Coll.
c-f. Ad. sk.	Ecuador.	Salvin-Godman & Gould Colls.

## 21. *Eriocnemis incultus*.

*Eriocnemis incultus*, *Elliot, Auk*, vi. p. 210.

Upper surface bluish or purplish black, nearly uniform, the upper tail-coverts and tail rather brighter; under surface very dark dull purple-black, the throat-feathers edged with white, those of the middle of the abdomen with dull grey; tibial tufts white; discs of the under tail-coverts bluish with a tinge of green, margins white; tail nearly even: maxilla black; mandible flesh-colour at the base, the tip black. Total length about 3·3 inches, wing 2·1, tail 1·15, bill 0·8.

A curious bird, suggesting a melanism of some wholly differently coloured species. The shape of the tail and the colour of the under tail-coverts differ from those of all other species of *Eriocnemis*.

*Hab.* Colombia? Ecuador?

a. Ad. ♀ sk.	[Ecuador.]	Gould Coll.
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## 104. PANOPLITES.

	Type.
Boissoneana, <i>Reich. Aufz. d. Col.</i> p. 11 (March 1854) (descr. nulla) . . . . .	<i>P. flavescens</i> .
Panoplites, <i>Gould, Mon. Troch.</i> pt. viii. (Oct. 1854) (fig.)	<i>P. flavescens</i> .
Florisuga ( <i>Galenia</i> ), <i>Muls. &amp; Verr. Class. Troch.</i> p. 47 (1865) . . . . .	<i>P. jardinii</i> .
Callidice, <i>Muls. &amp; Verr. Class. Troch.</i> p. 65 (1865) . . . . .	<i>P. flavescens</i> .
Alosia, <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 213 (1875)	<i>P. matthewsi</i> .

*Range.* Andes from Colombia to Peru.

### *Key to the Species.*

a. Neck black; back glittering green . . . . .	<i>jardinii</i> , p. 372.
b. Upper surface uniform shining grass-green.	
a'. Abdomen chestnut . . . . .	<i>matthewsi</i> , p. 373.
b'. Abdomen shining green . . . . .	<i>flavescens</i> , p. 374.

### 1. *Panoplites jardinii*.

*Trochilus jardinii*, *Bourc. Compt. Rend.* xxii. p. 187; *Gray, Hand-l. B.* i. p. 141.

*Florisuga jardinii*, *Reich. Aufz. d. Col.* p. 14; *Bp. Rev. Zool.* 1854, p. 253.

*Panoplites jardinii*, *Gould, Mon. Troch.* ii. pl. 112 (Oct. 1854); *id.*

*Intr. Troch.* p. 80; *Cab. & Heine, Mus. Hein.* iii. p. 74; *Sci. Cat. Am. B.* p. 294; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 233, pl. 51; *id. Ann. Soc. Linn. Lyon*, xxii. p. 213; *Elliot, Syn. Troch.* p. 53; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 227; *Salv. Cat. Strickl. Coll.* p. 363.

Florisuga (*Galenia*) *jardinii*, *Muls. & Verr. Class. Troch.* p. 47.

*Adult male.* Upper surface glittering bluish green; longest tail-coverts purple-black; neck black; crown and chin dark shining violet-blue; under surface shining violet; sides of the chest glittering green; wing-coverts shining green, the smaller series glittering; edge of the outermost primary and under wing-coverts chestnut; under tail-coverts purple-black, tipped with white; middle rectrices greenish purple, laterals white, tipped and edged with purple-black; bill black. Total length about 4·8 inches, wing 3·1; tail, central rectrices 1·5, lateral 1·9; bill 1.

*Female.* Similar to the male.

*Young males* are shining green above, and gradually assume the glittering green feathers; the violet head is assumed before the violet throat, which in the first instance is black like the neck.

*Hab.* Ecuador.

*a-p.* Ad. et juv. sk. Nanegal, Ecuador (*Jameson*). Salvin-Godman & Gould Colls.  
*q, r.* Ad.; *s.* Juv. Intac, Ecuador (*Buckley*). Salvin-Godman Coll. sk.

## 2. *Panoplites matthewsi*.

*Trochilus matthewsi*, "*Lodd.*," *Bourc. P. Z. S.* 1847, p. 43; *id. Rev. Zool.* 1847, p. 255; *Gray, Hand-l. B.* i. p. 141.

*Heliodoxa matthewsi*, *Reich. Aufz. d. Col.* p. 11.

*Clytolæma matthewsi*, *Bp. Rev. Zool.* 1854, p. 254; *Muls. & Verr. Class. Troch.* p. 59; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 230, t. 50, iv. p. 207; *id. Ann. Soc. Linn. Lyon*, xxii. p. 213.

*Panoplites matthewsi*, *Gould, Mon. Troch.* ii. pl. 113 (Oct. 1854); *id. Intr. Troch.* p. 80; *id. P. Z. S.* 1870, p. 803; *Sci. P. Z. S.* 1859, p. 145; *Cab. & Heine, Mus. Hein.* iii. p. 74; *Whitely, P. Z. S.* 1873, p. 784; *Tacz. P. Z. S.* 1874, p. 544, 1879, p. 237, 1880, p. 204, 1882, p. 35; *id. Orn. Pér.* i. p. 295; *Sci. & Salv. P. Z. S.* 1876, p. 16; *Elliot, Syn. Troch.* p. 54; *Eudes-Desl. Ann. Mus. Cuen*, i. p. 229; *Berl. & Tacz. P. Z. S.* 1884, p. 304, 1885, p. 102.

*Boissonneau matthewsi*, *Reich. Troch. Enum.* p. 8, pl. 788. ff 4832-33.

*Adult male.* Upper surface shining grass-green, brighter and more glittering on the crown; under surface dark chestnut, paler on the throat, where each feather bears a glittering green spot; central rectrices bronze-green, laterals chestnut with bronze-green tips; edge of the outermost primary and under wing-coverts chestnut; bill black. Total length about 4·5 inches, wing 2·8; tail, central rectrices 0·6, lateral 1·75; bill 0·9.

*Female.* Like the male.

*Young birds* are dusky beneath, each feather with a dull green

spot; amongst these the chestnut feathers of the adult are gradually assumed.

*Hab.* Ecuador and Southern Peru.

<i>a, b.</i> Ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>c.</i> Ad.; <i>d, e.</i>	Quito, Ecuador.	Gould Coll.
Juv. sk.		
<i>f-l.</i> Ad. sk.	Baños, Ecuador ( <i>Buckley</i> ).	Gould Coll.
<i>m.</i> Ad. sk.	Ecuador.	Salvin-Godman Coll.
<i>n.</i> Ad. sk.	Rio Verde, Ecuador ( <i>Buckley</i> ).	Gould Coll.
<i>o.</i> Ad. sk.	"Banks of the Marañon" ( <i>Warszewicz</i> ).	Gould Coll.
<i>p.</i> Ad. sk.	Tambillo, Peru ( <i>Jelski</i> ).	Slater Coll.
<i>q.</i> ♀ ad. sk.	Tambillo ( <i>Stolzmann</i> ).	Slater Coll.
<i>r.</i> ♂ ad. sk.	Huiri, Peru, June ( <i>H. Whitely</i> ).	Salvin-Godman Coll.

### 3. *Panoplitus flavescens*.

*Trochilus flavescens*, *Lodd. P. Z. S.* 1832, p. 7; *Gray, Hand-l. B.* i. p. 141.

*Ornisnya paradisea*, *Boiss. Rev. Zool.* 1840, p. 6.

*Amazilius flavescens*, *Bp. Consp.* i. p. 78.

*Boissonneaua flavescens*, *Reich. Aufz. d. Col.* p. 11; *id. Troch. Enum.* p. 8, pl. 787. fl. 4830-31.

*Clytolaema flavescens*, *Bp. Rev. Zool.* 1854, p. 254.

*Panoplitus flavescens*, *Gould, Mon. Troch.* ii. pl. 111 (Oct. 1854); *id. Intr. Troch.* p. 80; *id. P. Z. S.* 1870, p. 803; *Cab. & Heine, Mus. Hein.* iii. p. 74; *Scl. Cat. Am. B.* p. 294; *Wyatt, Ibis*, 1871, p. 376; *Elliot, Ibis*, 1876, p. 10; *id. Syn. Troch.* p. 54; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 235; *id. Ann. Soc. Linn. Lyon*, xxii. p. 213; *Scl. & Salv. P. Z. S.* 1879, p. 529; *Eudes-Desl. Ann. Mus. Caen*, i. p. 228; *Berl. J. f. Orn.* 1887, p. 321.

*Adult male.* Upper surface dark shining grass-green; crown and under surface glittering green; under tail-coverts buff; central rectrices dark green, laterals buff tipped and edged with dark green; edge of the outermost primary and under wing-coverts chestnut; bill black. Total length about 4.5 inches, wing 3; tail, central rectrices 1.5, lateral 1.8; bill 0.9.

*Female.* Like the male.

*Young birds* have the feathers generally edged with buff.

*Hab.* Colombia and Ecuador.

<i>a.</i> Ad. sk.	Medellin, Colombia ( <i>T. K. Salmon</i> ).	Salvin-Godman Coll.
<i>b.</i> Ad. sk.	Cauca Valley ( <i>Salmon</i> ).	Gould Coll.
<i>c-m.</i> Ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>n.</i> Ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>o.</i> Ad. sk.	Citado, Ecuador ( <i>Buckley</i> ).	Gould Coll.
<i>p, q.</i> Ad. sk.	Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>r-y.</i> Ad. sk.	Ecuador.	Salvin-Godman & Gould Colls.



## 105. SPATHURA.

Type.

Trochilus (Ocreatus), <i>Gould, P. Z. S.</i> 1846, p. 86 . . .	S. addæ.
Spathura, <i>Gould, Mon. Troch.</i> pl. 164 (June 1849) .	S. pernana.
Steganurus, <i>Reich. Av. Syst. Nat.</i> pl. xl. (Dec. 1849).	
Steganura, <i>Reich. Aufz. d. Col.</i> p. 8 . . . . .	S. underwoodi.
Uralia, <i>Muls. &amp; Ferr. Class. Troch.</i> p. 81 (1865) . .	S. solstitialis.

*Range.* Andes from Venezuela and Colombia to Bolivia.

*Ocreatus*, Gould, was never used as a generic term. *Spathura*, Gould, antedates *Steganurus*, Reich., by six months, though the latter name has been generally used of late years. I now restore *Spathura* to its proper place.

*Key to the Species.*

- a. Tibial tufts white.  
*a'*. Chin like the throat, glittering green . . . . . *underwoodi*, p. 375.  
*b'*. Chin black . . . . . *melananthera*, p. 376.
- b. Tibial tufts rufous.  
*c'*. Lateral rectrices long, spatules more elongated; bases of the feathers of the under surface dusky.  
*a''*. Outer web of the lateral rectrices greyish. *solstitialis*, p. 377.  
*b''*. Outer web of the lateral rectrices steel-blue like the rest of the feather. . . . . *peruana*, p. 378.
- d'*. Lateral rectrices shorter, spatules rounder or more transverse; bases of the feathers of the under surface white . . . . . *addæ*, p. 378.

1. *Spathura underwoodi*.

- Ornismya underwoodi*, *Less. Hist. Nat. Troch.* p. 105, pl. 37; *id. Ind. Gén. Troch.* p. xxv.  
*Ornismya kieneri*, *Less. Hist. Nat. Troch.* p. 165, pl. 65.  
Trochilus (—) *caligatus*, *Gould, P. Z. S.* 1848, p. 14.  
*Spathura underwoodi*, *Gould, Mon. Troch.* iii. pl. 162 (June 1849); *id. Intr. Troch.* p. 99; *Bp. Consp. Av.* i. p. 80; *id. Rev. Zool.* 1854, p. 256; *Sci. Cat. Am. B.* p. 300; *Muls. & Ferr. Class. Troch.* p. 81; *Sci. & Salv. P. Z. S.* 1868, p. 169; *Wyatt, Ibis*, 1871, p. 376.  
*Steganura underwoodi*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 5, pl. 707. ff. 4596-7; *Sci. & Salv. P. Z. S.* 1875, p. 335, 1879, p. 529; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 66; *id. Ann. Soc. Linn. Lyon*, xxii. p. 224; *Elliot, Syn. Troch.* p. 142; *Berl. J. f. Orn.* 1884, p. 311, 1887, p. 328.  
*Steganura remigera*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 5, pl. 708. ff. 4601-2.  
*Steganura spatuligera*, *Reich. Aufz. d. Col.* pp. 8, 24; *id. Troch. Enum.* p. 5, pl. 708. ff. 4598-9-600.  
*Steganurus remigerus*, *Cab. & Heine, Mus. Hein.* iii. p. 67.  
Trochilus *underwoodi*, *Gray, Hand-l. B.* i. p. 144.

*Adult male.* Upper surface shining grass-green, tinged with bronze on the forehead; throat and breast glittering grass-green; abdomen and under tail-coverts shining grass-green; tibial tufts

pure white; tail steel-blue, central rectrices shining green and spatules tipped with green, outer web of the outermost rectrix greyish: bill black. Total length about 5 inches, wing 1·6; tail, central rectrices 0·7, lateral 2·9; bill 0·5.

*Female.* Upper surface a little lighter than that of the male; under surface white, the feathers of the sides of the neck and the flanks each with a shining green discal spot; under tail-coverts pale rufous; tibial tufts white; central rectrices green, the rest steel-blue, grey at the base and tipped with green on the upper side, the outermost pair tipped with white. Central rectrices 0·7 inch, lateral 1·3.

This bird is usually called *S. underwoodi*, Less., but the propriety of so doing is open to doubt. Lesson's figure shows a white band on the rump, no such character being borne by any *Spathura*.

In Gould's collection I find a female specimen marked "*S. cissiura*, Bogota" (see p. 377). It has the left lateral rectrix developed somewhat like that of the type of *S. cissiura*, but is not quite so long. The tibial tufts are white, and I have no doubt it is an androgynous female of *S. underwoodi*.

*Hab.* Venezuela and Colombia.

a. ♂ ad. sk.	Caracas, Venezuela ( <i>Sallé</i> ).	Gould Coll.
b. ♀ ad. sk.	Venezuela.	E. Dyson [C.].
c. ♀ ad. sk.	Venezuela.	Purchased.
d. ♂ ad. sk.	Venezuela ( <i>Goering</i> ).	Salvin-Godman Coll.
e. ♂ juv. sk.	Venezuela.	Gould Coll.
f-h. ♂ ad.; i. ♂ juv.; j, k. ♀ ad. sk.	Medellin, Colombia ( <i>T. K. Salmon</i> ).	Salvin-Godman & Gould Colls.
l-r. ♂ ad.; s-w. ♂ juv.; x-b'. ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
c', d'. ♂ ad. st.	[Venezuela.]	Purchased.

## 2. *Spathura melananthera*.

*Trochilus* (*Spathura*) *melananthera*, *Jard. Contr. Orn.* 1851, p. 111, pl. 20.

*Discura melananthera*, *Bp. Consp. Ac.* i. p. 70; *id. Rev. Zool.* 1854, p. 256.

*Steganura melananthera*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Emem.* p. 5, pl. 710. ff. 4608-9; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 257; *id. Ann. Soc. Linn. Lyon*, xxii. p. 224; *Elliot, Syn. Troch.* p. 142; *Berl. & Tacz. P. Z. S.* 1884, p. 305.

*Spathura melananthera*, *Gould, Mon. Troch.* iii. pl. 163 (Sept. 1859); *id. Intr. Troch.* p. 100; *id. P. Z. S.* 1870, p. 803; *Scl. P. Z. S.* 1860, p. 95; *id. Cat. Am. B.* p. 300; *Muls. & Ferr. Class. Troch.* p. 61.

*Steganurus melanantherus*, *Cab. & Heine, Mus. Hein.* iii. p. 66.

*Trochilus melanantherus*, *Gray, Hand-l. B.* i. p. 144.

*Adult male.* Very similar to that of *S. underwoodi*, but with the chin and the region under the eye black, and the spatules of the

lateral rectrices rather smaller. The under surface of the female is much whiter and less spotted with green discal spots.

*Hab.* Ecuador.

a. ♂ ad.; b. ♀ ad. sk.	Pallatanga, Ecuador, Oct., Nov. (Fraser).	Slater Coll.
c. ♂ ad.; d. ♀ ad. sk.	Nanegal, Ecuador (Fraser).	Salvin-Godman Coll.
e. ♂ ad. sk.	Monji, Ecuador (Buckley).	Salvin-Godman Coll.
f. ♂ ad.; g. ♀ ad. sk.	Citade, Ecuador (Buckley).	Gould Coll.
h-j. ♂ ad.; k, l. ♀ ad. sk.	Quito, Ecuador.	Gould Coll.
m, n. ♂ ad. sk.	Ecuador (Buckley).	Gould Coll.
o. ♂ ad. sk.	Ecuador.	Gould Coll.

### 3. *Spathura solstitialis*.

*Spathura solstitialis*, Gould, *Ann. & Mag. N. II.* 1871, viii. p. 62; *id. Mon. Troch., Suppl.* pl. 37 (Jan. 1881).

*Steganurus solstitialis*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 260; *id. Ann. Soc. Linn. Lyon*, xxii. p. 224; *Elliot, Syn. Troch.* p. 142; *Tacz. Orn. Pér.* i. p. 324; *Tacz. & Berl. P. Z. S.* 1885, p. 102.

*Spathura cissiura*, Gould, *P. Z. S.* 1853, p. 109; *id. Mon. Troch.* iii. pl. 166 (May 1860); *id. Intr. Troch.* p. 100.

*Steganurus cissurus*, *Cab. & Heine, Mus. Hein.* iii. p. 66.

*Uradia cissiura*, *Muls. & Ferr. Class. Troch.* p. 81; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 265, iv. p. 220.

*Spathura cissiura*, *Elliot, Syn. Troch.* p. 144; *Tacz. Orn. Pér.* i. p. 329.

*Adult male.* Upper surface shining grass-green; throat and breast glittering grass-green; abdomen and under tail-coverts shining grass-green; tibial tufts rufous; central rectrices green like the back, lateral steel-blue, the outer web of the outer rectrices greyish; bill black. Total length about 4.8 inches, wing 1.75; tail, central rectrices 0.75, lateral 2.8; bill 0.6.

*Female.* Rather lighter than the male on the upper surface; under surface white, each feather of the sides of the throat and the flanks with a shining green discal spot; tibial tufts and under tail-coverts pale rufous; central rectrices green, lateral steel-blue, grey at the base and tipped with white; bill black.

*S. cissiura*, Gould, is, I feel sure, an androgynous female of this species. The outer webs of the outer rectrices are greyish as in the normal male. That the type of *S. cissiura* is not a young male appears certain from the fact that a young male before me has on one side the outer rectrix like the female, whilst that on the other is a growing feather like that of the adult male. The type of *S. cissiura* ♀ does not differ from that of *S. solstitialis*.

*S. cissiura* is no doubt the older title for this species, but as it was based upon an erroneous conception, I prefer to retain the name *S. solstitialis* for this bird.

*Hab.* Ecuador and Peru.

a, b. ♂ ad. sk.	Santa Inez, Ecuador ( <i>Buckley</i> ).	Gould Coll.
c. ♂ ad.; d. ♀ ad. sk.	San José, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
e. ♂ ad.; f-i. ♀ ad. sk.	Ecuador ( <i>Buckley</i> ).	Salvin-Godman & Gould Colls.
j. ♀ ad. sk.	Ecuador.	Gould Coll.
k. ♂ juv. sk.	Peru? ( <i>Warszewicz</i> ).	Gould Coll.
l. ♂ juv.; m. ♀ ad. sk.	Peru ( <i>Warszewicz</i> ).	Gould Coll. (Types of <i>S. cissura</i> .)

#### 4. *Spathura peruana*.

*Spathura peruana*, *Gould, Mon. Troch.* iii. pl. 164 (June 1849); *id. Intr. Troch.* p. 100; *id. P. Z. S.* 1870, p. 803; *Bp. Consp. Av.* i. p. 80; *id. Rev. Zool.* 1854, p. 256; *Muls. & Ferr. Class. Troch.* p. 81; *Whitely, P. Z. S.* 1873, p. 784.

*Steganura peruana*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 5, pl. 709. ff. 4606-7; *Elliot, Syn. Troch.* p. 143; *Tacz. P. Z. S.* 1874, p. 544, 1879, p. 238; *id. Orn. Pér.* i. p. 327; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 261, iv. p. 220.

*Steganurus peruanus*, *Cab. & Heine, Mus. Hein.* iii. p. 66.

*Himalia peruana*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 224.

*Adult male*. Very similar to that of *S. solstitialis*, but with the outer web of the outermost rectrices steel-blue like the rest of the feather.

*Hab.* Peru.

a. ♂ juv. sk.	Huasampilla, Peru, April ( <i>H. Whitely</i> ).	Gould Coll.
b. ♂ ad.; c. ♀ ad. sk.	Peru ( <i>Warszewicz</i> ).	Gould Coll.
d. ♂ ad.; e. ♀ ad. sk.	[Peru.]	Gould Coll.

#### 5. *Spathura addæ*.

*Trochilus addæ*, *Bourc. Rev. Zool.* 1846, p. 312; *Gray, Hand-l. B.* i. p. 144.

*Trochilus* (*Ocreatus*) *rufocaligatus*, *Gould, P. Z. S.* 1846, p. 86.

*Spathura rufocaligata*, *Gould, Mon. Troch.* iii. pl. 165 (June 1849); *id. Intr. Troch.* p. 100; *Muls. & Ferr. Class. Troch.* p. 81.

*Spathura addæ*, *Bp. Consp. Av.* i. p. 80; *id. Rev. Zool.* 1854, p. 256.

*Steganura addæ*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 5, pl. 709. ff. 4603-5; *Scl. & Salv. P. Z. S.* 1876, p. 16, 1879, p. 628; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 263, iv. p. 220; *Elliot, Syn. Troch.* p. 143; *Tacz. Orn. Pér.* i. p. 326.

*Himalia addæ*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 224.

*Adult male*. Upper surface shining grass-green; throat and breast glittering green; abdomen shining green, the bases of the feathers of whole under surface white; under tail-coverts green, with wide buff margins; tibial tufts rufous; central rectrices green like the back, lateral purple-brown, the spatules steel-blue; bill black. Total length about 4·4 inches, wing 1·7; tail, central rectrices 0·7, lateral 2·2; bill 0·7.

*Female*. Under surface white, each feather of the throat and

flanks with a shining green discal spot; tibial tufts and under tail-coverts buff; lateral rectrices steel-blue, grey at the base and tipped with white. Central rectrices 0·7 inch, lateral 1·1.

*Hab.* Bolivia.

<i>a-c.</i> ♂ ad.; <i>d.</i> ♀ ad. sk.	Bolivia ( <i>Bridges</i> ?).	Gould Coll. (Probably the types of <i>S. rufocaligata</i> .)
<i>e-g.</i> ♂ ad.; <i>h.</i> ♀ ad. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.
<i>i.</i> ♂ ad. sk.	Bellavista, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>j.</i> ♀ ad. sk.	Tilotilo, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.

## 106. RHODOPIS.

Type.

Calliphlox $\gamma$ . <i>Rhodopis</i> , <i>Reich. Aufz. d. Col.</i> p. 12	.....	<i>R. vesper.</i>
<i>Rhodopis</i> , <i>Gould, Mon. Troch.</i> iii. pl. 154 (May 1856)	.....	<i>R. vesper.</i>
<i>Amathusia</i> ( <i>Rhodopis</i> ), <i>Muls. &amp; Ferr. Class. Troch.</i> p. 85 (1865)	.....	<i>R. vesper.</i>

*Range.* Western Peru and Northern Chili.

*Key to the Species.*

- a.* Larger; wing 2·15 ..... *vesper*, p. 379.  
*b.* Smaller; wing 1·95 ..... *atacamensis*, p. 380.

1. *Rhodopis vesper.*

*Ornismya vesper*, *Less. Hist. Nat. Ois.-Mouches*, pp. xv, 85, pl. 19;

*id. Traité d'Orn.* p. 273; *d'Orb. & Lafr. Syn. Av.* ii. p. 28.

*Trochilus vesper*, *Less. Ind. Gén. Troch.* p. xxiv.

*Thaumastura vesper*, *Bp. Compt. Rend.* xxx. p. 333; *id. Consp. Av.* i. p. 85.

Calliphlox  $\gamma$ . *Rhodopis vespera*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 841. ff. 4984-5.

*Lucifer vesper*, *Bp. Rev. Zool.* 1854, p. 257.

*Rhodopis vesper*, *Gould, Mon. Troch.* iii. pl. 154 (May 1856); *id. Intr. Troch.* p. 94; *Sci. & Salv. P. Z. S.* 1867, p. 987; *Nation, P. Z. S.* 1871, p. 498; *Ellist, Ibis*, 1877, p. 137; *id. Syn. Troch.* p. 115; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 23; *id. Ann. Soc. Linn. Lyon*, xxii. p. 226; *Tacz. Orn. Pér.* i. p. 316.

*Rhodopis vesper*, *Cub. & Heine, Mus. Hein.* iii. p. 55; *Sci. Cut. Am. B.* p. 299; *id. P. Z. S.* 1869, p. 148; *Sci. & Salv. P. Z. S.* 1868, p. 569.

*Amathusia* (*Rhodopis*) *vespera*, *Muls. & Ferr. Class. Troch.* p. 85.

*Calothorax vesper*, *Gray, Hand-l. B.* i. p. 135.

*Adult male.* Upper surface shining olive-green, darker and browner on the crown and forehead; a band of rufous across the rump; throat glittering reddish amethyst, passing into pale glittering blue on the sides in certain incidence of light; rest of the under surface dingy white; flanks washed with shining green; central rectrices

dark brown, lateral darker; bill black. Total length about 5.2 inches, wing 2.15; tail, central rectrices 0.8, lateral 2; bill 1.35.

*Female.* Similar to the male on the upper surface, the central rectrices shining olive-green, the lateral steel-blue, the basal half grey and tipped with white; central rectrices 1 inch, pair next the outermost 1.45.

*Hab.* Western Peru.

a, b. ♂ juv. sk.	Lima, Peru ( <i>Nation</i> ).	Sclater Coll.
c. ♂ juv. sk.	Islay, Peru, Oct. ( <i>H. Whitely</i> ).	Gould Coll.
d-h. ♂ ad.; i.	Arequipa, Peru, March, May,	Salvin-Godman &
j. ♀ ad. sk.	June, July ( <i>H. Whitely</i> ).	Gould Colls.
k. ♂ ad. st.		Purchased.

## 2. *Rhodopsis atacamensis*.

*Trochilus atacamensis*, *Leybold, An. Univ. de Santiago, Chile*, xxxii. p. 43 (1863).

*Rhodopsis atacamensis*, *Martens, J. f. Orn.* 1875, p. 442; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 26; *id. Ann. Soc. Linn. Lyon*, xxii. p. 226; *Elliot, Syn. Troch.* p. 116.

*Rhodopsis* — ? *Salv. P. Z. S.* 1883, p. 425.

*Adult male.* Very similar to that of *R. vesper*, but the dimensions decidedly smaller. Total length about 4.5 inches, wing 1.95; tail, central rectrices 0.7, lateral 1.75; bill 0.9.

*Female.* Also smaller than that sex of *R. vesper*, and the sub-terminal band of steel-blue on the outer rectrices very narrow.

*Hab.* Northern Chili and Southern Peru.

a. ♂ ad. sk.	Atacama, Chili ( <i>Leybold</i> ).	Gould Coll. (Type of the species.)
b. ♀ ad. sk.	Payta, Peru, Nov. ( <i>A. H. Markham</i> ).	Salvin-Godman Coll.

## 107. DORICHA.

		Type.
<i>Calliphlox</i> β. <i>Doricha</i> , <i>Reich. Aufz. d. Col.</i> p. 12 . . . . .	<i>D. enicura</i> .	
<i>Amathusia</i> , <i>Muls. &amp; Verr. Class. Troch.</i> p. 85 (1865) . . . . .	<i>D. enicura</i> .	
<i>Amathusia</i> ( <i>Egolia</i> ), <i>Muls. &amp; Verr. Class. Troch.</i> p. 86 (1865) . . . . .	<i>D. evelynæ</i> .	

*Range.* Southern Mexico, Guatemala, Costa Rica and Panama, and the Bahama Islands.

### *Key to the Species.*

- a. Outermost rectrices wholly purple-black, the inner webs of the next pair edged with rufous.
- a'. Throat glittering amethystine-purple; tail very long and straight; lateral rectrices of ♀ tipped with white . . . . . *enicura*, p. 381.
- b. Throat glittering ruby-red; tail moderate.
- a". Bill very long; outer rectrices wide, straight; base of the wings beneath not dark rufous; lateral rectrices of ♀ tipped with white . . . . *eliza*, p. 382.

- b''*. Bill shorter; outer rectrices narrower; base of the wings beneath dark rufous; lateral rectrices of ♀ tipped with rufous.
- a'''*. Outer rectrices straight; forehead and crown dark shining green ..... *evelynæ*, p. 383.
- b'''*. Outer rectrices curved outwardly; forehead and edge of the ruby throat glittering bluish red ..... *lyrura*, p. 383.
- b*. Outermost rectrices like the next pair, edged with rufous on the inner web; lateral rectrices of ♀ tipped with rufous ..... *bryantæ*, p. 384.

### 1. *Doricha enicura*.

- Trochilus enicurus*, *Vieill. N. Dict. d'Hist. N.* xxiii. p. 430; *id. Enc. Méth.* p. 560.
- Ornismya heteropygia*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxi, 72, pl. 15; *Suppl. Ois.-Mouches*, p. 97.
- Trochilus heteropygia*, *Less. Ind. Gén. Troch.* p. xxxii.
- Trochilus swainsoni*, *Less. Hist. Nat. Troch.* p. 167, pl. 66.
- Calothorax henicurus*, *Bp. Consp. Av. i.* p. 85; *Gray, Hand-l. B. i.* p. 135.
- Thaumastura enicura*, *Gould, Mon. Troch.* iii. pl. 157 (Oct. 1852); *Sci. & Salv. Ibis*, 1859, p. 129; *Salv. Ibis*, 1860, pp. 196, 263, 264; *Sci. Cat. Am. B.* p. 299; *de Oca, La Nat.* iii. p. 203.
- Calliphlox β. Doricha enicura*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 840. ff. 4981-3.
- Lucifer enicurus*, *Bp. Rev. Zool.* 1854, p. 257.
- Myrtis henicura*, *Cab. & Heine, Mus. Hein.* iii. p. 59.
- Doricha enicura*, *Gould, Intr. Troch.* p. 95; *Elliot, Syn. Troch.* p. 124.
- Amathusia enicura*, *Muls. & Ferr. Class. Troch.* p. 85.
- Amalusia enicura*, *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 16; *id. Ann. Soc. Linn. Lyon*, xxii. p. 225.
- Doricha henicura*, *Salv. Cat. Strickl. Coll.* p. 365.

*Adult male*. Upper surface shining golden green, darker and duller on the crown; chin, ear-coverts, and the intervening space under the eye black, faintly tinged with shining green; throat glittering amethystine-purple; breast buffy white; abdomen and under tail-coverts shining green; six middle rectrices shining green like the back, outer two on either side purple-black, the pair next the outermost edged with rufous on the inner web; bill black. Total length about 4·7 inches, wing 1·3; tail, central rectrices 0·37, lateral 2·4; bill 0·8.

*Female*. Like the male on the upper surface; the head duller, and the middle of the back more bronzy green; under surface pale rufous; lores and space below the eye blackish brown; four middle rectrices shining green like the back; the rest rufous at the base, white at the tip, preceded by a wide subterminal black band; bill black. Central rectrices 0·6 inch, outer 1.

*Hab.* Guatemala.

<i>a-d.</i> ♂ ad. ; <i>e,</i> <i>f.</i> ♀ ad. sk.	Dueñas, Guatemala, Feb., Aug., & Nov. ( <i>O. Salvin</i> ).	Salvin-Godman & Selater Colls.
<i>g.</i> ♂ ad. ; <i>h, i.</i> ♂ juv. ; <i>j.</i> ♀ ad. sk.	Coban, Guatemala, Feb., Nov., Dec. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
<i>k.</i> ♂ juv. sk.	Vera Paz, Guatemala ( <i>H. Hague</i> ).	Salvin-Godman Coll.
<i>l-n.</i> ♂ ad. ; <i>o,</i> <i>p.</i> ♀ ad. sk.	Guatemala ( <i>Skinner</i> ).	Gould Coll.
<i>q.</i> ♂ juv. sk.	Guatemala ( <i>Van Patten</i> ).	Salvin-Godman Coll.

## 2. *Doricha elizæ.*

*Trochilus eliza*, *Less. & Del. Rev. Zool.* 1839, p. 20.

Lucifer β. *Myrtis eliza*, *Reich. Aufz. d. Col.* p. 13 ; *id. Troch. Enum.* p. 10, pl. 845. ff. 4996-8.

Lucifer *eliza*, *Bp. Rev. Zool.* 1854, p. 257.

*Thaumastura elizæ*, *Gould, Mon. Troch.* iii. pl. 155 (May 1857) ;  
*Scl. Cat. Am. B.* p. 289 ; *de Oca, La Nat.* iii. p. 17, pl.

*Dorica elizæ*, *Gould, Intr. Troch.* p. 94 ; *Elliot, Syn. Troch.* p. 125 ;  
*Boucard, P. Z. S.* 1883, p. 451 ; *Ferrari-Perez, Pr. U. S. Nat. Mus.*  
ix. p. 157.

*Amathusia (Doricha) elizæ*, *Muls. & Verr. Class. Troch.* p. 85.

*Calothorax elizæ*, *Gray, Hand-l. B.* i. p. 135.

*Amathusia (Doricha) elizæ*, *Muls. Hist. Nat. Ois.-Mouches*, iv.  
p. 20.

*Amalusia elizæ*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 225.

*Adult male.* Upper surface shining bronzy green, duller on the crown ; throat glittering ruby-red ; a dusky spot below the eye ; breast and middle of the abdomen white ; flanks washed with shining golden green ; under tail-coverts white tinged with buff ; four central rectrices shining olive-green, the three lateral on either side purple-black, all but the outermost pair edged on the inner web with rufous ; bill black. Total length about 3.9 inches, wing 1.45 ; tail, central rectrices 0.4, lateral 1.5 ; bill 0.9.

*Female.* Upper surface like that of the male, but rather brighter ; under surface white faintly tinged with buff, darker on the flanks ; three lateral rectrices on either side pale rufous at the base, white at the tip, and with a distinct black subterminal band.

*Young male.* Like the female, but with the apical spots of the lateral rectrices smaller, and the subterminal black band wider.

*Hab.* Southern Mexico, Yucatan, and the islands adjoining.

<i>a-c.</i> ♂ ad. ; <i>d.</i> ♀ ad. sk.	Jalapa, Mexico ( <i>de Oca</i> ).	Gould & Selater Colls.
<i>e.</i> ♀ ad. sk.	Cordova, Mexico ( <i>Sallé</i> ).	Gould Coll.
<i>f.</i> ♂ ad. sk.	Sisal, Yucatan, May ( <i>Dr. Schott</i> ).	Salvin-Godman Coll.
<i>g, h.</i> ♂ ad. sk.	Northern Yucatan ( <i>G. F. Gau-</i> <i>mer</i> ).	Salvin-Godman Coll.
<i>i, j.</i> ♂ ad. ; <i>k.</i> ♂ juv. sk.	Holbox I., Yucatan, Dec. ( <i>G. F.</i> <i>Gaumer</i> ).	Salvin-Godman Coll.
<i>l.</i> ♂ ad. st.	Mexico.	Purchased.



3. *Doricha evelynæ*.

*Trochilus evelynæ*, *Bourc. P. Z. S.* 1847, p. 44.

Lucifer ♂. *Calothorax evelynæ*, *Reich. Aufz. d. Col.* p. 13.

*Thaumastura evelynæ*, *Gould, Mon. Troch.* iii. pl. 156 (May 1861).

*Doricha evelynæ*, *Gould, Intr. Troch.* p. 95; *Elliot, Ibis*, 1872, p. 353; *id. Syn. Troch.* p. 125; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 38, pl. 106. f. 3; *id. Ann. Soc. Linn. Lyon*, xxii. p. 226; *Cory, Birds Bahama Is.* p. 108; *id. Birds West Ind.* p. 150; *Northrop, Auk*, viii. p. 73.

*Trochilus bahamensis*, *Bryant, Pr. Bost. Soc. N. H.* vii. p. 106.

*Amathusia (Egolia) evelynæ*, *Muls. & Verr. Class. Troch.* p. 86.

*Adult male.* Upper surface (including the forehead) shining golden green; throat glittering ruby-red, passing into bluish red on the sides and lower edge; breast white; abdomen rufescent, washed (especially on the flanks) with shining golden green; under tail-coverts pale rufous; a patch of dark rufous at the base of the wings, and spreading over the proximal coverts; central pair of rectrices shining green, the next pair purple-black, edged with green, the outermost pair wholly purple-black, and the intermediate two on each side rufous on the inner web to and including the shaft towards the base, nearly to the shaft towards the tip; bill black. Total length about 3·7 inches, wing 1·5; tail, central rectrices 0·6, lateral 1·25; bill 0·7.

*Female.* Upper surface like that of the male; under surface dingy white, more rufescent on the abdomen and under tail-coverts; lateral rectrices rufous at the base and tip, and with a wide sub-terminal black band.

*Hab.* Bahamas, New Providence and Andros Is.

- |                   |  |                       |
|-------------------|--|-----------------------|
| a. ♂ ad. sk.      | Nassau, Bahamas (ex <i>G. N. Lawrence</i> ). | Salvin-Godman Coll.   |
| b. ♀ ad. sk.      | Nassau ( <i>Blake</i> ).                     | Slater Coll.          |
| c-i. ♂ ad.; j, k. | Bahamas.                                     | Gould & Slater Colls. |
| ♀ ad. sk.         |  |                       |

4. *Doricha lyrura*.

*Doricha lyrura*, *Gould, Ann. & Mag. N. H.* 1869, iv. p. 111; *id. Mon. Troch. Suppl.* pl. 54 (Jan. 1881); *Elliot, Ibis*, 1872, p. 354; *id. Syn. Troch.* p. 126; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 41; *id. Ann. Soc. Linn. Lyon*, xxii. p. 226; *Cory, Birds Bahama Is.* p. 110; *id. Birds West Ind.* p. 150.

*Adult male.* Similar to that of *D. evelynæ*, but with the lateral rectrices narrower, longer than the next pair, and slightly curved outwards towards the tip; the forehead too is glittering bluish red like the edges of the ruby throat.

*Female.* Similar to that sex of *D. evelynæ*.

*Young male.* Throat buff, the glittering feathers appearing irregularly over the surface; the outer rectrices are almost wholly rufous on the inner web.

*Hab.* Bahamas, Long Island and Magua I.

a. ♂ ad. ; b. ♂ juv. ; c. ♀ ad. sk.	Bahamas.	H. Bryant [P.].
d. ♂ ad. ; e. ♂ juv. ; f. ♀ ad. sk.	Bahamas ( <i>H. Bryant</i> ).	Salvin-Godman Coll.
g-k. ♂ ad. ; l- n. ♂ juv. ; o, p. ♀ ad. sk.	Bahamas ( <i>H. Bryant</i> ).	Gould & Selater Colls.
q, r. ♀ ad. sk.	Long Island, Bahamas.	Gould Coll.
s-v. ♂ ad. ; w- y. ♀ ad. sk.	Inagua I., Bahamas ( <i>J. Maynard</i> ex <i>C. B. Cory</i> ).	Salvin-Godman Coll.

### 5. *Doricha bryantæ*.

*Doricha bryantæ*, *Laur. Ann. Lyc. N.Y.* viii. p. 483, ix. p. 123; *Frantz, J. f. Orn.* 1869, p. 316; *Salv. P. Z. S.* 1870, p. 209; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 42, pl. 103; *id. Ann. Soc. Linn. Lyon*, xxii. p. 226; *Boucard, P. Z. S.* 1878, p. 70; *Elliot, Syn. Troch.* p. 125; *Gould, Mon. Troch., Suppl.* pl. 53 (Jan. 1881).  
*Calothorax bryantæ*, *Gray, Hand-l. B.* i. p. 135.

*Adult male.* Upper surface dark shining golden green; throat glittering dark ruby-red; breast white; abdomen dusky; flanks and under tail-coverts rufous, washed with shining golden green; central rectrices dark shining olive-green, next pair olive-green on the outer web, purple-black on the inner; all the remaining rectrices purple-black, edged with rufous on the inner web; bill black. Total length about 3·7 inches, wing 1·6; tail, central rectrices 0·45, lateral 1·4; bill 0·7.

*Female.* Similar to the male on the upper surface; under surface pale rufous, darker on the throat, flanks, and under tail-coverts, paler on the breast and the middle of the abdomen; lateral rectrices rufous at the base and tip, and with a wide subterminal purple-black band.

*Young male.* Similar to the female, the glittering throat-feathers appearing irregularly.

*Hab.* Costa Rica and the State of Panama.

a. ♂ ad. ; b. ♂ juv. ; c-f. ♀ ad. sk.	Costa Rica ( <i>Endres</i> ).	Gould Coll.
g. ♂ juv. sk.	Costa Rica ( <i>Carmiôt</i> ).	Salvin-Godman Coll.
h. ♂ ad. sk.	Volcan de Chiriqui ( <i>Arcé</i> ).	Salvin-Godman Coll.
i-o. ♂ ad. ; p. ♂ juv. ; q. ♀ ad. sk.	Castillo, Panama ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
r-t. ♂ ad. sk.	Laguna del Castillo, Panama ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
u. ♂ ad. sk.	Boquete de Chitra, Panama ( <i>Arcé</i> ).	Gould Coll.

## 108. TILMATURA.

Type.

- Tryphæna, *Gould, Mon. Troch.* iii. pl. 158 (June 1849)  
 (nec *Ochsenheimer*, 1816) . . . . . T. duponti.  
 Tilmatura, *Reich. Aufz. d. Col.* p. 8 . . . . . T. duponti.

*Range.* Southern Mexico and Guatemala.

## 1. Tilmatura duponti.

- Ornismya duponti*, *Less. Suppl. Ois.-Mouches*, p. 100, pl. 1; *de Oca, La Nat.* iii. p. 103.  
*Trochilus duponti*, *Less. Ind. Gén. Troch.* p. xxiv; *Gray, Hand-l. B.* i. p. 146.  
*Ornismya celestis*, *Less. Traité d'Orn.* p. 276.  
*Ornismya zemes*, *Less. Rev. Zool.* 1838, p. 315.  
*Tryphæna duponti*, *Bp. Consp. Av.* i. p. 84; *Gould, Mon. Troch.* iii. pl. 158 (June 1849); *id. Intr. Troch.* p. 97; *Sci. & Salv. Ibis*, 1859, p. 129; *Salv. Ibis*, 1860, p. 266; *Muls. & Verr. Class. Troch.* p. 79; *Villada, La Nat.* ii. p. 360.  
*Tilmatura lepida*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 5, pl. 711. ff. 4610-4.  
*Thaumastura duponti*, *Bp. Rev. Zool.* 1854, p. 257.  
*Tilmatura duponti*, *Cab. & Heine, Mus. Hein.* iii. p. 59; *Sci. Cat. Am. B.* p. 300; *Heine, J. f. Orn.* 1863, p. 205; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 11, pl. 101; *id. Ann. Soc. Linn. Lyon*, xxii. p. 224; *Elliot, Syn. Troch.* p. 128; *Ferrari-Perez, Pr. U.S. Nat. Mus.* ix. p. 157.

*Adult male.* Upper surface shining grass-green; throat black, each feather edged with glittering violet-blue; breast white; abdomen shining grass-green; the feathers of the lower abdomen and the under tail-coverts edged with white; four central rectrices shining green, next pair dark purple-black, edged outwardly with green, tipped with white, and with a white notch on the inner web; two outer rectrices on either side purple-black at the base, followed by a band of rufous, then one of white, then a dark one, and the tip white; the outermost and longest pair are reduced in width towards the tip, and expand slightly again to form a small spatule; bill black. Total length about 3.8 inches, wing 1.4; tail, central rectrices 0.35, lateral 1.9; bill 0.6.

*Female.* Upper surface bronzy green; lores and under surface rufous, darker below the eye, on the flanks, and under tail-coverts; central rectrices shining green; lateral purple-black, tipped with rufous, which becomes nearly white on the outermost pair. Central rectrices 0.55 inch, lateral 0.85.

*Hab.* Southern Mexico and Guatemala.

- a. ♂ juv.; b, c. Mexico? Purchased.  
 ♀ ad. sk.  
 d. ♂ ad.; e. ♀ Volcan de Colima, Mexico, Jan. Salvin-Godman Coll.  
 ad. sk. (W. B. Richardson).

<i>f-k.</i> ♂ ad.; <i>l.</i>	Amula, Guerrero, Aug. ( <i>Mrs. H.</i>	Salvin-Godman Coll.
<i>m.</i> ♀ ad. sk.	<i>H. Smith</i> ).	
<i>n.</i> ♂ ad. sk.	Chilpancingo, Guerrero, Aug.	Salvin-Godman Coll.
	( <i>Mrs. H. H. Smith</i> ).	
<i>o.</i> ♂ juv. sk.	Jalapa, Mexico, May ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
<i>p.</i> ♂ ad. sk.	Los Cerillos, Jalapa, June ( <i>M. T.</i> ).	Salvin-Godman Coll.
<i>q.</i> ♂ ad. sk.	Cuesta de Misantla, Jalapa, June ( <i>M. T.</i> ).	Salvin-Godman Coll.
<i>r-c'.</i> ♂ ad.; <i>d'.</i>	Volcan de Sta. Maria, Quezaltenango, Guatemala, Aug.,	Salvin-Godman Coll.
♂ juv.; <i>e', f'.</i>	Sept. ( <i>W. B. Richardson</i> ).	
♀ ad. sk.		
<i>g'.</i> ♂ ad.; <i>h'.</i> ♀	Coban, Guatemala, Nov. ( <i>O. Salvin</i> ).	Salvin-Godman Coll.
ad. sk.		
<i>i'.</i> ♂ ad. sk.	San Gerónimo, Guatemala ( <i>O. S.</i> ).	Salvin-Godman Coll.
<i>j'.</i> ♀ ad. sk.	Vera Paz, Guatemala ( <i>H. Hague</i> ).	Salvin-Godman Coll.
<i>k'.</i> ♂ ad. sk.	Guatemala ( <i>O. S.</i> ).	Sclater Coll.
<i>l-n'.</i> ♂ ad.; <i>o'.</i>	Guatemala ( <i>Skinner</i> ).	Gould Coll.
<i>p'.</i> ♂ juv.; <i>q'.</i>		
<i>r'.</i> ♀ ad. sk.		
<i>s'.</i> ♂ ad.; <i>t'.</i> ♀		Purchased.
ad. st.		

## 109. CALLIPHLOX.

Type.

Calliphlox, <i>Boie, Isis</i> , 1831, p. 344	.....	<i>C. amethystina</i> .
Amathusia (Philodice), <i>Muls. &amp; Ferr. Class. Troch.</i>		
p. 86 (1865).....		<i>C. mitchelli</i> .

*Range.* Trinidad, Venezuela, Guiana, Amazonia, Brazil, and Eastern Ecuador.

*Key to the Species.*

- a.* Throat glittering rosy red; outermost rectrices longest, pointed ..... *amethystina*, p. 386.  
*b.* Throat more tinted with purple; outermost rectrices and the next pair equal ..... *mitchelli*, p. 388.

## 1. Calliphlox amethystina.

- Trochilus amethystinus*, *Gm. Syst. Nat.* i. p. 496; *Lath. Ind. Orn.* p. 319; *Vieill. N. Dict. d'Hist. N.* vii. p. 358; *id. Enc. Méth.* p. 561; *Wied, Beitr.* iv. p. 90; *Less. Ind. Gén. Troch.* p. xxxiii; *Gray, Hand-l. B.* i. p. 146.  
*Trochilus brevicauda*, *Spix, Av. Bras.* i. p. 79, pl. 80. f. 2.  
*Trochilus campestris*, *Wied, Beitr.* iv. p. 73.  
*Ornismya amethystina*, *Less. Hist. Nat. Ois.-Mouches*, pp. xvi, 150, pl. 47; *Suppl. Ois.-Mouches*, p. 138, pls. 20, 21, 22.  
*Ornismya amethystoides*, *Less. Hist. Nat. Troch.* p. 79, pls. 25, 26, 27.  
*Trochilus amethystoides*, *Less. Ind. Gén. Troch.* p. xxxiii; *Gray, Hand-l. B.* i. p. 146.  
*Tryphæna amethystina*, *Bp. Consp.* i. p. 84; *id. Rev. Zool.* 1854, p. 257.  
*Tryphæna amethystoides*, *Bp. Consp. Av.* i. p. 84; *id. Rev. Zool.* 1854, p. 257.  
Calliphlox amethystina, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 838. ff. 4976-8; *Gould, Mon. Troch.* iii. pl. 159 (Sept.

1856); *id. Intr. Troch.* p. 97; *Cab. & Heine, Mus. Hein.* iii. p. 58; *Scl. Cat. Am. B.* p. 300; *Scl. & Salv. P. Z. S.* 1867, p. 753, 1873, p. 288; *Pelz. Orn. Bras.* p. 32; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* 1870, p. 110; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 45; *id. Ann. Soc. Linn. Lyon*, xxii. p. 226; *Elliot, Ibis*, 1876, p. 398; *id. Syn. Troch.* p. 130; *Salv. Cat. Strickl. Coll.* p. 365; *id. Ibis*, 1885, p. 434; *Tacz. Orn. Pér.* i. p. 317; *Allen, Bull. Am. Mus. N. H.* iv. p. 258.

Calliphlox amethystoides, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 839. ff. 4979-80; *Burm. Syst. Ueb.* ii. p. 359; *Gould, Intr. Troch.* p. 98.

Amathusia (Calliphlox) amethystoides, *Muls. & Verr. Class. Troch.* p. 86.

Amathusia (Calliphlox) amethystinus, *Muls. & Verr. Class. Troch.* p. 86.

Calothorax enicurus, *Léot. Ois. Trin.* p. 143 (*nec Vieill.*).

*Adult male.* Upper surface shining olive-green; throat glittering rosy red; breast white; abdomen and under tail-coverts dusky, washed with green; central rectrices shining olive-green, lateral purple-black, slightly tipped with green on the inner web; bill black. Total length about 3.3 inches, wing 1.3; tail, central rectrices 0.6, lateral 1.2; bill 0.7.

*Female.* Under surface grey, paler on the breast and under tail-coverts, sides washed with rufous; feathers of the throat with dusky discal spots; central rectrices shining olive-green like the back, lateral purple-black, greenish at the base and tipped with white.

*Young males* are more rufous on the abdomen than the female, and have the lateral rectrices tipped with rufous.

*Hab.* Trinidad and Venezuela, Guiana, Ecuador, Amazonia to Southern Brazil.

a. ♂ ad. sk.	Jima, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
b. ♂ ad. sk.	Samyacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
c-h. ♂ ad. sk.	Amazons Valley ( <i>E. Bartlett</i> ).	Gould Coll.
i-k. ♂ ad. sk.	Demerara.	Gould Coll.
l, m. ♂ ad. sk.	Brit. Guiana.	Salvin-Godman Coll.
n. ♂ ad. sk.	Roraima, Brit. Guiana, Nov. ( <i>H. Whately</i> ).	Salvin-Godman Coll.
o, p. ♂ ad.; q. ♂ juv. sk.	Merumé Mts., Brit. Guiana, July ( <i>H. Whately</i> ).	Salvin-Godman & Selater Colls.
r, s. ♂ ad.; t. ♂ juv. sk.	Cayenne skins.	Gould Coll.
u. ♂ ad.; v. ♂ juv. sk.	Trinidad.	Gould Coll.
w. ♂ ad.; x. ♂ juv. sk.	Bahia, Brazil.	Gould Coll.
y-a'. ♂ ad.; b'. ♂ juv. sk.	Minas Geraes, Brazil.	Gould Coll.
c', d'. ♂ ad. sk.	Rio, Brazil ( <i>Foucs</i> ).	Salvin-Godman Coll.
e'. ♀ ad. sk.	Rio.	Gould Coll.
f'. ♂ ad.; g', h'. ♀ ad. sk.	Chapada, Matto Grosso, May & Oct. ( <i>H. H. Smith</i> ).	Salvin-Godman Coll.
i'. Skeleton.		Purchased.
j'-l'. ♂ ad.; m'. ♀ ad. st.		Purchased.

2. *Calliphlox mitchelli*.

*Trochilus mitchelli*, *Bourc. P. Z. S.* 1847, p. 47; *Gray, Hand-l. B.* i. p. 143.

Lucifer ♂. *Calothorax mitchelli*, *Reich. Aufz. d. Col.* p. 13; *id. Troch. Enum.* p. 10, pl. 848. ff. 5003-8.

*Tryphæna mitchelli*, *Bp. Rev. Zool.* 1854, p. 257.

*Calliphlox mitchelli*, *Gould, Mon. Troch.* iii. pl. 160 (May 1860); *id. Intr. Troch.* p. 98; *id. Ibis*, 1876, p. 399; *de Oca, La Nat.* iii. p. 165; *Elliot. Syn. Troch.* p. 131; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 49; *Berl. J. f. Orn.* 1887, p. 330.

*Amathusia* (*Philodice*) *mitchelli*, *Muls. & Verr. Class. Troch.* p. 86. *Philodice mitchelli*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 226.

*Adult male.* Similar to that of *C. unethystina*, but with the glittering throat of a purple hue: the two lateral rectrices on either side subequal, the outermost pair less pointed, and all the rectrices except the central pair purple-black; a rufous patch on either side of the lower abdomen.

*Female and young male.* Under surface rufous, darker on the flanks and under tail-coverts; lateral rectrices rufous, with a sub-terminal black band.

*Hab.* Ecuador.

a. ♂ ad. sk.	Baiza, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
b. ♂ ad. sk.	Nanegal, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
c. ♂ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
d-h. ♂ ad. sk.	Ecuador.	Salvin-Godman & Gould Colls.
i. ♂ ad. sk.	Ecuador ( <i>Buckley</i> ).	Gould Coll.
j, k. ♂ ad.; l-	Quito, Ecuador ( <i>Jamson</i> ).	Gould Coll.
n. ♀ ad. sk.		

110. *SMARAGDOCHRYSIS*.

Type.

*Smaragdochrysis*, *Gould, Mon. Troch.* v. pl. 359 (Sept. 1861)..... *S. iridescens*.

*Range.* Brazil.

An obscure genus of doubtful affinities, only known from the single type from the Gould collection.

The green colour of the plumage has no relationship to any of the members of this section of the *Trochilidae*, except it be *Ptochoptera*, the position of which again is doubtful. In form it does not differ very materially from *Calliphlox*, and I follow Mr. Elliot in placing it near that genus. Gould at first referred it to the same position, but afterwards transferred it to the end of the *Trochilidae* as being altogether *incertæ sedis*.

1. *Smaragdochrysis iridescens*.

*Calliphlox?* *iridescens*, *Gould, P. Z. S.* 1860, p. 310.

*Smaragdochrysis iridescens*, *Gould, Mon. Troch.* v. pl. 359 (Sept. 1861): *id. Intr. Troch.* p. 181; *Muls. Hist. Nat. Ois.-Mouches*, ii.

p. 86; *id. Ann. Soc. Linn. Lyon*, xxii. p. 209; *Elliot, Syn. Troch.* p. 129.

*Chlorolampis iridescens*, *Muls. & Ferr. Class. Troch.* p. 41.

*Male.* Upper surface dark shining grass-green, brighter on the forehead and crown; throat glittering pale green, with a coppery hue in certain incidence of light; abdomen and under tail-coverts shining dark green; tail steel-blue; maxilla black, mandible flesh-colour, the tip black. Total length about 3.4 inches, wing 1.55; tail, central rectrices 0.7, lateral 1.2; bill 0.7.

*Hab.* Brazil.

*a. ♂ ad. sk.* Novo Fribourgo, Brazil (*Reeves*). Gould Coll. (Type of the species.)

### 111. PTOCHOPTERA.

Ptochoptera, *Elliot, Ibis*, 1874, p. 261 ..... P. iolœma. Type.

*Range.* Brazil.

#### 1. Ptochoptera iolœma.

Chlorestes  $\delta$ . *Riccordia iolœma*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 4, pl. 705. ff. 4588-9.

*Thalurania iolœma*, *Pelz. Orn. Bras.* pp. 30, 57; *Salv. & Elliot, Ibis*, 1873, p. 361.

Ptochoptera iolœma, *Elliot, Ibis*, 1874, p. 261; *id. Syn. Troch.* p. 130; *Muls. Hist. Nat. Ois.-Mouches*, ii. p. 89.

“Top of the head and nape dull dark green, entire upper parts grass-green, only slightly metallic. The tail-coverts are lighter green than the back and reach to the fork of the tail. Throat pale metallic grass-green. Rest of underparts pale smoky brown, with some of the flank-feathers tipped with grass-green. Under tail-coverts long, same colour as the abdomen, with a slight metallic greenish lustre on the centre of the feathers. Tail long, deeply forked, dark purplish brown, feathers very narrow. Wings purplish brown. Bill and feet black. Total length 4 $\frac{3}{8}$  inches, wing  $\frac{5}{8}$ , tail 2, bill from gape  $\frac{3}{4}$ . From type of species in the Vienna Zoological Museum.” (*Elliot, l. s. c.*)

The type of this species was obtained by Natterer at Ypanema in South Brazil. Mr. Elliot examined this type and considered it to belong to a distinct genus allied to *Smaragdochrysis* and *Calliphlox*\*. Not having a specimen for examination, I am doubtful as to the position of the genus, but follow Mr. Elliot in placing it here.

*Hab.* Brazil.

\* It will be observed that the cut of the tail in his ‘Synopsis’ shows the feathers to be wide, whereas in the description they are said to be “very narrow.”

## 112. CALOTHORAX.

	Type.
Calothorax, <i>Gray, Gen. B.</i> p. 13 (1840) .....	C. lucifer.
Lucifer, <i>Reich. Aufz. d. Col.</i> p. 13.	
Amathusia (Manilia), <i>Muls. &amp; Verr. Class. Troch.</i> p. 86 (1865) .....	C. pulchra.
Ornismya (Lucifer), <i>Muls. &amp; Verr. Class. Troch.</i> p. 86 (1865) .....	C. lucifer.
<i>Range.</i> Mexico from the Central Plains to the State of Oaxaca.	

*Key to the Species.*

- a. Outermost rectrix filiform, gradually narrowed to a point ..... *lucifer*, p. 390.  
 b. Outermost rectrix normal ..... *pulchra*, p. 391.

## 1. Calothorax lucifer.

- Cynanthus lucifer, *Sw. Phil. Mag.* new ser. i. p. 442.  
 Ornismya cyanopogon, *Less. Hist. Nat. Ois.-Mouches*, pp. xvi, xlvi, 50, pl. 5; *Suppl.* p. 117, pls. 9, 10; *id. Traité d'Orn.* p. 274.  
 Trochilus cyanopogon, *Less. Ind. Gén. Troch.* p. xxiii; *Sw. Birds Brazil & Mex.* pl. 77.  
 Trochilus simplex, *Less. Hist. Nat. Col.* p. 86, pl. 23; *id. Ind. Gén. Troch.* p. xiii.  
 Trochilus corruscus, *Licht. Preis-Verz. Mex. Vög.* p. 1 (cf. *J. f. Orn.* 1863, p. 55).  
 Calothorax lucifer, *Gray, Gen. B.* i. p. 110; *id. Hand-l. B.* i. p. 135; *Bp. Consp. Av.* i. p. 85; *Cab. & Heine, Mus. Hein.* iii. p. 55; *Scl. Cat. Am. B.* p. 298; *id. P. Z. S.* 1874, p. 177; *Gould, Intr. Troch.* p. 90; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 26; *id. Ann. Soc. Linn. Lyon*, xxii. p. 226; *Laurr. Mem. Bost. Soc. N. II.* ii. p. 291; *Elliot, Syn. Troch.* p. 118; *Salv. Cat. Strickl. Coll.* p. 364.  
 Lucifer  $\delta$ . Calothorax tendali, *Reich. Aufz. d. Col.* p. 13.  
 Lucifer cyanopogon, *Reich. Aufz. d. Col.* p. 13; *id. Troch. Enum.* p. 10, pl. 843. ff. 4990-1; *Bp. Rev. Zool.* 1854, p. 257.  
 Lucifer labrador, *Bp. Rev. Zool.* 1854, p. 287.  
 Calothorax cyanopogon, *Gould, Mon. Troch.* iii. pl. 143 (Sept. 1857); *Villada, La Nat.* ii. p. 357; *de Oca, La Nat.* iii. p. 104; *Boucard, Ann. Soc. Linn. Lyon*, xxii. p. 21.  
 Ornismya (Lucifer) cyanopogon, *Muls. & Verr. Class. Troch.* p. 91.  
 Trochilus lucifer, *Finsch, Abh. nat. Ver. zu Bremen*, 1870, p. 324.

*Adult male.* Upper surface shining golden green, duller on the crown, more golden on the rump; throat glittering lilac-red; breast, middle of the abdomen, and under tail-coverts white; flanks pale fulvous, washed with shining green; tail purple-black, the lateral rectrices tipped with white, the four central rectrices shining olive-green; bill black. Total length about 3.5 inches, wing 1.5; tail, central rectrices 0.6, longest 1.2; bill 1.

*Adult female.* Under surface pale fulvous; ear-coverts dark brown; lateral rectrices fulvous at the base, white at the tip, and with a wide subterminal black band.

*Young males* like the female, the glittering gular feathers being gradually assumed.

*Hab.* Mexico.



a. ♂ ad. sk.	Sierra de San Luis Potosi, Mexico, July ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
b-f. ♂ ad. ; g-i. ♂ juv. ; j-l. ♀ ad. sk.	Real del Monte, Mexico ( <i>Flores</i> ).	Salvin-Godman & Gould Colls.
m, n. ♂ juv. ; o-s. ♀ ad. sk.	Bolaños Jalisco, Feb. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
t. ♂ ad. sk.	Lake Chapala, Sept. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
u-x. ♂ ad. sk.	Valley of Mexico.	Salvin-Godman Coll.
y-b'. ♂ ad. ; c'. ♀ ad. sk.	Ajusco, Valley of Mexico, Sept. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
d'. ♂ ad. sk.	San Antonio, Coapa, Valley of Mexico, March ( <i>F. Ferrari-Perez</i> ).	Salvin-Godman Coll.
e'. ♀ ad. sk.	Hacienda Eslava, Valley of Mexico, Jan. ( <i>F. F.-P.</i> ).	Salvin-Godman Coll.
f'. ♂ ad. sk.	Tetelco, Valley of Mexico, Sept. ( <i>F. F.-P.</i> ).	Salvin-Godman Coll.
g'-i'. ♂ ad. sk.	Cordova, Mexico ( <i>Sallé</i> ).	Gould Coll.
j', k'. ♂ ad. ; l'. ♀ ad. st.		Purchased.

## 2. *Calothorax pulchra*.

*Calothorax pulchra*, *Gould, Ann. & Mag. N. H.* 1859, iv. p. 97 ; *Sci. P. Z. S.* 1859, p. 386 ; *Gould, Mon. Troch.* iii. pl. 144 (May 1860) ; *id. Intr. Troch.* p. 91 ; *de Oca, La Nat.* iii. p. 105 ; *Bowcard, Ann. Soc. Linn. Lyon*, xxii. p. 22 ; *Elliot, Syn. Troch.* p. 118.  
*Amathusia (Manilia) pulchra*, *Muls. & Verr. Class. Troch.* p. 86 ; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 30, pl. 102.  
*Manilia pulchra*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 226.

*Adult male*. Similar to that of *C. lucifer*, but with the lateral pair of rectrices normal, that is to say very slightly narrower at the tip than at the base. The bill is shorter and more slender, and the lateral gular feathers less elongated.

*Adult female*. Smaller than that of *C. lucifer* but with smaller bill.  
*Hab.* Mexico, State of Oaxaca.

a-e. ♂ ad. ; f. ♂ juv. ; g. ♀ ad. sk.	Oaxaca, Mexico ( <i>Bowcard</i> ).	Gould Coll. (Types of the species.)
h-j. ♂ ad. sk.	Oaxaca ( <i>Sallé</i> ).	Salvin-Godman Coll.
k. ♀ ad. sk.	Oaxaca ( <i>Fenocchio</i> ).	Salvin-Godman Coll.
l, m. ♀ ad. sk.	Oaxaca, March ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
n-q. ♀ ad. sk.	Venta de Zopilote, Guerrero ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
r, s. ♂ ad. sk.	Tehuantepec, Feb. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.

## 113. SELASPHORUS.

*Selasphorus*, *Su. Faun. Bor.-Am.* ii. p. 496 (1831) . . . . . Type. *S. rufus*.

*Range*. Western North America, Mexico, and Central America to Chiriqui.

## Key to the Species.

- a. Lateral gular feathers elongated.
- a'. Crown and throat glittering red . . . . . *floresii*, p. 392.
- b'. Crown shining green, throat glittering red.
- a''. Bill wholly black.
- a'''. Back cinnamon . . . . . *rufus*, p. 392.
- b'''. Back like the crown glittering green . . . . . *aleni*, p. 394.
- b''. Mandible flesh-colour at the base.
- c'''. Inner web of the outer rectrices nearly wholly rufous . . . . . *scintilla*, p. 395.
- d'''. Inner web of the outer rectrices nearly wholly purple-black . . . . . *torridus*, p. 395.
- b. Lateral gular feathers not elongated.
- c'. Outermost primary attenuated at the end . . . . . *platycercus*, p. 396.
- d'. Outermost primary normal.
- c''. Central rectrices purple-black, edged with rufous at the base . . . . . *ardens*, p. 398.
- d''. Central rectrices shining green, edged with rufous . . . . . *flammula*, p. 398.

1. *Selasphorus floresii*.

- Selasphorus floresii*, *Gould, Mon. Troch.* iii. pl. 139 (Sept. 1861);  
*id. Intr. Troch.* p. 89; *Muls. & Ferr. Class. Troch.* p. 89; *de Oca, La Nat.* iii. p. 101, pl.; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 98;  
*id. Ann. Soc. Linn. Lyon*, xxii. p. 227; *Elliot, Syn. Troch.* p. 109.  
*Trochilus floresii*, *Bryant, Forest & Stream*, xxvi. p. 426 (1886);  
*Chapman, Auk*, 1888, p. 396.  
*Trochilus rubromitratus*, *Ridgw. Auk*, 1891, p. 114.

"Adult male. Crown and throat beautiful scarlet, with violet reflexions, the violet hue predominating on the crown and the tips of the gorget; breast and centre of the abdomen greyish white; upper surface of the body and upper tail-coverts bronzy green; flanks similar but paler; two centre tail-feathers green, with purple reflexions; outer webs of the lateral tail-feathers purple, inner webs deep reddish buff; wings purplish brown; bill black." (*Gould, l. s. c.*)

Recently recorded from California. I have not seen any specimens in Mexican collections made at Bolaños, whence the type is said to have come, and its vicinity in the last few years.

*Hab.* Mexico, Bolaños; California.

2. *Selasphorus rufus*.

- Ruffed Honeysucker, *Penn. Arct. Zool.* ii. p. 290.  
 Ruff-necked Humming Bird, *Lath. Gen. Syn.* i. pt. 2, p. 785.  
*Trochilus rufus*, *Gm. Syst. Nat.* i. p. 497; *Gray, Hand-l. B.* i. p. 144;  
*Everm. Auk*, iii. p. 180; *Scott, Auk*, iii. p. 431; *Merrill, Auk*, vi. p. 257.  
 Le Sasin, *Aud. Ois. Dor.* i. p. 131, pl. 61.  
*Trochilus collaris*, *Vieill. N. Dict. d'Hist. N.* vii. p. 374; *id. Enc. Méth.* p. 571.  
*Trochilus swainsoni*, *Less. Ind. Gén. Troch.* p. xiii.

- Trochilus (Selasphorus) rufus*, *Sw. Faun. Bor.-Am.* ii. p. 325.  
*Selasphorus rufus*, *Gould, Mon. Troch.* iii. pl. 137 (May 1852); *id. Intr. Troch.* p. 88 (partim); *Baird, B. N. Am.* p. 134 (partim); *Sel. Cat. Am. B.* p. 297; *id. P. Z. S.* 1864, p. 177; *Muls. & Ferr. Class. Troch.* p. 89; *Brown, Ibis*, 1868, p. 419; *Baird, Brew., & Ridgw. N. Am. B.* ii. p. 459 (partim); *de Oca, La Nat. iii.* p. 99; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 106 (partim); *id. Ann. Soc. Linn. Lyon*, xxii. p. 227; *Belding, Pr. U.S. Nat. Mus.* i. p. 427.  
*Selasphorus rufus*, *A. Dugès, La Nat.* i. p. 141 (1870); *Villada, La Nat.* ii. p. 355 (1871-74).  
*Selasphorus henshawi*, *Elliot, Bull. Nutt. Orn. Club*, ii. p. 102; *id. Syn. Troch.* p. 111.  
*Trochilus ruber*, *Linn. Syst. Nat.* i. p. 193; *Gm. Syst. Nat.* i. p. 499; *Vicill. N. Dict. d'Hist. Nat.* vii. p. 369; *id. Enc. Méth.* p. 568.  
*Selasphorus ruber*, *Bp. Consp. Ar.* i. p. 82; *id. Rev. Zool.* 1854, p. 256; *Reich. Aufz. d. Col.* p. 13; *id. Troch. Enum.* p. 10, pl. 852. ff. 5021-3; *Cab. & Heine, Mus. Hein.* iii. p. 56.  
*Mellisuga surinamensis*, *Briss. Orn.* iii. p. 701.  
*Oiseau-Mouche pourpre*, *Buff. Hist. Nat. Ois.* vi. p. 24.  
*Little Brown Humming Bird*, *Edw.* pl. 32; *Lath. Syn.* i. pt. 2, p. 778.

*Adult male.* Upper surface, including the back of the neck and upper tail-coverts, cinnamon-rufous; crown shining golden green, each feather edged with cinnamon; throat glittering red; breast and middle of the abdomen white; flanks and under tail-coverts cinnamon; tail dark cinnamon, tipped with black, the submedian rectrices with a deep excision near the end of the inner web and a smaller one on the outer web; bill black. Total length about 3.5 inches, wing 1.6, tail 1.1, bill 0.75.

*Adult female.* Upper surface shining grass-green, duller on the crown; under surface white; throat with dusky discal spots, flanks and under tail-coverts washed with cinnamon; tail cinnamon at the base, central rectrices shining green, darker and bluer at the tips, lateral rectrices broadly tipped with white and with a subterminal black band.

*Hab.* Western North America from Sitka southwards to Central Mexico.

- |  |   |                          |
|--|---|--------------------------|
| <i>a.</i> ♂ ad. sk.  | Vancouver I., April ( <i>A. Forrer</i> ).                                   | Salvin-Godman Coll.      |
| <i>b, c.</i> ♂ juv. sk.                                      | British Columbia.   | J. K. Lord [P.].         |
| <i>d.</i> ♂ ad. sk.  | San Juan I., Brit. Columbia,<br>June.                                       | J. K. Lord [P.].         |
| <i>e.</i> ♀ ad. sk.  | Rocky Mountains.  | J. K. Lord [P.].         |
| <i>f, g.</i> ♂ ad.; <i>h.</i> ♂<br>juv.; <i>i.</i> ♀ ad. sk. | Riverside, Cal., Feb.   | Wilson Crewdson<br>[P.]. |
| <i>j.</i> ♂ ad. sk.  | California ( <i>Hardy</i> ).  | Gould Coll.              |
| <i>k.</i> ♂ juv. sk.   | Lake Tahoe, Nevada, Sept.<br>( <i>H. W. Henshaw</i> ).                      | Salvin-Godman Coll.      |
| <i>l.</i> ♂ ad. sk.  | San Francisco ( <i>H. W. H.</i> ).  | Salvin-Godman Coll.      |
| <i>m.</i> ♀ ad. sk.  | Anderson, Cal., May ( <i>W. E.</i><br><i>Bryant</i> , ex <i>H. W. H.</i> ). | Salvin-Godman Coll.      |
| <i>n-u.</i> ♂ ad.; <i>v.</i> ♀<br>ad. sk.                    | Colton, Cal., April ( <i>F. Stephens</i> ).                                 | Salvin-Godman Coll.      |
| <i>w.</i> ♂ ad.; <i>x.</i> ♀<br>ad. sk.                      | Smith Mt., Cal., July ( <i>F.</i><br><i>Stephens</i> ).                     | Salvin-Godman Coll.      |

<i>y-b'</i> . ♂ ad. ; <i>c'</i> - <i>f'</i> . ♂ juv. ; <i>g'</i> - <i>k'</i> . ♀ ad. sk.	Nicasio, Cal., Mar., April, & June ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
<i>l'</i> . ♂ ad. sk. <i>m'-p''</i> . ♂ ad. ; <i>q''</i> - <i>e<sup>3</sup></i> . ♂ juv. ; <i>f<sup>3</sup></i> - <i>d<sup>4</sup></i> . ♀ ad. ; <i>e<sup>4</sup></i> . ♀ juv. sk.	Grafton, N. Mex. ( <i>J. B. Adams</i> ). Santa Fé Mts., N. Mex., Aug. ( <i>H. W. H.</i> ).	R. B. Sharpe [P.]. Salvin-Godman Coll.
<i>f<sup>4</sup></i> . ♀ ad. sk.	El Moro, N. Mex., July ( <i>H.</i> <i>W. H.</i> ).	Salvin-Godman Coll.
<i>g<sup>4</sup></i> , <i>h<sup>4</sup></i> . ♂ ad. ; <i>i<sup>4</sup></i> . ♂ juv. ; <i>j<sup>4</sup></i> . ♀ juv. sk.	Camp Apache, Arizona, Aug. ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
<i>k<sup>4</sup></i> . ♂ ad. sk.	White Mts., Arizona, Aug. ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
<i>l<sup>4</sup></i> . ♂ ad. ; <i>m<sup>4</sup></i> , <i>n<sup>4</sup></i> . ♂ juv. ; <i>o<sup>4</sup></i> - <i>q<sup>4</sup></i> . ♀ ad. sk.	Mexico ( <i>Floresi</i> ).	Salvin-Godman & Gould Colls.
<i>r<sup>4</sup></i> - <i>x<sup>4</sup></i> . ♂ ad. sk.	Xeres, Zacatecas, Sept. ( <i>W. B.</i> <i>Richardson</i> ).	Salvin-Godman Coll.
<i>y<sup>4</sup></i> , <i>z<sup>4</sup></i> . ♂ ad. ; <i>a<sup>5</sup></i> - <i>d<sup>5</sup></i> . ♀ ad. sk.	Zacatecas, Aug ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>e<sup>5</sup></i> - <i>g<sup>5</sup></i> . ♀ ad. sk.	Sierra de Valparaiso, Aug. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>h<sup>5</sup></i> . ♂ juv. sk.	Plains of San Luis Potosi ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>i<sup>5</sup></i> , <i>j<sup>5</sup></i> . ♂ ad. sk.	Valley of Mexico.	Salvin-Godman Coll.
<i>k<sup>5</sup></i> - <i>n<sup>5</sup></i> . ♂ ad. sk.	Ajusco, Valley of Mexico, Sept. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>o<sup>5</sup></i> . ♂ juv. sk.	Tetelco, Valley of Mexico, Sept. ( <i>F. Ferrari-Perez</i> ).	Salvin-Godman Coll.
<i>p<sup>5</sup></i> . ♂ ad. ; <i>q<sup>5</sup></i> , <i>r<sup>5</sup></i> . ♀ ad. sk.	Patzcuaro, Morelos, Jan. ( <i>F.</i> <i>D. G.</i> ).	Salvin-Godman Coll.
<i>s<sup>5</sup></i> , <i>t<sup>5</sup></i> . ♂ ad. ; <i>u<sup>5</sup></i> - <i>w<sup>5</sup></i> . ♂ juv. ; <i>x<sup>5</sup></i> . ♀ ad. sk.	Volcan de Colima, Jan. ( <i>W.</i> <i>B. R.</i> ).	Salvin-Godman Coll.
<i>y<sup>5</sup></i> . ♂ ad. sk.	Oaxaca, Mexico ( <i>Fenochio</i> ).	Salvin-Godman Coll.
<i>z<sup>5</sup></i> , <i>a<sup>6</sup></i> . ♂ ad. ; <i>b<sup>6</sup></i> . ♂ juv. ; <i>c<sup>6</sup></i> . ♀ ad. sk.	Oaxaca ( <i>Boucard</i> ).	Gould Coll.
<i>d<sup>6</sup></i> . ♂ ad. st.	Nootka Sound.	G. Barclay [P.].
<i>e<sup>6</sup></i> . ♂ ad. st.		Purchased.

### 3. *Selasphorus alleni*.

Le Sasin jeune âge, *Aud. Ois. Dor.* i. p. 133, pl. 62.

Ornismya sasin, *Less. Hist. Nat. Ois.-Mouches*, pp. xxx, 190, pls. 66,  
67 ; *id. Suppl. Ois.-Mouches*, p. 121, pls. 11, 12, 13.

Trochilus sasin, *Less. Ind. Gén. Troch.* p. xxxv.

*Selasphorus alleni*, *Heensh. Bull. Nutt. Orn. Club*, ii. p. 54.

*Selasphorus rufus*, *Elliot, Bull. Nutt. Orn. Club*, ii. p. 101 ; *id. Syn.*  
*Troch.* p. 110.

*Trochilus alleni*, *Scott, Auk*, iii. p. 431.

*Adult male*. Similar to that of *S. rufus*, but the whole back like the head, shining green ; lateral rectrices much narrower than in the allied species.

*Hab.* California.

a-c. ♂ ad. ; d, e. ♂ juv. ; f-h. ♀ ad. sk.	Nicasio, California ( <i>H. W.</i> <i>Henshaw</i> ).	Salvin-Godman Coll.
i. ♂ ad. sk.	Nicasio, Mar. ( <i>G. L. Toppan</i> ).	Slater Coll.
j. ♀ ad. sk.	Tejon, California, Aug. ( <i>H.</i> <i>W. H.</i> ).	Salvin-Godman Coll.
k. ♀ ad. sk.	Cohuila Valley, California, April ( <i>F. Stephens</i> ).	G. F. Morecom [P.].
l. ♂ ad. ; m. ♂ juv. sk.	California ( <i>Hardy</i> ).	Gould Coll.
n-p. ♂ ad. sk.	[California.]	Salvin-Godman & Gould Colls.

#### 4. *Selasphorus scintilla*.

*Trochilus* (*Selasphorus*) *scintilla*, *Gould, P. Z. S.* 1850, p. 162.

*Selasphorus scintilla*, *Gould, Mon. Troch.* iii. pl. 1:38 (May 1852); *id. Intr. Troch.* p. 89; *Reich. Aufz. d. Col.* p. 13; *id. Troch. Enum.* p. 10, pl. 853, ff. 5024-26; *Bp. Rev. Zool.* 1854, p. 256; *Cab. & Heine, Mus. Hein.* iii. p. 56; *Cab. J. f. Orn.* 1863, p. 165; *Muls. & Verr. Class. Troch.* p. 89; *Salv. P. Z. S.* 1867, p. 155, 1870, p. 209; *Lawr. Ann. Lyc. N. Y.* ix. p. 123; *Frantz. J. f. Orn.* 1869, p. 315; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 104, pl. 109; *id. Ann. Soc. Linn. Lyon*, xxii. p. 227; *Elliot, Syn. Troch.* p. 111; *Boucard, P. Z. S.* 1878, p. 70.

*Trochilus scintilla*, *Gray, Hand-l. B.* i. p. 144.

*Adult male.* Upper surface, including the upper tail-coverts, shining golden green, rather darker on the crown; lores and circum-ocular region cinnamon; throat glittering red; breast white; flanks and under tail-coverts cinnamon, the former washed with green; middle of the abdomen pale cinnamon; central rectrices cinnamon, with a median purple-black stripe including the shaft, lateral rectrices purple-black, the inner web almost to the shaft cinnamon; bill black, the base of the mandible flesh-colour. Total length about 2.7 inches, wing 1.3, tail 1, bill 0.55.

*Adult female.* Under surface white; throat buff, each feather with a dusky discal spot; tail cinnamon, with a wide subterminal dark band.

*Hab.* Costa Rica and Chiriqui.

a, b. ♂ ad. ; c, d. ♀ ad. sk.	Irazu, Costa Rica ( <i>Rogers</i> ).	Salvin-Godman Coll.
e, f. ♀ ad. sk.	Barranca, Costa Rica ( <i>Car-</i> <i>miol</i> ).	Salvin-Godman & Gould Colls.
g. ♀ ad. sk.	Tucurriqui, Costa Rica ( <i>Arcé</i> ).	Salvin-Godman Coll.
h. ♂ ad. sk.	Chiriqui ( <i>Warszewicz</i> ).	Gould Coll. (Type of the species.)
i-s. ♂ ad. ; t-w. ♀ ad. sk.	Volcan de Chiriqui ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.

#### 5. *Selasphorus torridus*.

*Selasphorus torridus*, *Salv. P. Z. S.* 1870, p. 208; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 101; *id. Ann. Soc. Linn. Lyon*, xxii. p. 227; *Elliot, Syn. Troch.* p. 112; *Ridgw. Pr. U. S. Nat. Mus.* vii. p. 14.

*Adult male.* Upper surface shining grass-green; lores cinnamon; throat glittering lilac-red with a rather leaden hue, the bases of the feathers buff; breast, middle of the abdomen, and under tail-coverts white, flanks washed with shining green; central rectrices dark shining green, edged towards the base with cinnamon; lateral rectrices purple-black, with a cinnamon spot on the inner web near the tip; bill black, base of the mandible flesh-colour. Total length about 2·7 inches, wing 1·6, tail 1·1, bill 0·65.

*Adult female.* Duller on the crown; beneath white, each feather of the throat with a dusky discal spot; flanks and under tail-coverts washed with buff; lateral rectrices cinnamon at the base, whitish at the tip, and with a purplish-black subterminal band.

*Hab.* Panama.

- a, b.* ♂ ad.; *c.* ♀ ad. sk. Volcan de Chiriqui (*Arcé*). Salvin-Godman Coll. (Types of the species.)  
*d-i.* ♂ ad.; *j.* ♀ ad. sk. Chiriqui (*Arcé*). Salvin-Godman, Gould, & Selater Colls.

## 6. *Selasphorus platycercus*.

*Trochilus platycercus*, *Sv. Phil. Mag.* new ser. i. p. 441; *Scott, Auk*, iii. p. 431; *Gray, Hond-l. B.* i. p. 144.

*Ornismya tricolor*, *Less. Suppl. Ois.-Mouches*, p. 125, pl. 14.

*Trochilus tricolor*, *Less. Ind. Gén. Troch.* p. xxxiv.

*Trochilus montanus*, *Less. Ind. Gén. Troch.* p. xxxiv; *Sv. Birds Brazil & Mex.* pl. 74.

*Selasphorus platycercus*, *Bp. Consp. Av.* i. p. 82; *id. Rev. Zool.* 1854, p. 256; *Reich. Aufz. d. Col.* p. 13; *id. Troch. Enum.* p. 10, pl. 854, ff. 5027-29; *Gould, Mon. Troch.* iii. pl. 140 (May 1852); *id. Intr. Troch.* p. 89; *Baird, B. N. Am.* p. 135, pl. 43, ff. 1, 2; *Scl. & Salv. Ibis*, 1859, p. 139; *Salv. Ibis*, 1860, p. 196; *id. Cat. Strickl. Coll.* p. 364; *Cab. & Heine, Mus. Hein.* iii. p. 56; *Scl. Cat. Am. B.* p. 298; *id. P. Z. S.* 1864, p. 177; *Muls. & Verr. Class. Troch.* p. 89; *Cooper, Orn. Cal.* i. p. 357; *Baird, Brew., & Ridgw. N. Am. B.* ii. p. 462; *Le Oca, La Nat.* iii. p. 204, pl.; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 94; *id. Ann. Soc. Linn. Lyon*, xxii. p. 227; *Elliot, Syn. Troch.* p. 109.

*Selasphorus platycercus*, *A. Dugès, La Nat.* i. p. 141; *Villada, La Nat.* ii. p. 352.

*Adult male.* Upper surface shining olive-green; throat glittering rosy red; breast white; middle of the abdomen and under tail-coverts whitish, flanks washed with shining green; central rectrices shining olive-green, remainder purple-black, the sublateral edged towards the base with cinnamon; bill black. Total length about 3·3 inches, wing 1·95, tail 1·3, bill 0·8.

*Adult female.* Upper surface more golden green; under surface buff, whiter on the throat and breast, more cinnamon on the flanks and under tail-coverts, each feather of the throat with a dusky discal spot; lateral rectrices cinnamon at the base, green in the middle, white at the tip, and with a dark subterminal band.

*Hab.* North America: Rocky Mountains, and the highlands of Mexico and Guatemala.

a. ♂ ad. sk.	Parley's Park, Utah, June ( <i>R. Ridgway</i> ).	R. B. Sharpe [P.].
b-m. ♂ ad.; n-g. ♂ juv.; r-k'. ♀ ad.; l', m'. ♀ juv. sk.	Santa Fé Mts., New Mexico, Aug., Sept. ( <i>H. W. Hen- shaw</i> ).	Salvin-Godman Coll.
n'. ♂ ad. sk.	Colorado ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
o', p'. ♂ ad. sk.	Garland, Colorado, May ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
q'. ♂ ad. sk.	Colorado Springs ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
r'. ♀ ad. sk.	El Moro, New Mexico, July ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
s'. ♂ ad.; t'. ♀ ad. sk.	White Mts., Arizona, Aug. ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
u'. ♂ ad. sk.	Willow Springs, Arizona, July ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
v'. ♂ ad. sk.	Micoba, Sonora, April ( <i>W. Lloyd</i> ).	Salvin-Godman Coll.
w'. ♀ ad. sk.	Sierra de Valparaiso, Zacate- cas, Sept. ( <i>W. B. Richard- son</i> ).	Salvin-Godman Coll.
x'. ♂ ad. sk.	Sierra de Calvillo, Aguas Calientes, Aug. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
y', z'. ♀ ad. sk.	Sierra de Bolaños, Jalisco, Feb., Mar. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
a'', b''. ♂ ad. sk.	Volcan de Colima, Jan. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
c'', d''. ♂ ad.; e''. ♂ juv.; f'', g''. ♀ ad. sk.	Sierra Nevada de Colima, Jan. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
h''. ♀ ad. sk.	Real del Monte, Hidalgo, Oct. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
i''. ♀ ad. sk.	Tenango del Valle, Oct. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
j''-l''. ♂ ad.; m''. ♀ ad. sk.	Ajusco, Valley of Mexico, July & Sept. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
n''. ♀ ad. sk.	Hacienda Eslava, Valley of Mexico, Feb. ( <i>Ferrari-Perez</i> ).	Salvin-Godman Coll.
o'', p''. ♀ ad. sk.	Rio Frio, Itzacihuatl, Sept. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
q'', r''. ♂ ad. sk.	Pinal, Puebla, April ( <i>F. D. Godman</i> ).	Salvin-Godman Coll.
s''. ♂ ad. sk.	Tonagua, Oaxaca, Feb. ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
t''. ♂ ad. u''. ♀ ad. sk.	Mexico ( <i>Floresi</i> ).	Gould Coll.
v''-d <sup>3</sup> . ♂ ad. sk.	Valley of Mexico.	Salvin-Godman & Gould Colls.
e <sup>3</sup> . ♂ ad. sk.	Jalapa ( <i>de Oca</i> ).	Gould Coll.
f <sup>3</sup> . ♂ ad. sk.	Oaxaca ( <i>Boucard</i> ).	Gould Coll.
g <sup>3</sup> . ♂ ad. sk.	S. Mexico ( <i>Boucard</i> ).	Gould Coll.
h <sup>3</sup> -j <sup>3</sup> . ♂ ad.; k <sup>3</sup> . ♀ ad. sk.	Quezaltenango, Guatemala, Sept. ( <i>O. Salvin</i> ).	Salvin-Godman Coll.
l <sup>3</sup> , m <sup>3</sup> . ♂ ad.; n <sup>3</sup> . o <sup>3</sup> . ♀ ad. sk.	Quezaltenango, Sept. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
p <sup>3</sup> -s <sup>3</sup> . ♂ ad.; t <sup>3</sup> . u <sup>3</sup> . ♀ ad. sk.	Chupache, Quezaltenango, Oct. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.

- $r^3-x^3$ . ♂ ad. sk. San Martin, Quezaltenango, Salvín-Godman Coll.  
Oct. (*W. B. R.*).  
 $y^3$ . ♂ ad.;  $z^3$ . ♀ El Rincon, San Marcos, Gua- Salvín-Godman Coll.  
ad. sk. temala, Oct. (*W. B. R.*).

### 7. *Selasphorus ardens*.

*Selasphorus ardens*, *Salv. P. Z. S.* 1870, p. 209; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 103, pl. 108; *id. Ann. Soc. Linn. Lyon*, xxii. p. 227; *Elliot, Syn. Troch.* p. 110; *Sharpe in Gould's Mon. Troch.*, *Suppl.* pl. 31 (Jan. 1883); *Ridgw. Pr. U.S. Nat. Mus.* vii. p. 14.

*Adult male*. Similar to that of *S. platycercus*, but smaller; upper surface darker; lores and ear-coverts rufous, the latter mixed with black; central rectrices purple-black, edged towards the base with cinnamon, lateral rectrices purple-black, inner webs cinnamon towards the base, and with a subterminal spot of the same colour. Total length about 2.8 inches, wing 1.55, tail 1.15, bill 0.65.

*Young male*. Throat with dusky or rosy-red discal spots; lateral rectrices cinnamon at the base, green in the middle, buff at the tips, and with a dark subterminal band; central rectrices shining green, with dark tips and cinnamon bases.

*Hab.* Panama.

- a. ♂ ad.; b. ♂ Castillo, Panama (*Arce*). Salvín-Godman Coll.  
juv. sk. (Types of the species.)

### 8. *Selasphorus flammula*.

*Selasphorus flammula*, *Salv. P. Z. S.* 1864, p. 586; *Lavr. Ann. Lyc. N. Y.* ix. p. 123; *Frantz. J. f. Orn.* 1863, p. 315; *Muls. Hist. Nat. Ois.-Mouches*, iv. pp. 99, 221, pl. 107; *Elliot, Syn. Troch.* p. 113; *Boucard, P. Z. S.* 1873, p. 70; *Ridgw. Pr. U. S. Nat. Mus.* v. p. 497; *Sharpe in Gould's Mon. Troch., Suppl.* pl. 31 (Jan. 1883).

*Adult male*. Similar to that of *S. ardens*, but the throat rather pinker; central rectrices shining green with cinnamon edges; lateral rectrices purple-black, tips white, and with a narrow edging of cinnamon on the inner web towards the base; base of the mandible flesh-colour. Total length about 2.9 inches, wing 1.6, tail 1.1, bill 0.5.

*Hab.* Costa Rica.

- a. ♂ ad. sk. Volcan de Cartago, Costa Salvín-Godman Coll.  
Rica (*Arce*). (Type of the species.)

### 114. TROCHILUS.\*

	Type.
Trochilus, <i>Linn. Syst. Nat.</i> i. p. 189 .....	T. colubris.
Cyananthus, <i>Boie, Isis</i> , 1831, p. 547 .....	T. colubris.
Selasphorus β. Archilochus, <i>Reich. Troch. Enum.</i> p. 10.	T. alexandri.

\* I do not know the bird from Santa Barbara, California, described by Mr. J. A. Jeffries as *TROCHILUS VIOLAJUGULUM* (*Auk*, v. p. 168, 1888).



*Range.* North America: Mexico and Central America, in winter, to Chiriqui.

*Key to the Species.*

- a. Throat glittering ruby-red . . . . . *colubris*, p. 399.  
 b. Chin and upper part of the throat black, lower part  
 glittering violet-purple . . . . . *alexandri*, p. 402.

1. *Trochilus colubris.*

Red-throated Humming Bird, *Edw. Nat. Hist.* i. pl. 38; *Lath. Gen. Syn.* i. p. 769.

Humming Bird, *Catesby, Carolina*, i. p. 65, pl. 65.

Red-throated Honey Sucker, *Penn. Arct. Zool.* i. p. 286.

Mellisuga carolinensis, *Briss. Orn.* iii. p. 716, pl. 36. ff. 5, 6.

Rubis. *Buff. Hist. Nat. Ois.* vi. p. 13; *Aud. Ois. Dor.* i. p. 80, pls. 31-33.

*Trochilus colubris*, *Linn. Syst. Nat.* i. p. 191; *Gm. Syst. Nat.* i. p. 492; *Vieill. Ois. Am. Sept.* i. p. 73, pls. 31, 32; *id. N. Dict. d'Hist. N.* vii. p. 371; *id. Enc. Meth.* p. 369; *id. Gal. Ois.* i. p. 293; *Wils. Am. Orn.* ii. p. 26, pl. 10. ff. 3, 4; *Aud. Orn. Biogr.* i. p. 248; *id. B. Am.* i. pl. 47; *Sw. Faun. Bor.-Am.* ii. p. 323; *Less. Ind. Gén. Troch.* p. xxxiv; *Bp. Consp. Ar.* i. p. 81; *id. Rev. Zool.* 1854, p. 256; *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 826. ff. 4939-44; *Gould, Mon. Troch.* iii. pl. 131 (May 1858); *id. Intr. Troch.* p. 86; *Baird, B. N. Am.* p. 131; *Sci. & Salv. Ibis*, 1859, p. 129; *Salv. Ibis*, 1860, pp. 195, 263, 266; *id. P. Z. S.* 1870, p. 208; *id. Cat. Strickl. Coll.* p. 364; *Cab. & Heine, Mus. Hein.* iii. p. 57; *Sci. P. Z. S.* 1859, pp. 367, 386, 1864, p. 176; *id. Cat. Am. B.* p. 297; *Dresser, Ibis*, 1865, p. 470; *Baird, Ibis*, 1867, p. 288; *Gray, Hand-l. B.* i. p. 136; *Lawr. Ann. Lyc. N. Y.* ix. p. 123; *id. Bull. U.S. Nat. Mus.* no. 4, p. 32; *Frantz, J. f. Orn.* 1869, p. 315; *Elliot, Ibis*, 1872, p. 354; *id. Syn. Troch.* p. 105; *Villada, La Nat.* ii. p. 352; *Baird, Brewer, & Ridgw. N. Am. B.* ii. p. 462; *de Oca, La Nat.* iii. p. 22; *Gundl. Orn. Cub.* pp. 28, 107, 234, 271; *id. J. f. Orn.* 1878, p. 180; *Boucard, P. Z. S.* 1878, p. 70; *id. P. Z. S.* 1883, p. 451; *Merrill, Auk*, i. p. 146; *Nutting, Pr. U.S. Nat. Mus.* vi. p. 394; *Ridgw. Pr. U.S. Nat. Mus.* viii. p. 573; *Ferrari-Perez, Pr. U.S. Nat. Mus.* x. p. 157; *Brewster, Auk*, iii. p. 105; *Cory, B. West Ind.* p. 148; *Rüchm. Auk*, v. p. 21; *Lloyd, Auk*, v. p. 191; *Everm. Auk*, vi. p. 23; *Faxon, Auk*, vi. p. 44; *Allen, Auk*, vi. p. 77; *Faxon & Allen, Auk*, vi. p. 151; *Scott, Auk*, vi. p. 252; *Purdie, Auk*, vi. p. 314.

*Ornismya colubris*, *Less. Hist. Nat. Ois.-Mouches*, pp. xvi, xlvi, 151, pls. 48, 48 bis; *Muls. & Ferr. Class. Troch.* p. 91; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 52; *id. Ann. Soc. Linn. Lyon*, xxii. p. 226.

*Orthorhynchus colubris*, *d'Orb. in La Sagra's Hist. Cuba*, p. 99.

*Trochilus aureigaster*, *Lawr. Ann. Lyc. N. Y.* vii. p. 58.

*Trochilus aurigularis*, *Heine, J. f. Orn.* 1863, p. 208.

*Adult male.* Upper surface shining grass-green, dusky on the crown, brighter on the rump; under surface white, dusky on the middle of the abdomen, whiter on the breast, the flanks washed with green; chin black; throat glittering ruby-red; tail blue-

black, the central rectrices washed with green: bill black. Total length about 3.5 inches, wing 1.5; tail, longest rectrices, 1.1, central 0.65.

*Adult female.* Like the male on the upper surface; the under surface white, including the throat; lateral rectrices grey at the base, a subterminal blue-black band, and the tips pure white.

*Young male.* Like the female, but the feathers of the throat each with a discal dusky spot: the ruby-red feathers of the adult first show irregularly on the lower part of the throat, and gradually supplant the feathers with discal spots.

*Hab.* North America generally in summer, migrating in autumn to Mexico and Central America as far south as Chiriqui.

<i>a.</i> ♂ ad. sk.	49th Parallel.	N.W. Boundary Commission.
<i>b.</i> ♂ juv.; <i>c.</i> ♀ ad. sk.	Pine, Indiana, Sept. ( <i>E. W. Nelson</i> ).	Salvin-Godman Coll.
<i>d, e.</i> ♂ juv.; <i>f.</i> ♀ ad. sk.	Mt. Carmel, Ill., July & Sept. ( <i>E. W. N.</i> ).	Salvin-Godman Coll.
<i>g, h.</i> ♀ ad. sk.	Chicago, Ill., May ( <i>H. K. Coale</i> ).	R. B. Sharpe [P.].
<i>i.</i> ♂ ad.; <i>j.</i> ♀ ad. sk.	Waukegan, Ill., May ( <i>E. W. N.</i> ).	Salvin-Godman Coll.
<i>k, l.</i> ♂ ad.; <i>m, n.</i> ♀ ad. sk.	Lyon's Fall, N. York, May ( <i>A. J. Dagan</i> ).	Salvin-Godman Coll.
<i>o, p.</i> ♀ ad. sk.	Locust Grove, N. Y., May ( <i>C. H. Merian</i> ).	Salvin-Godman Coll.
<i>q.</i> ♀ ad. sk.	Newhaven, Conn. ( <i>C. H. M.</i> ).	Salvin-Godman Coll.
<i>r.</i> ♂ ad. sk.	Massachusetts ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
<i>s-u.</i> ♂ ad.; <i>v.</i> ♂ juv.; <i>w-z.</i> ♀ ad.; <i>a', b'.</i> ♀ juv. sk.	Washington, May-Sept. ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
<i>c'.</i> ♀ ad. sk.	Washington ( <i>Drexler</i> ).	Salvin-Godman Coll.
<i>d'-f'.</i> ♂ ad.; <i>g'.</i> ♀ ad. sk.	Rigoleta, Louisiana, April ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
<i>h'.</i> ♂ ad. sk.	Hawkinsville, Florida, Mar. ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
<i>i'-o'.</i> ♂ ad.; <i>p'-r'.</i> ♂ juv.; <i>s'-v'.</i> ♀ ad. sk.	Tarpon Springs, Florida, Mar., April, Aug. ( <i>W. E. D. Scott</i> ).	Salvin-Godman Coll.
<i>w', x'.</i> ♂ ad.; <i>y'-b''.</i> ♀ ad. sk.	Brownsville, Texas, April, May ( <i>F. B. Armstrong</i> ).	Salvin-Godman Coll.
<i>c''.</i> ♂ ad.; <i>d''-f''.</i> ♀ ad. sk.	Corpus Christi, Texas, May & Oct. ( <i>F. B. A.</i> ).	Salvin-Godman Coll.
<i>g''.</i> ♂ ad. sk.	Hidalgo, Texas, April ( <i>F. B. A.</i> ).	Salvin-Godman Coll.
<i>h''.</i> ♂ ad. sk.	Sierra de Victoria, Tamaulipas, April ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>i''.</i> ♀ ad. sk.	Escandon, Tamaulipas, May ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>k'', l''.</i> ♂ ad. sk.	Tamesi, Tamaulipas, Mar. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.

$m''$ . ♀ ad. sk.	Tampico, Tamaulipas ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
$n''$ . ♀ ad. sk.	Misantla, Vera Cruz, Mar. ( <i>F. D. G.</i> ).	Salvin-Godman Coll.
$o''$ . ♂ ad.; $p''$ , $q''$ . ♀ ad. sk.	Coatepec, Nov. ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
$r''$ . ♀ ad. sk.	Playa Vicente, Vera Cruz, Dec. ( <i>M. T.</i> ).	Salvin-Godman Coll.
$s''-u''$ . ♂ ad.; $v''$ . ♀ ad. sk.	Ajusco, Valley of Mexico, Sept. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
$w''$ . ♂ ad. sk.	Puebla, Oct. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
$x''$ . ♀ ad. sk.	Amecameca, Puebla ( <i>F. D. G.</i> ).	Salvin-Godman Coll.
$y''$ . ♂ ad. sk.	Volcan de Colima, Jan. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
$z''$ . ♂ ad.; $a^3$ . ♂ juv.; $b^3-d^3$ . ♀ ad. sk.	Chilpancingo, Guerrero, Oct. ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
$e^3-g^3$ . ♂ juv.; $h^3$ . ♀ ad. sk.	Venta de Zopilote, Guerrero, Oct. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
$i^3$ . ♂ ad.; $j^3$ , $k^3$ . ♀ ad. sk.	Amula, Guerrero, Aug. & Sept. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
$l^3$ . ♂ juv. sk.	Acaguizotla, Guerrero, Oct. ( <i>Mrs. H. H. S.</i> ).	Salvin-Godman Coll.
$m^3$ . ♀ ad. sk.	Tonagua, Oaxaca, Feb. ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
$n^3$ . ♂ ad.; $o^3$ . ♀ ad. sk.	Oaxaca ( <i>Fenochio</i> ).	Salvin-Godman Coll.
$p^3$ , $q^3$ . ♂ juv.; $r^3$ . ♀ ad. sk.	Oaxaca ( <i>Boucard</i> ).	Salvin-Godman Coll.
$s^3-v^3$ . ♂ ad.; $w^3$ . ♀ ad. sk.	Mexico ( <i>Flores?</i> ).	Gould Coll.
$x^3$ . ♂ juv.; $y^3$ . ♀ ad. sk.	Chimalapa, Tehuantepec, Feb. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
$z^3$ . ♂ ad.; $a^4$ . ♂ juv.; $b^4-f^4$ . ♀ ad. sk.	Tehuantepec, Feb. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
$g^4$ . ♀ ad. sk.	Merida, Yucatan, Feb. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
$h^4$ . ♂ ad. sk.	Progreso, Yucatan, Oct. ( <i>Gaumer</i> ).	Salvin-Godman Coll.
$i^4$ . ♀ ad. sk.	N. Yucatan ( <i>Gaumer</i> ).	Salvin-Godman Coll.
$j^4$ . ♂ ad.; $k^4$ . ♀ ad. sk.	Holbox I., Yucatan ( <i>Gaumer</i> ).	Salvin-Godman Coll.
$l^4$ . ♂ ad.; $m^4-o^4$ . ♀ ad. sk.	Cozumel I., Yucatan ( <i>Gaumer</i> ).	Salvin-Godman Coll.
$p^4$ . ♂ ad. sk.	Santana, Peten, April ( <i>O. S.</i> ).	Salvin-Godman Coll.
$q^4$ . ♂ ad. sk.	Coban, Guatemala, Nov. ( <i>O. S.</i> ).	Salvin-Godman Coll.
$r^4$ , $s^4$ . ♂ ad.; $t^4$ . ♂ juv.; $u^4$ , $v^4$ . ♀ ad. sk.	Dueñas, Guatemala, Sept. ( <i>O. S.</i> ).	Salvin-Godman & Sclater Colls.
$w^4$ . ♂ ad.; $x^4$ . ♂ juv. sk.	Rincon, San Marcos, Guatemala, Oct. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
$y^4$ . ♂ ad. sk.	Bebedero, Nicoya, Costa Rica ( <i>Arcé</i> ).	Salvin-Godman Coll.
$z^4$ . ♀ ad. sk.	Costa Rica.	Gould Coll.

<i>a</i> <sup>5</sup> . ♂ ad. ; <i>b</i> <sup>5</sup> , <i>c</i> <sup>5</sup> . ♀ ad. sk.	Volcan de Chiriqui ( <i>Aracé</i> ).	Salvin-Godman Coll.
<i>d</i> <sup>5</sup> , <i>e</i> <sup>5</sup> . ♀ ad. st.		Purchased.

## 2. *Trochilus alexandri*.

- Trochilus alexandri*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, iii. p. 330 (1840); *id. Rev. Zool.* 1846, p. 316; *Íbp. Rev. Zool.* 1854, p. 256; *Cass. Ill. B. Cal. & Texas*, p. 141, pl. 22; *Gould, Mon. Troch.* iii. pl. 132 (Sept. 1857); *id. Intr. Troch.* p. 87; *Baird, N. Am. B.* p. 133, pl. 14. f. 3; *Xantus, Pr. Ac. Phil.* 1859, p. 190; *Cab. & Heine, Mus. Hein.* iii. p. 57; *Scl. Cat. Am. B.* p. 297; *id. P. Z. S.* 1864, p. 177; *Gray, Hand-l. B. i.* p. 136; *Coues, Pr. Ac. Phil.* 1868, p. 82; *Villada, La Nat.* ii. p. 351; *de Oca, La Nat.* iii. p. 102; *Elliot, Syn. Troch.* p. 106; *Belding, Pr. U.S. Nat. Mus.* i. p. 426; *Everm. Auk*, iii. p. 130; *Scott, Auk*, iii. p. 430; *Lloyd, Auk*, v. p. 192.
- Selasphorus* β. *Archilochus alexandri*, *Reich. Aufz. d. Col.* p. 13; *id. Troch. Enum.* p. 10, pl. 855. ff. 5030-32.
- Ornismya alexandri*, *Muls. & Ferr. Class. Troch.* p. 91; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 61; *id. Ann. Soc. Linn. Lyon*, xxii. p. 226.

*Adult male*. Similar to that of *T. colubris*, but with the chin and upper half of the throat black, the lower half glittering violet-purple.

The *adult female* and *young male* are hardly to be distinguished from those of *T. colubris*, but the bill is usually longer. The young male, too, is at once known when the throat-feathers of the adult begin to appear.

*Hab.* Western North America, California, Utah, &c., migrating south in winter to Mexico, but not beyond.

<i>a</i> . ♂ ad. ; <i>b</i> . ♀ ad. sk.	Rocky Mountains.	J. K. Lord [P.].
<i>c</i> . ♂ ad. sk.	Lat. 48° 40' N., 1300 feet above the sea.	— Vaux, Esq. [P.].
<i>d</i> . ♂ ad. sk.	Cahuilla Valley, California ( <i>F. Stephens</i> ).	G. F. Morcom [P.].
<i>e</i> . ♀ ad. sk.	Morant Meadow, Cal. ( <i>L. Belding</i> ).	H. K. Coale [P.].
<i>f, g</i> . ♂ ad. sk.	Colton, Cal., April ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
<i>h</i> . ♂ ad. sk.	Colton, April ( <i>F. Stephens</i> ).	Salvin-Godman Coll.
<i>i</i> . ♂ ad. ; <i>j</i> . ♀ ad. sk.	Anderson, Cal., May ( <i>W. E. Bryant</i> ).	Salvin-Godman Coll.
<i>k, l</i> . ♂ ad. ; <i>m, n</i> . ♀ ad. sk.	Ballina, Cal., May, June ( <i>F. Stephens</i> ).	Salvin-Godman Coll.
<i>o, p</i> . ♂ ad. sk.	San Bernardino, Cal. ( <i>R. B. Herron</i> ).	Salvin-Godman Coll.
<i>q</i> . ♀ ad. sk.	Utah, July ( <i>R. Ridgway</i> ).	R. B. Sharpe [P.].
<i>r</i> . ♀ ad. sk.	Ogden, Utah, April ( <i>W. B. Platt</i> ).	Salvin-Godman Coll.
<i>s</i> . ♂ ad. ; <i>t</i> . ♂ juv. ; <i>u</i> . ♀ juv. sk.	Bowie, Arizona, Aug. ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
<i>v</i> . ♂ juv. sk.	Grant, Arizona, Sept. ( <i>H. W. H.</i> ).	Salvin-Godman Coll.

w. ♀ ad. sk.	S. Arizona ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
x. ♂ ad. sk.	Mason County, Texas, April ( <i>H. K. Coale</i> ).	R. B. Sharpe [P.].
y. ♂ ad. sk.	Montemorelos, Nuevo Leon ( <i>F. B. Armstrong</i> ).	Salvin-Godman Coll.
z. ♂ ad.; a'. ♀ ad. sk.	Sierra Madre, Nuevo Leon, May ( <i>F. B. A.</i> ).	Salvin-Godman Coll.
b'. ♂ ad.; c'. ♀ ad. sk.	Monterey, Nuevo Leon ( <i>F.</i> <i>B. A.</i> ).	Salvin-Godman Coll.
d'. ♀ ad. sk.	Nuri, Sonora, April ( <i>W.</i> <i>Lloyd</i> ).	Salvin-Godman Coll.
e', f'. ♀ ad. sk.	Xeres, Zacatecas, Sept. ( <i>W.</i> <i>B. Richardson</i> ).	Salvin-Godman Coll.
g'. ♂ ad. sk.	Plains of Colima, Jan. ( <i>W.</i> <i>B. R.</i> ).	Salvin-Godman Coll.
h', i'. ♂ juv.; j', k'. ♀ ad. sk.	Venta de Zopilote, Guerrero, Oct. ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
l'. ♂ ad. sk.	N. Mexico.	Sclater Coll.
m'. ♂ ad.; n'. ♂ juv.; o'. ♀ ad. sk.	Mexico ( <i>Floresi</i> ).	Gould Coll.
p', q'. ♂ ad. sk.	Valley of Mexico.	Salvin-Godman Coll.

## 115. CALYPTE.

	Type.
Calypte, <i>Gould, Mon. Troch.</i> iii. pl. 134 (May 1856) . . . . .	<i>C. costæ</i> .
Leucaria, <i>Muls. Cat. Ois.-Mouches</i> , p. 31 (1875) . . . . .	<i>C. costæ</i> .
Zephyritis, <i>Muls. &amp; Verr. Class. Troch.</i> p. 87 (1865).	

*Range.* California and Colorado; Cuba.

*Key to the Species.*

- a. Lateral gular feathers slightly elongated, head and throat glittering rosy red; largest . . . . . *annæ*, p. 403.  
 b. Lateral gular feathers much elongated.  
 a'. Larger; head and throat glittering lilac-purple . . . . . *costæ*, p. 404.  
 b'. Smallest; head and throat glittering crimson . . . . . *helenæ*, p. 405.

1. *Calypte annæ*.

- Ornismya anna*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxxi, xlvi, 205, pl. 74; *id. Suppl. Ois.-Mouches*, p. 113, pl. 7.  
*Trochilus anna*, *Less. Ind. Gén. Troch.* p. xxxvi; *Aud. B. Am.* i. pl. 425; *id. Orn. Biogr.* v. p. 238; *Gray, Hand-l. B.* i. p. 144; *Eerm. Auk*, iii. p. 180; *Scott, Auk*, iii. p. 431.  
*Trochilus icterocephalus*, *Nutt. Man. Orn.* i. p. 172.  
*Calliphlox anna*, *Gamb. Pr. Ac. Phil.* 1846, p. 3; *id. Journ. Ac. Phil.* ser. 2, i. p. 32.  
*Selasphorus anna*, *Bp. Consp. Av.* i. p. 82; *id. Rev. Zool.* 1854, p. 256; *Scl. Cat. Am. B.* p. 297.  
*Trochilus* ♂. *Atthis annæ*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 834, ff. 4963-5.  
*Calypte annæ*, *Gould, Mon. Troch.* iii. pl. 135 (May 1856); *id. Intr. Troch.* p. 88; *Cab. & Heine, Mus. Hein.* iii. p. 55; *Cooper, Orn. Cal.* i. p. 358; *Baird, Brew., & Ridgw. N. Am. B.* ii. p. 454;

*de Oca, La Nat.* iii. p. 163; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 73; *id. Ann. Soc. Linn. Lyon*, xxii. p. 227; *Elliot, Syn. Troch.* p. 107; *Belding, Pr. U.S. Nat. Mus.* i. p. 427.  
*Atthis annæ, Baird, B. N. Am.* p. 137; *Xantus, Pr. Ac. Phil.* 1859, p. 190; *Cab. & Heine, Mus. Hein.* iii. p. 55.  
*Zephyritis annæ, Muls. & Ferr. Class. Troch.* p. 88.  
*Trochilus lamprocephalus, Licht. in Mus. Ber.*

*Adult male.* Upper surface shining golden green; crown and throat glittering rosy red; rest of the under surface pale grey, each feather with a large shining green discal spot; central rectrices like the back, remainder purple-black; bill black. Total length about 4.5 inches, wing 1.9; tail 1.2, central rectrices 1; bill 0.8.

*Adult female.* Crown like the back, but duller; under surface greyish white, each feather of the throat with a dusky or glittering red spot; lateral rectrices grey at the base, white at the tip, and with a dark subterminal band.

*Hab.* California.

<i>a.</i> ♂ ad.; <i>b.</i> ♂ juv.; <i>c.</i> Pull. sk.	San Francisco, Cal., Nov. ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
<i>d.</i> ♂ ad. sk.	San Francisco, Dec. ( <i>A. Forrer</i> ).	Salvin-Godman Coll.
<i>e, f.</i> ♂ ad. sk.	California.	Salvin-Godman Coll.
<i>g.</i> ♂ ad. sk.	Cloverdale, Cal., Feb. ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
<i>h-k.</i> ♂ ad.; <i>l.</i> ♂ juv. sk.	Oakland, Cal., Jan., Feb. ( <i>W. E. Bryant</i> ).	Salvin-Godman Coll.
<i>m, n.</i> ♂ ad.; <i>o.</i> ♀ ad. sk.	Nicasio, Cal., April ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
<i>q.</i> ♂ juv. sk.	Tejon Mts., Cal., Aug. ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
<i>r.</i> ♂ ad.; <i>s.</i> ♂ juv.; <i>t.</i> ♀ ad. sk.	Santa Inez, Cal., Sept. ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
<i>u.</i> ♀ ad. sk.	Los Alamos, Cal., Oct. ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
<i>r.</i> ♂ ad.; <i>w.</i> ♂ juv.; <i>x.</i> ♀ ad. sk.	Smith Mt., Cal., June and July ( <i>F. Stephens</i> ).	Salvin-Godman Coll.
<i>y.</i> ♂ ad. sk.	Colton, Cal., Mar. ( <i>F. Stephens</i> ).	Salvin-Godman Coll.
<i>z.</i> ♂ ad.; <i>a'</i> ♀ ad. sk.	San Bernardino, Cal., Oct. ( <i>F. Stephens</i> ).	Salvin-Godman Coll.
<i>b'</i> ♂ ad. sk.	Camp Grant, Arizona, Sept. ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
<i>c'-g'</i> ♂ ad.; <i>h'-n'</i> ♂ juv.; <i>o'</i> ♀ ad. sk.	[California] ( <i>Floresi</i> ).	Salvin-Godman & Gould Colls.
<i>q'</i> ♂ ad. skeleton.		Gould Coll.

## 2. *Calypte costæ.*

*Ornismya costæ, Bowc. Rev. Zool.* 1839, p. 294; *id. Ann. Sc. Phys. et Nat. Lyon*, iii. p. 225, pl. 2 (1840); *Prévost & Des Murs, Voy. 'Venus.'* i. p. 194, Atl. pl. 2.

- Selasphorus costæ, *Bp. Consp. Av.* i. p. 82; *id. Rev. Zool.* 1854 p. 256; *Scl. Cat. Am. B.* p. 297.  
 Trochilus δ. Atthis costæ, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 836. ff. 4969-72.  
 Calypte costæ, *Gould, Mon. Troch.* iii. pl. 134 (May 1856); *id. Intr. Troch.* p. 88; *Cooper, Orn. Cal.* i. p. 360; *Baird, Brew., & Ridgw. N. Am. B.* ii. p. 457; *de Oca, La Nat.* iii. p. 166; *Elliot, Syn. Troch.* p. 107; *Belding, Pr. U.S. Nat. Mus.* i. p. 542.  
 Atthis costæ, *Baird, B. N. Am.* p. 138, pl. 19.  
 Zephyritis costæ, *Muls. & Verr. Class. Troch.* p. 88.  
 Lucaria costæ, *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 69, pl. 104; *id. Ann. Soc. Linn. Lyon*, xxii. p. 227.  
 Trochilus costæ, *Gray, Hand-l. B.* i. p. 145.  
 Trochilus costæ, *Everm. Auk*, iii. p. 180; *Scott, Auk*, iii. p. 430.

*Adult male.* Upper surface shining golden green; crown and throat glittering lilac-purple; breast and middle of the abdomen white, flanks washed with pale green; under tail-coverts white, with green discs; central rectrices shining green, lateral dusky green; bill black. Total length about 3·5 inches, wing 1·8; tail 0·9, central rectrices rather shorter; bill 0·8.

*Adult female.* Crown duller than the back; under surface greyish white; throat with dusky discal spots; lateral rectrices grey at the base, greenish in the middle, white at the tip, and with a dark sub-terminal band.

*Hab.* California.

- |   |  |                              |
|---|--|------------------------------|
| a. ♀ ad. sk.  | Riverside, California, April ( <i>F. Stephens</i> ). | Salvin-Godman Coll.          |
| b-g. ♂ ad. sk.                                      | Colton, Cal., April ( <i>H. W. H.</i> ).             | Salvin-Godman Coll.          |
| h-k. ♂ ad.; l-<br>n. ♀ ad. sk.                      | Colton, April ( <i>F. Stephens</i> ).                | Salvin-Godman Coll.          |
| o. ♂ juv. sk.                                       | Smith Mt., Cal., July ( <i>F. Stephens</i> ).        | Salvin-Godman Coll.          |
| p. ♀ ad. sk.  | Ballina, Cal., June, July ( <i>F. Stephens</i> ).    | Salvin-Godman Coll.          |
| q. ♂ ad.; r. ♀<br>ad. sk.                           | San Bernardino, Cal. ( <i>F. B. Herron</i> ).        | Salvin-Godman Coll.          |
| s. ♀ ad. sk.  | San Bernardino ( <i>F. D. G.</i> ).                  | Salvin-Godman Coll.          |
| t. ♀ ad. sk.  | San Bernardino, May ( <i>F. Stephens</i> ).          | G. F. Morecom [P.].          |
| u. ♂ ad.; v. ♀<br>ad. sk.                           | La Paz, Lower California, Nov. ( <i>A. Forrer</i> ). | Salvin-Godman Coll.          |
| w-e'. ♂ ad.; f-<br>i'. ♂ juv.; j'-<br>l'. ♀ ad. sk. | [California] ( <i>Floresi</i> ).                     | Salvin-Godman & Gould Colls. |

### 3. *Calypte helenæ*.

*Orthorhynchus helenæ*, *Lembeye, Aves de la Isla de Cuba*, p. 70, pl. 10. f. 2.

*Calypte helenæ*, *Reich. Troch. Enum.* p. 10, pl. 837. ff. 4973-75; *Gould, Mon. Troch.* iii. pl. 136 (May 1856); *id. Intr. Troch.* p. 88; *Elliot, Ibis*, 1872, p. 354; *id. Syn. Troch.* p. 108; *Gundl. Rep. Fisico-Nat. Cuba*, i. p. 291; *id. J. f. Orn.* 1874, p. 144; *id. Orn. Cuba*, pp. 109, 272; *id. Auk*, viii. p. 187; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 77, pl. 105; *id. Ann. Soc. Linn. Lyon*, xxii. p. 227; *Cory. B. West Ind.* p. 119.

*Orthorhynchus boothi*, *Gundl. J. f. Orn.* 1856, p. 99.

*Atthis helenæ*, *Lawr. Ann. Lye. N. Y.* vii. p. 263.

*Zephyritis (Calypte) elviræ*, *Muls. & Ferr. Class. Troch.* p. 88.

*Adult male.* Upper surface shining bluish green, greener on the back of the neck, bluer on the upper tail-coverts; head and throat glittering crimson; rest of the under surface greyish white, flanks washed with green; tail shining greenish blue; bill black. Total length about 2·5 inches, wing 1·15, tail 0·6, bill 0·5.

*Adult female.* Crown duller than the back; whole under surface greyish white, darker on the breast; a dusky spot below the eye; lateral rectrices grey at the base, a bluish patch in the middle, white at the tips, and with a dark subterminal band.

*Hab.* Cuba.

a. ♂ ad.:	b. ♀ ad. sk.	Cuba ( <i>F. Taylor</i> ).	(Gould Coll.
c. ♂ ad.:	d. ♀ ad. sk.	[Cuba.]	(Gould Coll.

## 116. ACESTRURA.

	Type.
<i>Acestrura</i> , <i>Gould, Intr. Troch.</i> p. 91 (1861) . . . . .	<i>A. mulsanti</i> .
<i>Ornismya (Polymnia)</i> , <i>Muls. &amp; Ferr. Class. Troch.</i> p. 91 (1865) . . . . .	<i>A. mulsanti</i> .
<i>Myrmia</i> , <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 228 (1875).	<i>A. micrura</i> .

*Range.* Venezuela and Colombia to Bolivia; Upper Amazons Valley.

### *Key to the Species.*

- a. Tail longer than the under tail-coverts.
- a'. Lateral gular feathers not much or not at all elongated.
- a''. Larger; lateral gular feathers not elongated . . . . . *mulsanti*, p. 406.
- b''. Smaller; lateral gular feathers slightly elongated . . . . . *decorata*, p. 408.
- b'. Lateral gular feathers much elongated . . . . . *heliadori*, p. 408.
- b. Tail not longer than the under tail-coverts. . . . . *micrura*, p. 409.

### 1. *Acestrura mulsanti*.

- Ornismya cyanopogon*, *d'Orb. & Lafr. Syn. Av.* ii. p. 28 (*nee Less.*).
- Ornismya mulsanti*, *Boure. Ann. Sc. Phys. et Nat. Lyon*, v. p. 342, pl. 20 (1842).
- Mellisuga mulsanti*, *Gray, Gen. B.* i. p. 113.
- Calothorax mulsanti*, *Bp. Consp. Av.* i. p. 85; *Gould, Mon. Troch.* iii. pl. 145 (Nov. 1851); *Scl. P. Z. S.* 1859, p. 146, 1860, p. 94.
- Lucifer* ♂. *Calothorax mulsanti*, *Reich. Aufz. d. Col.* p. 13; *id. Troch. Enum.* p. 10, pl. 847. ff. 5004-5.
- Chaetocercus mulsanti*, *Cab. & Heine, Mus. Hein.* iii. p. 60; *Scl. Cat. Am. B.* p. 298.
- Acestrura mulsanti*, *Gould, Intr. Troch.* p. 91; *Tacz. P. Z. S.* 1874, p. 544, 1879, p. 237, 1882, p. 35; *id. Orn. Pér.* i. p. 306; *Whitely, P. Z. S.* 1874, p. 675; *Scl. & Salv. P. Z. S.* 1876, p. 16, 1879, pp. 529, 628; *Elliot, Ibis*, 1877, p. 136; *id. Syn. Troch.* p. 119;



*Muls. Hist. Nat. Ois.-Mouches*, iv. p. 118, pl. 110; *id. Ann. Soc. Linn. Lyon*, xxii. p. 228; *Salv. & Godm. Ibis*, 1879, p. 205; *Berl. & Tacz. P. Z. S.* 1884, p. 306; *Berl. J. f. Orn.* 1887, p. 330.

*Ornismya (Polymnia) mulsanti*, *Muls. & Verr. Class. Troch.* p. 91.  
*Trochilus mulsanti*, *Gray, Hand-l. B.* i. p. 145.

*Adult male.* Upper surface dark shining grass-green; throat glittering rosy red; ear-coverts blackish; breast, abdomen, and under tail-coverts white; flanks glittering green, meeting below the breast; tail black, the central rectrices tinged with green, the two outer pairs on either side very narrow, the outermost pair the shorter; bill black. Total length about 3 inches, wing 1.5; tail 1, central rectrices 0.55; bill 0.8.

*Adult female.* Upper surface shining bronzy green, duller on the crown; under surface, throat, and middle of the abdomen buff; flanks and under tail-coverts cinnamon; a large dusky patch below the eye on either side of the neck; tail cinnamon, with a wide sub-terminal dark band.

*Hab.* Andes from Colombia to Bolivia, and the valley of the Upper Amazons.

a. ♀ ad. sk.	Ataquez, Sierra Nevada de Santa Marta, Colombia, Feb. ( <i>F. Simons</i> ).	Salvin-Godman Coll.
b. ♂ ad. sk.	Medellin, Colombia ( <i>T. K. Salmon</i> ).	Salvin-Godman Coll.
c-g. ♂ ad.; h, i. ♂ juv.; j-l. ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
m. ♂ ad.; n. ♀ ad. sk.	Intac, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
o. ♀ ad. sk.	Jima, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
p. ♂ juv. sk.	San José, Ecuador ( <i>Buckley</i> ).	Gould Coll.
q. ♂ ad.; r. ♀ ad. sk.	Santiago, Ecuador ( <i>Lehmann</i> ).	Gould Coll.
s-u. ♂ ad.; v. ♂ juv.; w, x. ♀ ad. sk.	Quito, Ecuador ( <i>Jameson</i> ).	Gould Coll.
y. ♂ ad. sk.	Quito, Ecuador.	Salvin-Godman Coll.
z, a'. ♀ ad. sk.	Puellaro, Ecuador, April ( <i>Fraser</i> ).	Gould & Sclater Colls.
b'. ♂ ad. sk.	Ninabamba, Peru ( <i>Jelski</i> ).	Sclater Coll.
c'. ♂ ad. sk.	Central Peru ( <i>Jelski</i> ).	Salvin-Godman Coll.
d'. ♂ ad. sk.	Huasampilla, Peru, March ( <i>II. Whiteley</i> ).	Gould Coll.
e'. ♂ ad. sk.	Peru ( <i>Warszewicz</i> ).	Gould Coll.
f'. ♂ ad.; g'. ♀ ad.; h'. Juv. sk.	Tilotilo, Yungas, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
i'-k'. ♂ ad.; l'. ♂ juv.; m', n'. ♀ ad. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.
o'. ♀ ad. sk.	Pebas, Amazons ( <i>Hauxwell</i> ).	Salvin-Godman Coll.
p'-r'. ♂ ♀ ad. st.		Purchased.

2. *Acestrura decorata*.

*Calothorax decoratus*, *Gould, P. Z. S.* 1860, p. 309; *id. Mon. Troch.* iii. pl. 146 (Sept. 1861).

*Acestrura decorata*, *Gould, Intr. Troch.* p. 91; *Elliot, Syn. Troch.* p. 119.

*Ornismya* (*Acestrura*), *Muls. & Ferr. Class. Troch.* p. 92.

*Adult male*. Similar to that of *A. mulsanti*, but smaller, the lateral gular feathers less elongated, the breast greyer, and the under tail-coverts green.

*Young male*. Similar to the female of the allied species, the upper tail-coverts cinnamon as in *A. heliodori*.

A species of doubtful value, intermediate between *A. mulsanti* and *A. heliodori*.

*Hab.* Ecuador.

a. ♂ ad.:	b. ♂	— ?	Gould Coll.
	juv. sk.		(Types of the species.)
c. ♂ ad. sk.		San José, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.

3. *Acestrura heliodori*.

*Ornismya heliodori*, *Bourc. Rev. Zool.* 1840, p. 275; *id. Ann. Sc. Phys. et Nat. Lyon*, v. p. 308, pls. 15, 20.

*Mellisuga heliodori*, *Gray, Gen. B.* i. p. 113.

*Calothorax heliodori*, *Bp. Consp. Av.* i. p. 85; *id. Rev. Zool.* 1854, p. 257; *Gould, Mon. Troch.* iii. pl. 147 (Nov. 1851).

Lucifer ♂. *Calothorax heliodori*, *Reich. Aufz. d. Col.* p. 13; *id. Troch. Enum.* p. 10, pl. 847. ff. 5002-3.

*Chetocercus heliodori*, *Cab. & Heine, Mus. Hein.* iii. p. 60; *Sci. Cat. Am. B.* p. 298.

*Acestrura heliodori*, *Gould, Intr. Troch.* p. 92; *Sci. & Salv. P. Z. S.* 1870, p. 782, 1875, p. 235; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 120; *id. Ann. Soc. Linn. Lyon*, xxii. p. 228; *Elliot, Syn. Troch.* p. 120; *Berl. J. f. Orn.* 1884, p. 311, 1887, p. 330.

*Ornismya* (*Acestrura*) *heliodori*, *Muls. & Ferr. Class. Troch.* p. 92. *Trochilus heliodori*, *Gray, Hand-l. B.* i. p. 145.

*Adult male*. Also similar to that of *A. mulsanti*, and the tail similarly formed, but smaller, the lateral feathers of the throat much elongated, the breast greyer, and the abdomen and under tail-coverts shining green. Total length about 2.5 inches, wing 1, tail 0.75, bill 0.55.

*Adult female*. Nearly uniform cinnamon beneath, and with the upper tail-coverts of that colour: otherwise much like the female of *A. mulsanti*.

*Hab.* Venezuela, Colombia, Ecuador.

a. ♂ ad. sk.	Merida, Venezuela ( <i>Goering</i> ).	Salvin-Godman Coll.
b. ♂ ad. sk.	Venezuela ( <i>Spence</i> ).	Sclater Coll.
c. ♀ ad. sk.	Alto, Colombia ( <i>Wyatt</i> ).	Salvin-Godman Coll.
d. ♀ ad. sk.	Medellin, Colombia ( <i>Salmon</i> ).	Salvin-Godman Coll.
e. g. ♂ ad.:	Colombia (Bogota make).	Salvin-Godman &
♂ juv.:		Gould Colls.
♀ ad. sk.		

n-g. ♂ ad. sk.	[Colombia.]	Gould Coll.
r. ♀ ad. sk.	Santiago, near Pasto, Ecuador ( <i>Lehmann</i> ).	Salvin-Godman Coll.
s. ♂ ad. sk.	San José, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
t. ♀ ad. sk.	Citado, Ecuador ( <i>Buckley</i> ).	Gould Coll.
u, v. Juv. sk.	Quito, Ecuador.	Gould Coll.
w. ♀ ; x. Juv. sk.	Pallatanga, Ecuador ( <i>Fraser</i> ).	Gould & Selater Colls.
y. ♂ juv. sk.	Ecuador.	Gould Coll.
z. ♂ ad. ; a'. ♀ ad. st.		Purchased.

4. *Acestrura micrura*.

*Calothorax micrurus*, *Gould, P. Z. S.* 1853, p. 169; *id. Mon. Troch.* iii. pl. 148 (May 1854).

*Acestrura micrura*, *Gould, Intr. Troch.* p. 92; *Tacz. P. Z. S.* 1877, p. 327; *Elliot, Syn. Troch.* p. 120; *Salv. P. Z. S.* 1883, p. 425.

*Myrmia micrura*, *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 113; *id. Ann. Soc. Lim. Lyon*, xxii. p. 228; *Berl. & Tacz. P. Z. S.* 1883, p. 568; *Tacz. Orn. Pér.* i. p. 308.

*Adult male*. Upper surface shining bronzy green, duller on the crown; under surface pale buff; throat glittering rosy red, the lateral gular feathers not elongated; flanks pale cinnamon; under tail-coverts white; tail black; bill black. Total length about 2.4 inches, wing 1.25, tail 0.5, bill 0.6.

*Adult female*. Under surface buff; lateral rectrices tipped with white.

*Hab.* Western Peru.

a. ♂ ad. ; b. ♂ juv. ; c. ♀ ad. sk.	Peru ( <i>Warszewicz</i> ).	Gould Coll. (Types of the species.)
d. ♂ juv. sk.	Tumbez, Peru ( <i>Stolzmann</i> ).	Salvin-Godman Coll.
e. ♂ ad. sk.	Payta, Peru, Jan. ( <i>A. H.</i> <i>Markham</i> ).	Salvin-Godman Coll.
f, g. ♂ ad. sk.	[Peru.]	Gould Coll.

## 117. MELLISUGA.

Mellisuga, <i>Briss. Orn.</i> iii. p. 695 (1760) .....	Type.
Zephyritis ( <i>Dyrinia</i> ), <i>Muls. &amp; Verr. Class. Troch.</i> p. 88 (1865) .....	M. minima.
	M. minima.

*Range*. Jamaica and San Domingo.

1. *Mellisuga minima*.

*Mellisuga avis minima*, *Sloane, Jam.* p. 307, pl. 364, f. 1.

*Polytmus minimus variegatus*, *Browne, Jam.* p. 475, pl. 264, f. 1.

Least Humming Bird, *Edw. Nat. Hist. B.* i. pl. 105; *Lath. Syn.* ii. p. 788.

Plus petit Oiseau-Mouche, *Buff. Nat. Hist. Ois.* vi. p. 11.

Le plus petit Oiseau-Mouche d'Amérique, *D'Aub. Pl. Enl.* 276, f. 1.

*Mellisuga*, *Briss. Orn.* iii. p. 695.

*Trochilus minimus*, *Lin. Syst. Nat.* i. p. 193; *Gen. Syst. Nat.* i.

- p. 500; *Lath. Ind. Orn.* p. 320; *Vieill. N. Dict. d'Hist. N.* vii. p. 369; *id. Enc. Méth.* p. 568; *Less. Ind. Gén. Troch.* p. xxvii.  
 Le très petit Oiseau-Monche, *Aud. Ois. Dor.* i. p. 135, pl. 64.  
*Trochilus minutulus*, *Vieill. Ois. Am. Sept.* ii. p. 73.  
*Trochilus vieilloti*, *Shaw, Gen. Zool.* viii. p. 347.  
*Ornismya minima*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxxii, 213.  
*Mellisuga humilis*, *Gosse, B. Jam.* p. 127; *March, Pr. Ac. Phil.* 1863, p. 285; *Albrecht, J. f. Orn.* 1862, p. 201.  
*Trochilus catherinæ*, *Sallé, Rev. Zool.* 1849, p. 498.  
*Hylocharis nigra*, *Gray, Gen. B.* i. p. 114.  
*Mellisuga minima*, *Bp. Consp. Av.* i. p. 81; *id. Rev. Zool.* 1854, p. 257; *Reich. Aufz. d. Col.* p. 6; *id. Troch. Enum.* p. 3, pl. 680. ff. 4490-93; *Gould, Mon. Troch.* iii. pl. 133 (Nov. 1851); *id. Intr. Troch.* p. 87; *Scl. P. Z. S.* 1857, p. 233; *id. Cat. Am. B.* p. 297; *March, Pr. Ac. Phil.* 1863, p. 285; *Bryant, Pr. Bost. Soc. N. H.* xi. p. 95; *Elliot, Ibis*, 1872, p. 354; *id. Syn. Troch.* p. 103; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 82, pl. 106. ff. 1, 2; *id. Ann. Soc. Linn. Lyon*, xxii. p. 227; *Gumdl. J. f. Orn.* 1874, p. 307; *Cory, B. West Ind.* p. 149.  
*Hylocharis niger*, *Bp. Consp. Av.* i. p. 81.  
*Zephyritis (Dyrinia) minima*, *Muls. & Ferr. Class. Troch.* p. 88.  
*Hylocharis minima*, *Gray, Hand-l. B.* i. p. 150.  
*Dyrinia minima*, *Muls. & Ferr. Class. Troch.* p. 88.

*Adult male.* Upper surface shining grass-green, rather dusky on the crown, brighter on the rump; under surface white, sides of the neck dusky, flanks washed with green, each feather of the throat with a round dusky discal spot; tail blue-black; bill black. Total length about 2.6 inches, wing 1.5, tail 0.8, bill 0.6.

*Adult female.* Like the male, but the under surface white, no spots on the throat, and the flanks hardly washed with green; tail with the three lateral rectrices on either side tipped with white.

*Hab.* Jamaica and San Domingo.

<i>a-d.</i> ♂ ad.; <i>e.</i> ♀ ad. sk.	Kingston, Jamaica, Aug. (O. <i>Salvin</i> ).	Salvin-Godman & Sclater Colls.
<i>f, g.</i> ♂ ad.; <i>h.</i> ♀ ad.; <i>i.</i> juv. sk.	Jamaica ( <i>J. Hill</i> ).	Gould Coll.
<i>j.</i> ♀ juv. sk.	Jamaica.	Gould Coll.
<i>k.</i> ♀ ad. sk.	San Domingo.	Gould Coll.
<i>l, m.</i> ♂; <i>n.</i> ♀.	—?	Gould Coll.

## 118. CATHARMA.

*Catharma*, *Elliot, Ibis*, 1876, p. 400 ..... Type. *C. orthura*.

*Range.* Guiana and Venezuela.

### 1. *Catharma orthura*.

- Trochilus orthura*, *Less. Hist. Nat. Troch.* pp. 85, 88, pls. 28, 29; *id. Ind. Gén. Troch.* p. xxxiv.  
*Trochilus orthurus*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10, pl. 825. ff. 4948-9.  
*Catharma orthura*, *Elliot, Ibis*, 1876, p. 400; *id. Syn. Troch.* p. 112; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 66.

*Adult male.* Upper surface dark shining golden green, rather more bronzy on the middle of the back; throat glittering rosy red; breast white; upper abdomen grey, the sides washed with shining green; flanks tinged with cinnamon; lower abdomen and under tail-coverts greyish white; central rectrices shining green, lateral purple-black tipped with white; bill black. Total length about 3 inches, wing 1·3, tail 0·75, bill 0·7.

*Young male.* Upper surface dark shining golden green; throat glittering rosy red, the bases of the feathers and the sides of the throat and breast white; a dusky spot below the eye; middle of the abdomen whitish; flanks and under tail-coverts cinnamon; central rectrices shining golden green, the tips dark; lateral rectrices purple-black, tipped with white; bill black. Total length about 2·5 inches, wing 1·3, tail 0·75, bill 0·7. (Type of Lesson's plate 28.)

*Female.* Similar to the young male; the throat white, each feather with a dusky or red discal spot.

*Hab.* Guiana.

- |                          |            |                                    |
|--------------------------|------------|------------------------------------|
| a. ♂ juv. sk.            | Cayenne.   | Gould Coll. (Type of the species.) |
| b. ♂ ad.; c. ♂ juv. sk.; | Cayenne.   | Gould Coll.                        |
| d. ♀♀ sk.                |            |                                    |
| e. ♀♀ sk.                | [Cayenne.] | Salvin-Godman Coll.                |

### 119. ATTHIS.

Trochilus ♂. Atthis, *Reich. Aufz. d. Col.* p. 12. . . . . Type.  
 Atthis, *Gould, Intr. Troch.* p. 89. A. heloisæ.

*Range.* Highlands of Southern Mexico and Guatemala.

#### *Key to the Species.*

- a. Outermost primary attenuated towards the end . . . . . *heloisæ*, p. 411.  
 b. Outermost primary normal . . . . . *elliotti*, p. 412.

#### 1. *Atthis heloisæ.*

*Ornismya heloisæ*, *Less. & Delattre, Rev. Zool.* 1839, p. 15.

Trochilus ♂. *Atthis heloisæ*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 10. pl. 835. ff. 4966-8.

*Selasphorus heloisæ*, *Gould, Mon. Troch.* iii. pl. 141 (Oct. 1854); *Sci. Cat. Am. B.* p. 298; *id. P. Z. S.* 1859, p. 383, 1864, p. 177; *Muls. & Ferr. Class. Troch.* p. 89; *de Oca, La Nat.* ii. p. 19, pl. —.

*Tryphæna heloisæ*, *Bp. Rev. Zool.* 1854, p. 257; *Sci. P. Z. S.* 1858, p. 297, 1859, p. 867.

*Atthis heloisæ*, *Gould, Intr. Troch.* p. 89; *A. Dugès, La Nat.* i. p. 141; *Villada, La Nat.* ii. p. 357; *Elliot, N. Am. B.* i. pl. 21; *id. Syn. Troch.* p. 113; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 91; *id. Ann. Soc. Linn. Lyon*, xxii. p. 227; *Ridgw. Pr. U. S. Nat. Mus.* i. p. 10.

Trochilus *heloisa*, *Gray, Hand-l. B.* i. p. 145.

*Adult male.* Upper surface shining golden green; throat glittering purple-red; breast, middle of the abdomen, and under tail-coverts white; flanks pale cinnamon, many of the feathers with green discal spots; central rectrices like the back, lateral cinnamon at the base, white at the tip, and with a wide black subterminal band; bill black. Total length about 2·9 inches, wing 1·4, tail 0·9, bill 0·55.

*Female.* Duller on the crown; throat white, each feather with a shining golden-green discal spot.

*Hab.* Southern Mexico.

<i>a, b.</i> ♂ ad. ; <i>c.</i> ♂ juv. ;	Mexico ( <i>Flores</i> ).	Gould Coll.
<i>d, e.</i> ♀ ad. sk.		
<i>f, g.</i> ♀ ad. sk.	Valley of Mexico.	Gould Coll.
<i>h.</i> ♀ ad. sk.	Sierra de San Luis Potosi, July ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>i, j.</i> Ad. sk.	Cofre de Perote, July ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
<i>k, l.</i> ♂ ad. sk.	Jalapa ( <i>M. T.</i> ).	Salvin-Godman Coll.
<i>m, n.</i> ♂ ad. sk.	Jalapa ( <i>de Oca</i> ).	Gould Coll.
<i>o.</i> ♂ ad. sk.	Jalapa ( <i>Höge</i> ).	Salvin-Godman Coll.
<i>p-r.</i> ♂ ad. ; <i>s, t.</i> ♀ ad. sk.	Cuesta de Misantla, Jalapa, June ( <i>M. T.</i> ).	Salvin-Godman Coll.
<i>u.</i> ♀ ad. sk.	Calvillo, Aguas Calientes, July ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>v.</i> ♀ ad. sk.	Tepic, Jalisco, May ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>w.</i> ♀ ad. sk.	Chilpancingo, Guerrero, July ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
<i>x.</i> ♂ ad. sk.	Oaxaca ( <i>Fenochio</i> ).	Salvin-Godman Coll.
<i>y.</i> ♂ ad. ; <i>z.</i> ♀ ad. st.	Mexico.	Purchased.

## 2. *Atthis ellioti*.

*Selasphorus heloisæ*, *Scl. & Salv. Ibis*, 1859, p. 129; *Salv. Ibis*, 1859, p. 468, 1860, pp. 195, 264, 271, 1862, p. 96 (nec *Less. & Del.*).

*Atthis ellioti*, *Ridgw. Pr. U.S. Nat. Mus.* i. p. 9; *Elliot, Syn. Troch.* p. 114.

Similar to *A. heloisæ* in all respects, except that the outermost primary is entire and not abruptly attenuated towards the end.

*Hab.* Highlands of Guatemala.

<i>a-d.</i> ♂ ad. sk.	El Rincon, San Marcos, Guatemala, Oct. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>e-i.</i> ♂ ad. ; <i>j.</i> ♀ ad. sk.	Chuipaché, Quezaltenango, Guatemala, Sept. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>k.</i> ♂ ad. sk.	Volcan de Santa Maria, near Quezaltenango, Aug. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>l, m.</i> ♂ ad. ; <i>n.</i> ♂ juv. ; <i>o, p.</i> ♀ ad. sk.	Volcan de Fuego, Guatemala ( <i>O. Salvin</i> ).	Salvin-Godman Coll.
<i>q, r.</i> ♂ ad. sk.	Calderas, V. de Fuego, Sept. ( <i>O. S.</i> ).	Salvin-Godman Coll.

s. ♂ ad. sk.	Chilasco, Guatemala, Jan. ( <i>O. S. &amp; F. D. G.</i> ).	Salvin-Godman Coll.
t. ♂ ad. sk.	Guatemala ( <i>O. S.</i> ).	Gould Coll.
u-w. ♂ ad. sk.	Guatemala ( <i>Skinner</i> ).	Gould Coll.
x. ♂ ad. sk.	Coban, Guatemala.	Selater Coll.

## 120. STELLULA.

Stellula, <i>Gould, Intr. Troch.</i> p. 90	Type.
Zephyritis (Stellura), <i>Muls. &amp; Verr. Class. Troch.</i> p. 88	S. calliope.
(1865)	S. calliope.
Stellura, <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 227 (1875).	S. calliope.

*Range.* California to Central Mexico.

1. *Stellula calliope*.

- Trochilus (Calothorax) calliope, *Gould, P. Z. S.* 1847, p. 10.  
 Calothorax calliope, *Bp. Consp. Av.* i. p. 85; *id. Rev. Zool.* 1854, p. 257; *Gould, Mon. Troch.* iii. pl. 142 (Sept. 1857); *Xantus, Pr. Ac. Phil.* 1859, p. 190; *Gray, Hand-l. B.* i. p. 135; *de Oca, La Nat.* iii. p. 27.  
 Lucifer ♂. Calothorax calliope, *Reich. Aufz. d. Col.* p. 13.  
 Stellula calliope, *Gould, Intr. Troch.* p. 90; *Elliot, B. N. Am.* i. pl. 23; *id. Syn. Troch.* p. 115; *Villada, La Nat.* ii. p. 359; *Belding, Pr. U.S. Nat. Mus.* i. p. 426.  
 Zephyritis (Stellura) calliope, *Muls. & Verr. Class. Troch.* p. 88.  
 Stellura calliope, *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 87; *id. Ann. Soc. Linn. Lyon*, xxii. p. 227.  
 Trochilus calliope, *Scott, Auk*, iii. p. 431; *Merrill, Auk*, vi. p. 257.

*Adult male.* Upper surface shining golden green, duller on the crown; under surface white, the feathers of the throat much elongated laterally and each ending with a glittering rosy-red oval spot, the white of the base of the feathers showing especially towards the chin; flanks tinged with buff and washed with green; central rectrices like the back, lateral dark without light tips, but narrowly edged with cinnamon towards the base; bill black. Total length about 2.9 inches, wing 1.5, tail 0.9, bill 0.65.

*Female.* Throat white, each feather with a small golden-green discal spot; flanks and under tail-coverts pale cinnamon; lateral rectrices tipped with white.

*Hab.* Western North America and Central Mexico.

a. ♂ ad. sk.	Fort Klamath, Oregon, May ( <i>Capt. Bendire</i> ).	Salvin-Godman Coll.
b. ♂ ad.; c. ♀ ad. sk.	Rocky Mountains.	J. K. Lord [P.].
d. ♂ ad. sk.	Lat. 48° 40' N.	— Vaux [P.].
e. ♂ ad. sk.	Cohnila Valley, Cal., April ( <i>F. Stephens</i> ).	G. F. Morcom [P.].
f. ♂ ad. sk.	Oakland, Cal., April ( <i>W. E.</i> <i>Bryant</i> ).	Salvin-Godman Coll.
g. ♂ ad.; h. ♀ ad. sk.	Honey Lake, Cal., June ( <i>H.</i> <i>W. Henshaw</i> ).	Salvin-Godman Coll.

<i>i-t.</i> ♂ ad.; <i>u-z.</i> ♂ juv.; <i>a'-d'</i> ♀ ad.; <i>e'</i> ♀ juv. sk.	Santa Fé Mts., N. Mexico ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
<i>f', g'</i> ♂ ad. sk.	Colton, Cal., April ( <i>F. Stephens</i> ).	Salvin-Godman Coll.
<i>h'</i> ♂ ad. sk.	San Bernardino, Cal., June ( <i>F. Stephens</i> ).	Salvin-Godman Coll.
<i>i'</i> ♀ ad. sk.	White Mts., Arizona, Aug. ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
<i>j'</i> ♂ ad. sk.	Arizona ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
<i>k'</i> ♀ ad. sk.	Mexico ( <i>Flores</i> ).	Gould Coll.
<i>l'</i> ♂ ad. sk.	Mexico.	Salvin-Godman Coll.
<i>m'-o'</i> ♂ ad.; <i>p'</i> ♂ juv. sk.	Valley of Mexico.	Gould Coll.
<i>q'</i> ♂ ad. sk.	Valley of Mexico ( <i>Boucard</i> ).	Selater Coll.
<i>r', s'</i> ♂ ad. sk.	Ajusco, Valley of Mexico, Sept. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>t'</i> ♂ ad. sk.	Amula, Guerrero, Aug. ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.

## 121. CHÆTOCERCUS\*.

Chætocercus, <i>Gray, Gen. &amp; Subgen. B.</i> p. 22 (1855) . . . . .	Type. C. jourdani.
Ornismya (Osalia), <i>Muls. &amp; Verr. Class. Troch.</i> p. 92 (1865) . . . . .	C. jourdani.
Polyxemus, <i>Muls. Hist. Nat. Ois.-Mouches</i> , iv. p. 123 (1877) . . . . .	C. bombus.

*Range.* Venezuela, Trinidad, Ecuador, and Tucuman.

*Key to the Species.*

- a.* Second and third rectrices from the outside longest, equal in width and subequal in length.  
*a'* Longest rectrices with the basal portion of the inner web, including the shaft, cinnamon.  
*a''* Throat glittering rosy-red . . . . . *rosæ*, p. 414.  
*b'* Throat glittering violet-red . . . . . *jourdani*, p. 415.  
*b.* Second rectrix black, third cinnamon on its inner web for nearly its whole length . . . . . *burmeisteri*, p. 415.  
*b.* Second rectrix from the outside shorter than the third and acute; throat glittering rosy-red . . . . . *bombus*, p. 416.

## 1. Chætocercus rosæ.

- Trochilus rosæ, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, ix. p. 316 (1846).  
Mellisuga rosæ, *Gray, Gen. B.* i. p. 113.  
Lucifer ♂. Calothorax rosæ, *Reich. Aufz. d. Col.* p. 13.  
Calothorax rosæ, *Bp. Rev. Zool.* 1854, p. 257; *Gould, Mon. Troch.* iii. pl. 149 (Sept. 1857); *Gray, Hand-l. B.* i. p. 145.  
Chætocercus rosæ, *Cab. & Heine, Mus. Hein.* iii. p. 60; *Gould, Intr. Troch.* p. 92; *ScL. & Salv. P. Z. S.* 1868, p. 629, 1875, p. 235; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 127, pl. 112; *id. Ann. Soc. Linn. Lyon*, xxii. p. 228; *Elliot, Syn. Troch.* p. 121.  
Ornismya (Osalia) rosæ, *Muls. & Verr. Class. Troch.* p. 92.

\* I do not know the bird from Ecuador described (*Mém. Soc. Zool. Fr.* 1889, p. 230) by M. Simon as:—CHÆTOCERCUS BERLEPSCHII.



*Adult male.* Upper surface shining bronzy green; throat glittering rosy red; breast white; abdomen and under tail-coverts shining green; four median rectrices like the back, the two next on either side purple-black, the basal portion of the inner web including the shaft cinnamon; outermost rectrix short, acute, and purple-black; bill black. Total length about 2·8 inches, wing 1·35; tail, central rectrices 0·4, longest 0·9; bill 0·6.

*Female.* Under surface cinnamon, paler in the middle of the abdomen; a dark spot below the eye; flanks shining green; lateral rectrices cinnamon, with a wide subterminal black band.

*Hab.* Venezuela.

- |  |  |                              |
|--|--|------------------------------|
| a. ♂ ad. sk.                           | Sierra Nevada, Merida, Venezuela ( <i>Goering</i> ). | Salvin-Godman Coll.          |
| b. ♂ ad.; c. ♀ ad. sk.                 | Venezuela ( <i>Spence</i> ).                         | Sclater Coll.                |
| d. ♂ ad.; e. ♂ juv. sk.                | Venezuela ( <i>Sallé</i> ).                          | Salvin-Godman Coll.          |
| f. ♂ ad.; g. ♀ ad. sk.                 | Venezuela.   | E. Dyson [C.].               |
| h-k. ♂ ad.; l. ♂ juv.; m, n. ♀ ad. sk. | [Venezuela.]   | Salvin-Godman & Gould Colls. |
| o. ♂ ad.; p. ♀ ad. st.                 | Venezuela.   | E. Dyson [C.].               |

## 2. *Chætocercus jourdani*.

*Ornismya jourdani*, *Bourc. Rev. Zool.* 1839, p. 295; *id. Ann. Sc.*

*Phys. et Nat. Lyon*, ix. p. 227, pls. 5, 6 (1846).

*Mellisuga jourdani*, *Gray, Gen. B.* i. p. 113.

*Calothorax jourdani*, *Bp. Consp. Av.* i. p. 85; *id. Rev. Zool.* 1854, p. 257; *Gould, Mon. Troch.* iii. pl. 150 (May 1861).

*Lucifer* ♂. *Calothorax jourdani*, *Reich. Aufz. d. Col.* p. 13.

*Chætocercus jourdani*, *Gray, List Gen. B.* (1855) p. 22; *Gould, Intr. Troch.* p. 92; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 125; *id.*

*Ann. Soc. Linn. Lyon*, xxii. p. 228; *Elliot, Syn. Troch.* p. 121.

*Ornismya (Osalia) jourdani*, *Muls. & Verr. Class. Troch.* p. 92.

*Trochilus jourdani*, *Gray, Hand-l. B.* i. p. 145.

Similar to *C. rosæ* in all respects, but with the throat glittering violet-red instead of rosy red.

*Hab.* Trinidad I.

- |                                     |             |                              |
|-------------------------------------|-------------|------------------------------|
| a-f. ♂ ad.; g. ♂ juv.; h. ♀ ad. sk. | [Trinidad.] | Salvin-Godman & Gould Colls. |
|-------------------------------------|-------------|------------------------------|

## 3. *Chætocercus burmeisteri*.

*Chætocercus burmeisteri*, *Scl. P. Z. S.* 1887, p. 638; *Scl. & Hudson, Arg. Orn.* ii. p. 2, pl. 11; *Burm. Ibis*, 1890, p. 384.

Allied to *C. rosæ* and *C. jourdani*, but with the tail differently coloured, the second rectrix from outside being wholly black and the next one cinnamon over nearly the whole of the inner web.

Dr. Burmeister, in his description, says that the type has only

eight rectrices; I think he must have overlooked the outermost, which in this genus is small and acute.

The tail, if the outermost rectrix is present, is similar in form to that of *C. rosea*, the second and third rectrices being equal and longest, neither of them tapering to a point. In *C. bombus* the second rectrix is shorter than the third and tapers to a point.

Only known from a young male specimen now in the Museum at Buenos Ayres.

*Hab.* Tucuman.

#### 4. *Chætocercus bombus*.

*Chætocercus bombus*, *Gould, P. Z. S.* 1870, pp. 803, 804; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 228; *Elliot, Syn. Troch.* p. 122; *Tacz. P. Z. S.* 1879, p. 237, 1880, p. 206, 1882, p. 35; *id. Orn. Pér.* i. p. 309; *Berl. & Tacz. P. Z. S.* 1883, p. 563, 1884, p. 306, 1885, p. 102.

*Polyxemus bombus*, *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 123, pl. 111.

*Adult male.* Upper surface shining green; throat glittering rosy red, the same colour as that of *C. rosea*; breast buff; middle of the abdomen greyish; flanks shining green; under tail-coverts green, edged with white; tail purple-black, including the four central feathers, the edge of the inner web of the third rectrix from the outside buff for half its length; outermost and next rectrices acute, the tip of the latter falling between that of the former and the third or longest feather; bill black. Total length about 2.6 inches, wing 1; tail, central rectrices 0.35, longest 0.2; bill 0.6.

*Female.* Upper surface shining golden green, duller on the head; under surface cinnamon, paler on the sides of the neck and the middle of the abdomen; a dusky spot below the eye; tail cinnamon; a wide subterminal purple-black band.

*Hab.* Ecuador.

<i>a-c.</i> ♂ ad.; <i>d, e.</i> ♀ ad. sk.	Citado, Ecuador ( <i>Buckley</i> ).	Gould Coll. (Types of the species.)
<i>f, g.</i> ♂ ad. sk.	Baisa, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>h.</i> ♂ ad.; <i>i.</i> ♂ juv.;	Jima, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
<i>j, k.</i> ♀ ad. sk.		
<i>l.</i> ♀ ad. sk.	Balzar Mts., Ecuador ( <i>Illingworth</i> ).	Salvin-Godman Coll.
<i>m.</i> ♂ ad. sk.	Tambillo, Peru ( <i>Stolzmann</i> ).	Sclater Coll.
<i>n.</i> ♂ ad.; <i>o.</i> ♀ ad. sk.	—?	Gould Coll.
<i>p.</i> ♂ juv. sk.	Peru?	Salvin-Godman Coll.

#### 122. MYRTIS.

	Type.
Lucifer β. Myrtis, <i>Reich. Aufz. d. Col.</i> p. 13	M. fanny.
Myrtis, <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 59	M. fanny.
Zephyritis (Myrtis), <i>Muls. &amp; Verr. Class. Troch.</i> p. 87 (1865)	M. yarrelli.
Eudosia, <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 228 (1875)	M. yarrelli.
Euclidia, <i>Muls. Hist. Nat. Ois.-Mouches</i> , iv. p. 114 (1877)	M. yarrelli.
<i>Range.</i> Western Ecuador and Western Peru.	

*Key to the Species.*

- a. Throat glittering cærulean blue, bordered beneath by violet; four lateral rectrices on either side equal in width and length ..... *fanny*, p. 417.
- b. Throat glittering violet-red; three lateral rectrices on either side equal in length, very narrow and acute ..... *yarrelli*, p. 418.

1. *Myrtis fanny*.

- Ornismya fanny*, *Less. Ann. Sc. Nat.* (2) ix. p. 170 (1838); *id. Rev. Zool.* 1838, p. 314.
- Trochilus labrador*, *Bourc. Ann. Sc. Phys. et Nat. Lyon*, ii. p. 389, pl. 8 (1839); *Delattre, Rev. Zool.* 1846, p. 311.
- Lucifer  $\beta$ . *Myrtis fanny*, *Reich. Aufz. d. Col.* p. 13.
- Lucifer  $\beta$ . *Myrtis labrador*, *Reich. Troch. Enum.* p. 10, pl. 844. ff. 4992-5.
- Lucifer labrador, *Bp. Rev. Zool.* 1854, p. 257.
- Calothorax *fanny*, *Gould, Mon. Troch.* iii. pl. 151 (Sept. 1856); *Gray, Hand-l. B. i.* p. 135.
- Calothorax *fauniæ*, *Scl. P. Z. S.* 1858, p. 459.
- Myrtis fanny*, *Cab. & Heine, Mus. Hein.* iii. p. 59; *Gould, Intr. Troch.* p. 93; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 33; *id. Ann. Soc. Linn. Lyon*, xxii. p. 226; *Elliot, Syn. Troch.* p. 127; *Tacz. P. Z. S.* 1879, p. 238, 1880, p. 206, 1882, p. 35; *id. Orn. Pér.* i. p. 312; *Salv. P. Z. S.* 1883, p. 425; *Berl. & Tacz. P. Z. S.* 1884, p. 306.
- Myrtis fanniae*, *Gould, Intr. Troch.* p. 93.
- Thaumastura francescæ*, *Scl. Cat. Am. B.* p. 299; *Scl. P. Z. S.* 1869, p. 146, 1871, p. 498.
- Zephyritis (Myrtis) fannyæ*, *Muls. & Ferr. Class. Troch.* p. 89.
- Myrtis francescæ*, *Scl. & Salv. P. Z. S.* 1867, p. 987, 1868, p. 569.

*Adult male.* Upper surface shining bronzy green, duller on the crown, lighter on the rump and upper tail-coverts; throat glittering cærulean blue, bordered below by violet; breast, middle of the abdomen, and under tail-coverts white, flanks washed with shining green; four outer rectrices on either side purple-black, the innermost tinged with green on the upper surface; bill black. Total length about 3.5 inches, wing 1.5, tail 1.2, bill 0.8.

*Female.* Upper surface shining olive-green, duller on the crown; under surface cinnamon, paler on the throat, white on the middle of the abdomen; central rectrices coloured like the back; lateral cinnamon at the base, broadly tipped with white, and with a wide black subterminal band.

*Hab.* Western Ecuador and Peru.

- a. ♂ ad.; b. ♀ ad. sk. Monji, Ecuador (*Buckley*). Salvin-Godman Coll.
- c. ♂ ad. sk. Intac, Ecuador (*Buckley*). Salvin-Godman Coll.
- d, e. ♂ ad.; f, g. ♂ juv.; h, i. ♀ ad. sk. Quito, Ecuador. Gould Coll.
- j. Ad. sk. Puellaro, Ecuador (*Fraser*). Selater Coll.

<i>k, l.</i> ♂ ad. ; <i>m.</i> ♂ juv. ; <i>n.</i> ♀ ad. sk.	Ecuador.	Salvin-Godman Coll.
<i>o.</i> ♀ ad. sk.	Ecuador.	L. Fraser [C.].
<i>p, q.</i> Juv. sk.	Lima, Peru ( <i>Nation</i> ).	Selater Coll.
<i>r.</i> ♂ juv. sk.	Lima ( <i>A. H. Markham</i> ).	Salvin-Godman Coll.
<i>s-u.</i> ♂ ad. ; <i>r. w.</i> ♀ ad. sk.	Islay, Peru, Jan., Aug., Oct. ( <i>H. Whiteley</i> ).	Salvin-Godman & Gould Colls.
<i>x.</i> ♂ ad. sk.	Peru ( <i>Warszewicz</i> ).	Gould Coll.
<i>y.</i> ♀ ad. skel-ton.		Gould Coll.

## 2. *Myrtis yarrelli*.

*Trochilus yarrelli*, *Bourc. P. Z. S.* 1847, p. 45.

*Calothorax yarrelli*, *Gould, Mon. Troch.* iii. pl. 152 (May 1852).

Lucifer ♂. *Calothorax yarrelli*, *Reich. Aufz. d. Col.* p. 13; *id. Troch. Enum.* p. 10, pl. 850. ff. 5014-6.

*Tryphæna yarrelli*, *Bp. Rev. Zool.* 1854, p. 257.

*Myrtis yarrelli*, *Gould, Intr. Troch.* p. 93; *Gray, Hand-l. B. i.* p. 136; *Whiteley, P. Z. S.* 1873, p. 187; *Elliot, Syn. Troch.* p. 137; *Tacz. Orn. Pér.* i. p. 311.

*Eulidia yarrelli*, *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 115; *id. Ann. Soc. Linn. Lyon*, xxii. p. 228.

*Adult male.* Upper surface shining olive-green : throat glittering violet-red ; rest of the under surface white, flanks faintly tinged with green ; short central rectrices and the next pair coloured like the back, the three lateral rectrices on either side uniform blackish brown ; bill black. Total length about 3.1 inches, wing 1.2, tail 1.2, bill 0.55.

*Female.* Upper surface shining golden green, duller on the crown ; under surface white, slightly tinged with buff on the sides of the neck, flanks, and upper tail-coverts ; central rectrices coloured like the back ; lateral buff at the base, broadly tipped with white, and with a wide subterminal black band.

*Hab.* South-western Peru and Western Bolivia.

<i>a.</i> ♂ ad. ; <i>b.</i> ♀ ad. sk.	Arica, Peru.	Gould Coll.
<i>c.</i> ♂ ad. ; <i>d.</i> ♀ ad. sk.	[Peru.]	Gould Coll.

## 123. THAUMASTURA.

<i>Thaumastura</i> , <i>Bp. Consp. Av.</i> i. p. 85 (1850).....	Type. T. cora.
<i>Heliactin</i> ( <i>Thaumastura</i> ), <i>Muls. &amp; Ferr. Class. Troch.</i> p. 91 (1865).....	T. cora.

*Range.* Western Peru.

### 1. *Thaumastura cora*.

*Ornismya cora*, *Less. & Garn. Voy. Coy.* pl. 13. f. 4 ; *Less. Hist. Nat. Ois.-Mouches*, pp. xxi, 53, pl. 6 ; *id. Hist. Nat. Troch.* pp. 109,

111, pls. 39, 40 ; *d'Orb. & Lafr. Syn. Av.* ii. p. 31.

*Trochilus cora*, *Less. Ind. Gén. Troch.* p. xxxii.

*Trochilus* (*Phaetormis*) *cora*, *Tsch. Faun. Per.* p. 245.

*Thaumastura cora*, *Bp. Consp. Av.* i. p. 85 ; *id. Rev. Zool.* 1854,

p. 257; *Des Murs in Cast. Voy.* i. p. 41; *Gould, Mon. Troch.* iii. pl. 153 (May 1857); *id. Intr. Troch.* p. 93; *Cab. & Heine, Mus. Hein.* iii. p. 58; *Scl. Cat. Ann. B.* p. 299; *Scl. & Salv. P. Z. S.* 1867, p. 987, 1868, pp. 568, 569; *Nation, P. Z. S.* 1871, p. 498; *Tacz. P. Z. S.* 1874, p. 543, 1880, p. 306; *id. Orn. Pér.* i. p. 314; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 8, pl. 100; *id. Ann. Soc. Linn. Lyon*, xxii. p. 225; *Elliot, Syn. Troch.* p. 123; *Salv. P. Z. S.* 1883, p. 425.

Lucifer  $\gamma$ . *Thaumastura cora*, *Reich. Aufz. d. Col.* p. 13; *id. Troch. Enum.* p. 10, pl. 846. ff. 4999-5000.

Heliactin (*Thaumastura*) *cora*, *Muls. & Verr. Class. Troch.* p. 91.

*Calothorax cora*, *Gray, Hand-l. B.* i. p. 135.

*Adult male.* Upper surface shining green; throat glittering rosy red in the middle, and shading into cærulean blue towards the sides; rest of the under surface white, flanks tinged with shining green; central rectrices very short, white, dusky on the outer web; the next pair very long, white on the inner web, and shaft blackish on the outer web and the whole of the tip; the remaining lateral rectrices gradually shorter towards the outside, blackish, with a white margin to the inner web; bill black. Total length about 6.5 inches, wing 1.5; tail, central rectrices 0.55, next pair 4.5, outermost pair 1; bill 0.7.

*Female.* Under surface white, throat and flanks tinged with buff; tail cuneate; central rectrices coloured like the back, lateral white at the base and at the tip, with a wide subterminal black band.

*Hab.* Western Peru.

a. ♀ ad. sk.	Lima, Peru ( <i>Nation</i> ).	Sclater Coll.
b. ♂ juv. sk.	Lima ( <i>A. H. Markham</i> ).	Salvin-Godman Coll.
c-g. ♂ juv.; h.	Valley of the Rimac, Peru	Salvin-Godman Coll.
♀ ad. sk.	( <i>A. H. Markham</i> ).	
i. ♀ ad. sk.	Peru ( <i>Warszewicz</i> ).	Gould Coll.
j-u. ♂ ad.; v, w.	Arequipa, Peru, Feb. to June	Salvin-Godman,
♀ ad. sk.	( <i>W. Whately</i> ).	Tweeddale, & Gould Colls.
x. ♂ ad. st.		Purchased.

## 124. LOPHORNIS.\*

Type.

<i>Lophornis</i> , <i>Less. Hist. Nat. Ois.-Mouches</i> , p. xxxvii (1829).....	L. ornatus.
<i>Bellatrix</i> , <i>Boie, Isis</i> , 1831, p. 545.....	L. ornatus.
<i>Lophorinus</i> , <i>Bp. Rev. Zool.</i> 1854, p. 257.....	L. delatirii.
<i>Polemistria</i> , <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 63....	L. verreauxi.
<i>Telamon</i> , <i>Muls. &amp; Verr. Class. Troch.</i> p. 75 (1865)..	L. delatirii.
<i>Paphosia</i> , <i>Muls. &amp; Verr. Class. Troch.</i> p. 75 (1865)..	L. helenæ.
<i>Dialia</i> , <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 223 (1875).....	L. adorabilis.
<i>Idas</i> , <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 223....	L. magnificus.
<i>Aurinia</i> , <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 223..	L. verreauxi.

*Range.* Southern Mexico, southwards to Bolivia and South-eastern Brazil.

\* I do not know the species from Colombia described by M. Simon (*Bull. Soc. Zool. Fr.* xv. p. 17) as:—LOPHORNIS INSEGNIBARBIS.

## Key to the Species.

- a. Throat and chin glittering green.
- a'. Abdomen grey, washed with green.
- a''. Lateral cervical feathers much elongated; no pectoral spot of white feathers.
- a'''. Lateral cervical feathers not dilated at the tips, terminating with glittering green round spots.
- a<sup>4</sup>. Lateral cervical feathers cinnamon . . . . . *ornatus*, p. 420.
- b<sup>4</sup>. Lateral cervical feathers white . . . . . *gouldi*, p. 421.
- b'''. Lateral cervical feathers dilated at the tips and terminating with transverse glittering green spots . . . . . *magnificus*, p. 422.
- b''. Lateral cervical feathers not elongated; a pectoral spot of narrow white feathers.
- c'''. Crest-feathers narrow at the tips, and only the longest tipped with golden green.
- c<sup>4</sup>. Ends of the longest crest-feathers slightly spatuled, and spots larger . . . . . *regulus*, p. 423.
- d<sup>4</sup>. Ends of the crest-feathers pointed; spots evanescent . . . . . *delatryi*, p. 423.
- d'''. Crest-feathers wider, all tipped with large purple-black spots . . . . . *stictolophus*, p. 424.
- b'. Abdomen white, spangled with golden spots . . . . . *helene*, p. 425.
- c'. Abdomen cinnamon . . . . . *adorabilis*, p. 425.
- b. Throat and chin not ornamented with glittering feathers.
- d'. Elongated lateral cervical feathers narrow, tipped with white.
- c''. Breast greyish; no occipital crest . . . . . *chalybeus*, p. 426.
- d''. Breast black; a short occipital crest . . . . . *verreauxi*, p. 427.
- e'. Elongated lateral cervical feathers wide, with a subterminal black spot; no occipital crest. *pavoninus*, p. 427.

1. *Lophornis ornatus*.

Oiseau-Mouche, dit Hupe-col de Cayenne, *d'Aub. Pl. Enl.* 640. f. 3.

*Trochilus ornatus*, *Bodd. Tabl. Pl. Enl.* p. 39; *Gm. Syst. Nat.* i. p. 497; *Lath. Ind. Orn.* p. 318; *Aud. & Vieill. Ois. Dor.* i. p. 113, pls. 49-51; *Vieill. N. Dict. d'Hist. N.* vii. p. 364; *id. Enc. Méth.* p. 565; *Less. Ind. Gén. Troch.* pl. xli; *Gray, Hand-l. B.* i. p. 146.

*Ornismya ornata*, *Less. Hist. Nat. Ois.-Mouches*, pp. xl, 139, pl. 41; *id. Hist. Nat. Troch.* p. 77, pl. 24; *id. Traité d'Orn.* p. 285.

*Lophornis auratus*, *Bp. Consp. Av.* i. p. 83; *Des Murs in Cast. Voy.* i. p. 41.

*Lophornis ornatus*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 9, pl. 811. ff. 4889-91; *Bp. Rev. Zool.* 1854, p. 257; *Gould, Mon. Troch.* iii. pl. 117 (Sept. 1855); *id. Intr. Troch.* p. 82; *Cab. & Heine, Mus. Hein.* iii. p. 62; *Scl. Cat. Am. B.* p. 295; *E. C. Taylor, Ibis*, 1863, p. 91; *Muls. & Verr. Class. Troch.* p. 76; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 215, iv. p. 219; *id. Ann.*

*Soc. Linn. Lyon*, xxii. p. 223; *Elliot, Syn. Troch.* p. 134; *Salv. Cat. Strickl. Coll.* p. 363; *id. Ibis*, 1885, p. 433.

*Mellisuga ornata*, *Léot. Ois. Trin.* p. 148 (1866).

*Adult male.* Upper surface shining golden green; a transverse band across the rump buffy white; upper tail-coverts purple-bronze; crest elongated, dark cinnamon; forehead, lores, and throat glittering green, the latter bordered with cinnamon; lateral cervical feathers much elongated, graduated, cinnamon, each tipped with a round glittering-green spot; abdomen grey; the breast, flanks, and under tail-coverts shining green, each feather of the latter with a pale cinnamon edge; tail cinnamon, the central rectrices widely, the rest more narrowly edged with golden green on the outer web: bill flesh-colour, the tip black. Total length about 2.8 inches, wing 1.6, tail 0.95, bill 0.5.

*Female.* Upper surface shining golden green, rather darker on the crown: rump and upper tail-coverts like those of the male; throat and under tail-coverts cinnamon; breast greyish white; abdomen shining green, the middle grey; central rectrices shining green, tipped with cinnamon, and with a subterminal purple-black band; remainder cinnamon, greenish on the middle, and with a dark subterminal band.

*Young birds* in first complete plumage have a whitish throat, each feather bearing a dusky discal spot. In the females these are followed by cinnamon feathers.

*Hab.* Trinidad, Venezuela, and Guiana.

a-d. ♂ ad.; e. ♀ ad. sk.	(Trinidad skins.)	Salvin-Godman & Gould Colls.
f. ♂ ad.; g. ♀ ad.; h, i. ♀ juv. sk.	Carimang R., Brit. Guiana, Feb., July to Oct. ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
j. ♂ ad.; k. ♀ juv. sk.	Roraima, Feb., July ( <i>H. W.</i> ).	Salvin-Godman Coll.
l. ♀ juv. sk.	(Cayenne skin.)	Gould Coll.
m. ♂ ad. sk.	"Amazon Valley."	Gould Coll.
n. ♂ ad. st.		Purchased.

## 2. *Lophornis gouldi*.

*Ornismya gouldi*, *Less. Hist. Nat. Troch.* p. 103, pl. 36.

*Trochilus gouldi*, *Less. Ind. Gén. Troch.* p. xli.

*Lophornis reginæ*, *Schreibers, Collect. Faun. Bras.* pl. 1.

*Lophornis gouldi*, *Bp. Cosp. Av.* i. p. 83; *id. Rev. Zool.* 1854, p. 257; *Gould, Mon. Troch.* iii. pl. 118 (Sept. 1855); *id. Intr. Troch.* p. 83; *Muls. & Verr. Class. Troch.* p. 76; *Salv. & Elliot, Ibis*, 1873, p. 278; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 218; *id. Ann. Soc. Linn. Lyon*, xxii. p. 223; *Elliot, Syn. Troch.* p. 134.

*Bellatrix gouldi*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 9, pl. 813. f. 4901.

*Bellatrix reginæ*, *Reich. Troch. Enum.* p. 9, pl. 813. ff. 4899-900.

*Adult male.* Similar to that of *L. ornatus*, but with the elongated lateral cervical feathers white instead of cinnamon, but tipped in

the same way with round glittering green spots, the feathers being hardly, if at all, widened at the tip; the bases of the gular feathers are also white, not cinnamon as in both *L. ornatus* and *L. magnificus*.

*Hab.* Lower Amazons Valley.

a. ♂ ad. ; b. ♀ ad. ;	Para ( <i>Hauvwell</i> ).	Gould Coll.
c. ♀ juv. sk.		
d. ♂ ad. sk.	[Probably Para ( <i>Hauvwell</i> ).]	Salvin-Godman Coll.
e. ♂ ad. sk.	[N. Brazil.]	Salvin-Godman Coll.
f-h. ♂ ad. ; i. ♀ ad. sk.	[Amazons.]	Gould Coll.

### 3. *Lophornis magnificus*.

*Trochilus magnificus*, *Vieill. Ois. Dor.* i. pl. 8; *id. N. Dict. d'Hist. N.* vii. p. 367, xxiii. p. 428, pl. G. 36. f. 3; *id. Enc. Méth.* p. 559; *Temm. Pl. Col.* 220. f. 2; *Wied, Beitr.* iv. p. 79; *Gray, Handl. B.* i. p. 147.

*Colibris helios*, *Spir. Ar. Bras.* i. p. 81, pl. 82. f. 2.

*Trochilus decorus*, *Licht. Verz. Doubl.* p. 14.

*Ornismya strumaria*, *Less. Hist. Nat. Ois.-Mouches*, pp. xl, 143, pls. 42, 43.

*Trochilus strumaria*, *Less. Ind. Gén. Troch.* p. xli.

*Lophornis strumaria*, *Less. Traité d'Orn.* p. 285.

*Ornismya magnifica*, *Less. Man. Orn.* ii. p. 80.

*Lophornis magnificus*, *Bp. Conspr. Ar.* i. p. 83; *id. Rev. Zool.* 1854, p. 257; *Gould, Mon. Troch.* iii. pl. 119 (Sept. 1855); *id. Intr. Troch.* p. 83; *Des Murs in Cast. Voy.* i. p. 41; *Burm. Syst. Uch.* ii. p. 353; *Cab. & Heine, Mus. Hein.* iii. p. 62; *Sci. Cat. Am. B.* p. 295; *Muls. & Ferr. Class. Troch.* p. 76; *Pelz. Orn. Bras.* p. 22; *Reinh. Vidensk. Medd. Nat. For. Kjöb.* p. 110; *Elliot, Syn. Troch.* p. 135.

*Bellatrix magnifica*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 9, pl. 813. ff. 4897-8.

*Idas magnificus*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 211, pl. 92; *id. Ann. Soc. Linn. Lyon*, xxii. p. 223.

*Adult male.* Similar to that of *L. gouldi*, but with the white elongated lateral cervical feathers expanded towards the end, where they are edged rather than spotted with glittering green; the shortest of these lateral feathers, as well as the bases of those of the glittering throat, are cinnamon as in *L. ornatus*, whereas in *L. gouldi* they are all white at the base.

*Hab.* South-eastern Brazil.

a. b. ♂ ad. ; c.	Novo Fribourgo, Rio ( <i>Fouds</i> ).	Salvin-Godman Coll.
Juv. sk.		
d-h. ♂ ad. ; i-l.	Brazil.	Gould Coll.
Juv. ; m. ♀ ad. sk.		
n. ♂ ad. sk.	Chapada, Matto Grosso, Oct. ( <i>H. H. Smith</i> ).	Salvin-Godman Coll.
o. ♂ ad. ; p. ♀ ad. st.		Purchased.



4. *Lophornis regulus*.

*Trochilus regulus*, Gould, *P. Z. S.* 1846, p. 89; Gray, *Hand-l. B.* i. p. 147.

*Lophornis regulus*, *Bp. Consp. Av.* i. 84; Gould, *Mon. Troch.* iii. pl. 120 (Sept. 1855); *id. Intr. Troch.* p. 83; Elliot, *Syn. Troch.* p. 133; *Sci. & Salv. P. Z. S.* 1879, p. 628.

*Lophornis lophotes*, Gould, *Intr. Troch.* p. 83.

*Telamon regulus*, *Muls. & Ferr. Class. Troch.* p. 75; *Muls. Hist. Nat. Ois.-Mouches*, iii. pl. 90. f. 1; *id. Ann. Soc. Linn. Lyon*, xxii. p. 222.

*Adult male*. Similar to that of *L. ornatus* on the upper surface, abdomen, and tail; crest much elongated, the longest feathers only slightly spatuled and tipped with small greenish-black spots; the lateral cervical feathers are cinnamon at the base and tipped with glittering green; and beneath the green throat is a patch of narrow elongated white feathers; the bases of the gular feathers are buff.

*Female*. Abdomen cinnamon rather than grey; the forehead and half the crown cinnamon.

The type of Gould's *L. lophotes* has a rather fuller crest than usual in *L. regulus*, and the terminal spots are rather larger, but the difference can hardly be considered specific.

*Hab.* Peru and Bolivia.

a. ♂ ad. sk.	Peru.	Gould Coll. (Type of <i>L. lophotes</i> .)
b. ♂ ad.; c. ♂ juv.; d. ♀ ad. sk.	Tilotolo, Bolivia ( <i>Buckley</i> ).	Salvin-Godman Coll.
e-g. ♂ ad.; h, i. ♂ juv.; j. ♀ ad. sk.	Bolivia ( <i>Buckley</i> ).	Gould Coll.
k. ♂ ad. sk.	Bolivia ( <i>Bridges</i> ?).	Gould Coll.
l-n. ♂ ad.; o. ♀ ad. sk.	[Bolivia.]	Gould Coll. (Types of the species.)

5. *Lophornis delatritii*.

*Ornismya (Lophornis) delatritii*, *Less. Rev. Zool.* 1839, p. 19.

*Lophornis delatritii*, *Reich. Aufz. d. Col.* p. 12; *Bp. Consp. Av.* i. p. 83; *id. Rev. Zool.* 1854, p. 257; Gould, *Mon. Troch.* iii. pl. 121 (Sept. 1861); *id. Intr. Troch.* p. 84; *Lawr. Ann. Lyc. N. Y.* vii. p. 465; *Sci. & Salv. P. Z. S.* 1864, p. 365; *Salv. P. Z. S.* 1870, p. 207; Elliot, *Syn. Troch.* p. 133; *Tacz. Orn. Pér.* i. p. 299; *Berl. J. f. Orn.* 1887, p. 329.

*Telamon delatritii*, *Muls. & Ferr. Class. Troch.* p. 75; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 199; *id. Ann. Soc. Linn. Lyon*, xxii. p. 222.

*Trochilus delatritii*, Gray, *Hand-l. B.* i. p. 146.

*Adult male*. Very similar to that of *L. regulus*, but the points of the crest-feathers are more acute and the terminal spots in some specimens are almost in others quite obsolete.

*Female*. Like that sex of *L. regulus*, but with a large black pectoral patch.

This species is doubtfully distinct from *L. regulus*, but if the adult females can be separated by the presence in *L. delatruii* of a dark pectoral spot, their distinctness is more assured. I am not certain, however, if this character can be depended upon.

*Hab.* Panama and Colombia.

<i>a, b.</i> ♂ ad. sk.	Laguna del Castillo, Panama ( <i>Arcé</i> ).	Salvin-Godman & Sclater Colls.
<i>c-f.</i> ♂ ad.; <i>g.</i> ♂ juv. sk.	Castillo, Panama ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
<i>h.</i> ♀ ad. sk.	Chitra, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>i.</i> ♂ ad.; <i>j.</i> ♀ ad. sk.	Lion Hill, Panama ( <i>McLean-</i> <i>nam</i> ).	Salvin-Godman Coll.
<i>k.</i> ♀ ad. sk.	Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>l.</i> ♂ ad. sk.	Panama ( <i>Boucard</i> ).	Gould Coll.
<i>m.</i> ♂ ad.; <i>n.</i> ♀ ad. sk.	Chepo, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
<i>o-r.</i> ♂ ad.; <i>s.</i> ♂ juv.; <i>t, u.</i> ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.

#### 6. *Lophornis stictolophus*.

*Lophornis reginae*, *Gould. P. Z. S.* 1847, p. 95 (*nov. Schreibers*): *id. Mon. Troch.* iii. pl. 122 (Sept. 1855); *id. Intr. Troch.* p. 84; *Bp. Consp. Av.* i. p. 84; *id. Rev. Zool.* 1854, p. 257; *Muls. & Ferr. Class. Troch.* p. 75; *Scl. & Salv. P. Z. S.* 1868, p. 629; *Pelz. Orn. Bras.* p. 32.

*Bellatrix regina*, *Reich. Aufz. d. Col.* p. 12.

*Trochilus reginae*, *Gray, Houd-l. B. i.* p. 147.

*Lophornis stictolophus*, *Salv. & Elliot, Ibis*, 1873, p. 280; *Elliot, Syn. Troch.* p. 133; *Berl. J. f. Orn.* 1887, p. 329.

*Telamon stictolophus*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 201, pl. 90. f. 2, iv. p. 219.

*Adult male.* Similar to those of *L. delatruii* and *L. regulus*, but with the feathers of the crest much wider, the terminal spots larger and distributed over the feathers of the whole crest instead of only the longest.

The female has a good deal of black on the throat, but I am not sure that I can always distinguish the females of *L. stictolophus* and *L. delatruii*, both birds being found in the same or neighbouring districts.

*Hab.* Venezuela and Colombia.

<i>a.</i> ♂ ad.; <i>b.</i> ♀ ad. sk.	SAN Esteban, Venezuela ( <i>Hanke</i> ).	Sclater Coll.
<i>c.</i> ♂ ad. sk.	Colombia ( <i>L. de Geoffroy</i> ).	Salvin-Godman Coll.
<i>d-l.</i> ♂ ad.; <i>m.</i> ♂ juv.; <i>n, o.</i> ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.

7. *Lophornis helenæ*.

*Ornismya helenæ*, *Delattre, Echo du Monde Sav.* 1843, p. 1068; *id. Rev. Zool.* 1843, p. 133.

*Lophornis helenæ*, *Bp. Consp. Av.* i. p. 83; *id. Rev. Zool.* 1854, p. 257; *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 9, pl. 811. f. 4892; *Gould, Mon. Troch.* iii. pl. 123 (Sept. 1855); *id. Intr. Troch.* p. 84; *Scl. & Salv. Ibis*, 1859, p. 130; *Salv. Ibis*, 1860, pp. 194, 196, 267; *Scl. Cat. Am. B.* p. 295; *de Oca, La Nat.* iii. p. 300, pl. —; *Elliot, Syn. Troch.* p. 135.

*Paphosia helenæ*, *Muls. & Ferr. Class. Troch.* p. 75; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 205, pl. 91. f. 2; *id. Ann. Soc. Linn. Lyon*, xxii. p. 222; *Boucard. P. Z. S.* 1878, p. 70.

*Trochilus helenæ*, *Gray, Hand-l. B. i.* p. 146.

*Adult male.* Upper surface shining golden bronze: the rump, upper tail-coverts, and tail like the other species of this group; crown dark glittering green, the feathers of its sides much elongated, tapering rather abruptly, and ending in long narrow black plumes; throat glittering green, rounded below, and bordered by black feathers reflecting dark purple in certain incidence of light; some of the lateral feathers of this black band are elongated and cinnamon on their inner webs; below the black is a dark shining golden band; abdomen white, spangled with golden spots; under tail-coverts cinnamon; bill flesh-colour, the tip black. Total length about 3 inches, wing 1.6, tail 1, bill 0.6.

*Female.* Crown shining golden bronze, darker than the back and without elongated lateral feathers; throat buffy white, each feather with a dark golden discal spot; a large black spot below the eye.

*Hab.* Southern Mexico, Guatemala and Costa Rica.

<i>a-d.</i> ♂ ad.; <i>e.</i> ♂ juv.; <i>f.</i> ♀ ad. sk.	Coban, Guatemala, Nov. (O. S.).	Salvin-Godman & Selater Colls.
<i>g.</i> ♂ ad. sk.	Chisec, Guatemala (O. S. & F. D. G.).	Tweeddale Coll.
<i>h-k.</i> ♂ ad.; <i>l, m.</i> ♂ juv. sk.	Guatemala.	Salvin-Godman & Gould Colls.
<i>n.</i> ♂ juv. sk.	Turrialba, Costa Rica (Arcé).	Salvin-Godman Coll.
<i>o.</i> ♀ ad.; <i>p.</i> Juv. sk.	Tucurriqui, Costa Rica (Arcé).	Salvin-Godman Coll.
<i>q-s.</i> Juv. sk.	Costa Rica (Endres).	Gould Coll.
<i>t.</i> ♂ ad.; <i>u.</i> ♂ juv.; <i>v.</i> ♀ ad. sk.	Costa Rica.	Salvin-Godman & Gould Colls.

8. *Lophornis adorabilis*.

*Lophornis adorabilis*, *Salv. P. Z. S.* 1870, p. 207; *Elliot, Syn. Troch.* p. 135; *Gould, Mon. Troch., Suppl.* pl. 35 (Aug. 1880).

*Dialia adorabilis*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 208, pl. 91. f. 1; *id. Ann. Soc. Linn. Lyon*, xxii. p. 223.

*Adult male.* Upper surface, rump, upper tail-coverts, and tail as in the rest of the species of this group; middle of the crown pure

white, the lateral feathers elongated and acute, drawn together posteriorly; forehead and sides of the head glittering dark ruby-red, the bases of the feathers of the former white; throat glittering green, the bases of the feathers white, the lateral feathers much elongated and pointed; a large white pectoral patch; abdomen and under tail-coverts cinnamon; bill flesh-colour, the tip black. Total length about 2·8 inches, wing 1·5, tail 1, bill 0·5.

*Female.* Crown and a patch below the eye bronzy black; throat white, each feather with a shining bronze discal spot; lateral rectrices cinnamon, with a wide subterminal black band.

*Hab.* Costa Rica and Chiriqui.

a. ♂ ad.; b. ♀ ad. sk.	Bugaba, Volcan de Chiriqui (Arcé).	Salvin-Godman Coll. (Types of the species.)
c. ♂ ad. sk.	Chiriqui (Arcé).	Gould Coll.
d. ♂ ad. sk.	Bibalaz, Chiriqui (Arcé).	Gould Coll.

### 9. *Lophornis chalybæus*.

*Trochilus chalybæus*, Vieill. *Enc. Méth.* p. 574; *Temm. Pl. Col.* 66. f. 2; *Gray, Hand-l. B.* i. p. 147.

*Colibri mystax*, *Spix, Av. Bras.* ii. p. 82, pl. 82. f. 3.

*Trochilus festivus*, *Licht. Verz. Doubl.* p. 14.

*Ornismya vieilloti*, *Less. Hist. Nat. Ois.-Mouches*, pp. lxi, 186, pl. 64.

*Trochilus vieilloti*, *Less. Ind. Gén. Troch.* p. xlii.

*Ornismya audeneti*, *Less. Suppl. Ois.-Mouches*, p. 102, pl. 2.

*Trochilus audeneti*, *Less. Ind. Gén. Troch.* p. xlii.

*Lophornis chalybæus*, *Bp. Consp. Av.* i. p. 84; *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 9, pl. 812. ff. 4893-5; *Gould, Mon. Troch.* iii. pl. 124 (May 1852); *Scl. Cat. Am. B.* p. 296; *Pelz. Orn. Bras.* p. 32; *Bert. J. f. Orn.* 1873, p. 275; *Elliot, Syn. Troch.* p. 136.

*Lophornis audeneti*, *Bp. Consp. Av.* i. p. 84.

*Bellatrix chalybæus*, *Bp. Rev. Zool.* 1854, p. 257.

*Lophornis festivus*, *Burm. Syst. Ueb.* ii. p. 354.

*Polemistria chalybæa*, *Cab. & Heine, Mus. Hein.* iii. p. 63; *Gould, Intr. Troch.* p. 85; *Muls. & Ferr. Class. Troch.* p. 79; *Hamilton, Ibis*, 1871, p. 307; *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 223.

*Polemistria vieilloti*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 229.

*Adult male.* Upper surface shining grass-green; band across the rump pale buff; upper tail-coverts shining purple; forehead and a line passing under the eye glittering green, the latter edged below with black; throat shining green, the lateral feathers elongated and tipped with white; breast greyish white, middle of the abdomen darker, flanks and under tail-coverts washed with green; tail purple-bronze; bill black. Total length about 3 inches, wing 1·55, tail 1·1, bill 0·6.

*Female.* Throat dusky, edged with whitish; base of the rectrices grey, the lateral rectrices tipped with buff, and with a wide bronze-purple subterminal band.

*Hab.* Southern Brazil.

a. ♂ ad.; b. ♂ juv. sk.	Brazil (Nutterer).	Salvin-Godman Coll.
c. f. ♂ ad.; g. i. ♀ ad. sk.	Brazil.	Gould Coll.

10. *Lophornis verreauxi*.

*Trochilus verreauxi*, *Bourc. Rev. Zool.* 1853, p. 193; *Gray, Hand-l. B.* i. p. 147.

*Lophornis verreauxi*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 9, pl. 812. f. 4896; *Gould, Mon. Troch.* iii. pl. 125 (Sept. 1860); *Elliot, Syn. Troch.* p. 136; *Tacz. Orn. Pér.* i. p. 300; *Berl. J. f. Orn.* 1887, p. 329.

*Bellatrix verreauxi*, *Bp. Rev. Zool.* 1854, p. 257.

*Polemistria verreauxi*, *Cab. & Heine, Mus. Hein.* iii. p. 63; *Gould, Intr. Troch.* p. 85; *Muls. & Ferr. Class. Troch.* p. 76; *Sci. & Salv. P. Z. S.* 1867, pp. 753, 979, 1873, p. 288; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 221, pl. 93.

*Aurinia verreauxi*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 223.

*Adult male.* Similar to that of *L. chalybeus* as regards the coloration of the upper surface, forehead, and the elongated lateral gular feathers; the middle of the throat is darker, washed with green; the breast and middle of the abdomen black, and there is a short occipital crest.

*Female* resembles that sex of the allied species, but the whole of the under surface is much blacker.

*Hab.* Upper Amazons Valley to the Andes of Colombia.

<i>a-c.</i> ♂ ad.; <i>d.</i> ♀ ad.; <i>e.</i> ♀ juv. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
<i>f.</i> ♂ ad. sk.	Ecuador.	Gould Coll.
<i>g.</i> Juv. sk.	Peruvian Amazons.	E. Bartlett [P.].
<i>h.</i> ♂ ad.; <i>i.</i> ♀ ad. sk.	Iquitos, Amazons, May ( <i>H. Whitely</i> ).	Gould Coll.
<i>j, k.</i> ♂ ad.; <i>l.</i> ♂ juv.; <i>m-p.</i> ♀ ad. sk.	Pebas, Amazons, Feb., June (July ( <i>J. Hauvwell</i> )).	Salvin-Godman & Gould Colls.

11. *Lophornis pavoninus*.

*Lophornis pavoninus*, *Salv. & Godm. Ibis*, 1882, p. 81; *Whitely, Ibis*, 1884, p. 357; *Sharpe in Gould's Mon. Troch., Suppl.* pl. 36 (Mar. 1887).

*Polemistria pavonina*, *Salv. Ibis*, 1885, p. 433; *d'Hamonv. Bull. Soc. Zool. Fr.* xi. p. 317 (1886).

*Adult male.* Upper surface shining green, band across the rump narrow, buffy white; upper tail-coverts purple-bronze; crown glittering green, with a central line black; throat black, lateral feathers elongated, broad, shining green, each with a round discal black spot near the end, the uppermost of these feathers are chestnut towards the base, with a subbasal quadrate white spot; breast and abdomen green, the feathers of the flanks edged with black; lower abdomen and under tail-coverts greenish black; tail shining bronzy green; bill black. Total length about 3.5 inches, wing 1.8, tail 1.2, bill 0.6.

*Female.* Crown dark shining green, the feathers edged with black; throat buffy white, each feather edged laterally with black; middle of the abdomen greyish; flanks washed with green; central rectrices

shining green, lateral greenish at the base, buff at the tips, and with a dark subterminal band.

*Hab.* British Guiana.

- a. ♂ ad. sk. Merumé Mts., Brit. Guiana, July (*H. Whitely*). Salvin-Godman Coll. (Type of the species.)  
 b. ♂ ad.; c, d. Roraima, Brit. Guiana, July Salvin-Godman Coll.  
 ♂ juv.; e. (*H. W.*).  
 ♀ ad. sk.

### 125. PRYMNACANTHA.

	Type.
Gouldia, <i>Bp. Consp. Av.</i> i. p. 86 (nec Adams) . . . . .	P. langsdorffi.
Popelairia, <i>Reich. Aufz. d. Col.</i> p. 12 . . . . .	P. popelairii.
Gouldomyia, <i>Bp. Rev. Zool.</i> 1854, p. 257 . . . . .	P. langsdorffi.
Prymnacantha, <i>Cab. &amp; Heine, Mus. Hein.</i> iii. p. 64 . . . . .	P. popelairii.
Tricholopha, <i>Heine, J. f. Orn.</i> 1863, p. 209.	
Mytina, <i>Muls. Ann. Soc. Linn. Lyon</i> , xxii. p. 224 (1875) . . . . .	P. letitiæ.
Mythinia, <i>Muls. Hist. Nat. Ois.-Mouches</i> , iii. pp. 235, 245 . . . . .	P. letitiæ.

*Range.* Costa Rica southwards to Bolivia and Southern Brazil.

#### *Key to the Species.*

- a. A long occipital crest: tibiæ rufous . . . . . *popelairii*, p. 428.  
 b. No occipital crest: tibiæ white.  
 a'. Lateral rectrices long and narrow.  
 a''. Pectoral spot fiery red; middle of the abdomen black . . . . . *langsdorffi*, p. 429.  
 b''. Pectoral spot blue; middle of the abdomen shining green . . . . . *conversi*, p. 430.  
 b'. Lateral rectrices much shorter and wider . . . . . *letitiæ*, p. 431.

#### 1. *Prymnacantha popelairii*.

*Trochilus popelairii*, *Du Bus, Esq. Orn.* pl. 6 (1846); *Gray, Hand-l. B.* i. p. 146.

*Gouldia popelairii*, *Bp. Consp. Av.* i. p. 86; *id. Rev. Zool.* 1854, p. 257; *Gould, Mon. Troch.* iii. pl. 127 (May 1854); *Scl. Cat. Am. B.* p. 296; *Elliot, Syn. Troch.* p. 138; *Tacz. P. Z. S.* 1882, p. 35; *id. Orn. Pér.* i. p. 302.

*Popelairia tricholopha*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 9, pl. 815. ff. 4905-7.

*Prymnacantha popelairii*, *Cab. & Heine, Mus. Hein.* iii. p. 64; *Gould, Intr. Troch.* p. 86; *Muls. & Verr. Class. Troch.* p. 78; *Berl. J. f. Orn.* 1887, p. 329.

*Tricholopha popelairii*, *Heine, J. f. Orn.* 1863, p. 209; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 235; *id. Ann. Soc. Linn. Lyon*, xxii. p. 223.

*Adult male.* Upper surface shining bronze-green, redder on the back: a transverse white band across the rump; upper tail-coverts steel-blue; crown glittering green, the occipital feathers produced

to form a long crest; throat glittering green; breast and middle of the abdomen black, sides of the abdomen sooty, the flanks washed with green; under tail-coverts blue, edged with white; tibiæ dark rufous; tail steel-blue, the shafts pure white; bill black. Total length about 4·8 inches, wing 1·35; tail, central rectrices 0·55, lateral 2·7; bill 0·6.

*Female.* Crown dark green; throat white, each feather broadly edged with black; breast and middle of the abdomen black, a large white patch on the flanks; lateral rectrices shorter than the central, tipped with white.

*Hab.* Colombia, Ecuador, and Peru.

a-h. ♂ ad.; i, j. ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
k. ♂ ad. sk.	Ecuador.	Salvin-Godman Coll.
l. ♂ ad. sk.	[Ecuador.]	Gould Coll.
m. ♀ ad. sk.	Peru? ( <i>Warszewicz</i> ?).	Gould Coll.
n. ♀ ad. sk.	"Rio."	Gould Coll.

## 2. *Prymnacantha langsdorffi.*

*Trochilus langsdorffi*, *Bonn. & Vieill. Enc. Méth.* ii. p. 574 (1794); *Temm. Pl. Col.* 66. f. 1; *Less. Ind. Gén. Troch.* p. xxxiii; *Gray, Hand-l. B.* i. p. 145.

*Colibri hirundinaceus*, *Spix, Av. Bras.* i. p. 80, pl. 81.

*Ornismya langsdorffi*, *Less. Hist. Nat. Ois.-Mouches*, pp. xx, 102, pl. 26; *id. Suppl. Ois.-Mouches*, p. 129, pl. 16; *id. Hist. Nat. Troch.* p. 101, pl. 35.

*Orthorhynchus langsdorffi*, *Less. Man. Orn.* ii. p. 77.

*Gouldia langsdorffi*, *Bp. Consp. Av.* i. p. 86; *id. Rev. Zool.* 1854, p. 257; *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 9, pl. 816. ff. 4908-10; *Gould, Mon. Troch.* iii. pl. 128 (May 1854); *id. Intr. Troch.* p. 86; *Des Murs in Cast. Voy.* i. p. 41; *Burm. Syst. Ueb.* ii. p. 357; *Sci. Cat. Am. B.* p. 296; *Sci. & Salv. P. Z. S.* 1867, pp. 753, 979; *Pelz. Orn. Bras.* p. 32; *Tacz. Orn. Pér.* i. p. 304.

*Prymnacantha langsdorffi*, *Cab. & Heine, Mus. Hein.* iii. p. 65; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 238, pl. 94; *id. Ann. Soc. Linn. Lyon*, xxii. p. 223.

*Mellisuga langsdorffi*, *Muls. & Verr. Class. Troch.* p. 79.

*Gouldia melanosternon*, *Gould, Ann. & Mag. N. H.* 1868, i. p. 323; *Sci. & Salv. P. Z. S.* 1873, p. 288.

*Trochilus melanosternon*, *Gray, Hand-l. B.* i. p. 146.

*Adult male.* Upper surface shining grass-green, more bronzy in the middle of the back; a white transverse band across the rump; upper tail-coverts like the back; crown glittering green; under surface as far as the breast glittering green, below which are a few fiery-red glittering feathers; middle of the abdomen black, on either side a large greyish-white patch; flanks washed with green; tail steel-blue, the two lateral rectrices on either side greyish, the shafts of all white; bill black. Total length about 5 inches, wing 1·45; tail, central rectrices 0·4, lateral 3; bill 0·55.

*Female.* Crown dark green; upper part of the throat black, lower

part white, each feather with a green discal spot: a maxillary stripe white; lateral rectrices greyish at the base and tipped with white.

*Hab.* Amazons Valley and Brazil.

a. ♂ ad.; b. ♀ ad. sk.	Rotuno, Ecuador ( <i>Buckley</i> ).	Gould Coll.
c. ♂ ad. sk.	Napo, Ecuador.	Gould Coll.
d. ♂ ad.; e. ♀ ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
f. ♂ ad. sk.	Amazons ( <i>E. Bartlett</i> ).	Gould Coll.
g. ♂ juv. sk.	Xeberos, Amazons, June.	E. Bartlett [C.].
h. ♂ ad.; i. ♀ ad. sk.	Pebas, Amazons, Feb. ( <i>J. Haurvell</i> ).	Gould Coll. (Types of <i>G. melanosternon</i> .)
j, k. ♂ ad.; l, m. ♂ juv.; n, o. ♀ ad. sk.	Pebas, Feb. ( <i>J. II.</i> ).	Salvin-Godman & Gould Colls.
p. ♂ ad. sk.	Novo Fribourgo, Rio ( <i>Youlds</i> ).	Salvin-Godman Coll.
q. ♂ ad. sk.	Rio.	Gould Coll.
r-u. ♂ ad.; v-x. ♀ ad. sk.	Brazil.	Gould Coll.
y, z. ♂ ad.; a'. ♀ ad. st.		Purchased.

### 3. *Prymnacantha conversi*.

*Trochilus conversi*, *Bourc. & Muls. Ann. Sc. Phys. et Nat. Lyon*, ix. p. 313 (1846); *id. Rev. Zool.* 1846, p. 314, pl. 3; *Gray, Hand-l. B. i.* p. 146.

*Gouldia conversi*, *Bp. Consp. Av.* i. p. 86; *id. Rev. Zool.* 1854, p. 257; *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 9, pl. 817. ff. 4911-4; *Gould, Mon. Troch.* iii. pl. 129 (May 1854); *id. Intr. Troch.* p. 86; *id. P. Z. S.* 1870, p. 803; *Lavr. Ann. Lyc. N. Y.* vii. p. 319, ix. p. 123; *Salv. P. Z. S.* 1867, p. 154, 1870, p. 208; *Elliot, Syn. Troch.* p. 139.

*Prymnacantha conversi*, *Cab. & Heine, Mus. Hein.* iii. p. 65; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 242; *id. Ann. Soc. Linn. Lyon*, xxii. p. 223; *Berl. J. f. Orn.* 1887, p. 223.

*Mellisuga conversi*, *Muls. & Verr. Class. Troch.* p. 79.

*Gouldia conversi æquatorialis*, *Berl. & Tacz. P. Z. S.* 1883, p. 567.

*Adult male.* Similar to that of *P. langsdorffi*, the back less bronzy, the shorter upper tail-coverts purple, the green of the crown, throat, and breast darker and less brilliant; the pectoral patch blue, with greenish tips to the feathers; abdomen and under tail-coverts shining green.

*Female.* Very similar to that of *P. langsdorffi*, but the upper tail-coverts are purple instead of green.

*Hab.* Costa Rica southwards to Ecuador.

a, b. ♂ ad.; c, d. ♀ ad. sk.	Tucurriqui, Costa Rica ( <i>Arcé</i> ).	Salvin-Godman & Gould Colls.
e. ♂ ad.; f. ♀ ad. sk.	Angostura, Costa Rica ( <i>Car-miol</i> ).	Gould Coll.
g. ♀ ad. sk.	Cordillera del Chucu, Panama ( <i>Arcé</i> ).	Salvin-Godman Coll.
h. ♂ ad. sk.	Calovevora, Panama ( <i>Arcé</i> ).	Gould Coll.



i. ♂ ad. sk.	Santa Fé, Panama ( <i>Arceé</i> ).	Salvin-Godman Coll.
j. ♂ ad.; k, l. ♀ ad. sk.	Colombia (Bogota make).	Salvin-Godman & Gould Colls.
m. ♀ ad. sk.	Baiza, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
n. ♂ ad.; o. Juv. sk.	Citado, Ecuador ( <i>Buckley</i> ).	Gould Coll.
p-r. ♀ ad. sk.	Quito, Ecuador.	Gould Coll.
s, t. Juv. sk.	Ecuador.	Salvin-Godman Coll.
u. ♂ ad. sk.	Chimbo, Ecuador, Jan. ( <i>Stolzmann</i> ).	Salvin-Godman Coll.

#### 4. *Prymnacantha letitiæ*.

*Trochilus letitiæ*, *Bourc. Ann. Sc. Phys. et Nat. Lyon*, (2) iv. p. 143 (1852).

*Gouldia letitiæ*, *Reich. Aufz. d. Col.* p. 12; *Bp. Rev. Zool.* 1854, p. 257; *Gould, Mon. Troch.* iii. pl. 130 (Sept. 1855); *id. Intr. Troch.* p. 86; *Elliot, Syn. Troch.* p. 139.

*Prymnacantha letitiæ*, *Cab. & Heine, Mus. Hein.* iii. p. 64.

*Mellisuga letitiæ*, *Muls. & Ferr. Class. Troch.* p. 79.

*Mythimna letitiæ*, *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 245.

*Mytinia letitiæ*, *Muls. Ann. Soc. Linn. Lyon*, xxii. p. 224.

*Adult male*. Similar to that of *P. langsdorffi* and *P. conversi*, but with the back, especially the shorter upper tail-coverts, more bronzy, the pectoral spot whitish, and the abdomen dusky washed with green; tail much shorter, the central rectrices longer, the lateral much wider, and all of them purple-black instead of steel-blue, the shafts beneath being white. Total length about 3.5 inches, wing 1.5; tail, central rectrices 0.55, lateral 1.35; bill 0.55.

*Hab.* Bolivia.

a. ♂ ad. sk.	[Bolivia] ( <i>ex Bourcier</i> ).	Gould Coll. (Type of the species?)
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#### 126. DISCURA.

	Type.
<i>Platurus</i> , <i>Less. Hist. Nat. Ois.-Mouches</i> . p. xxii (1829) ( <i>nec Latr.</i> )	<i>D. longicauda</i> .
<i>Trochilus</i> ( <i>Ocreatus</i> ), <i>Gould, P. Z. S.</i> 1846, p. 86	<i>D. longicauda</i> .
<i>Discosura</i> , <i>Bp. Consp. Av.</i> i. p. 84.	<i>D. longicauda</i> .
<i>Discura</i> , <i>Reich. Aufz. d. Col.</i> p. 8	<i>D. longicauda</i> .

*Range.* Southern Brazil.

#### 1. *Discura longicauda*.

*Trochilus longicauda*, *Gm. Syst. Nat.* i. p. 498; *Gray, Hand-l. B.* i. p. 144.

*Trochilus platurus*, *Lath. Ind. Orn.* p. 317; *Vieill. N. Dict. d'Hist. N.* vii. p. 370; *id. Enc. Méth.* p. 569; *Wied, Beitr.* iv. p. 96; *Less. Ind. Gén. Troch.* p. xxiv; *Cab. in Schomb. Guiana*, iii. p. 709.

L'Oiseau-Mouche à raquettes, *Aud. Ois. Dor.* i. p. 117, pl. 52.

*Ornismya platura*, *Less. Hist. Nat. Ois.-Mouches*, pp. xxii, 136, pl. 40; *id. Suppl. Ois.-Mouches*, p. 159, pl. 31.

- Trochilus bilophus*, *Temm. Pl. Col.* 18. f. 3.  
*Trochilus* (*Ocreatus*) *ligonicaudus*, *Gould, P. Z. S.* 1846, p. 86.  
*Discosura ligonicauda*, *Bp. Consp. Av.* i. p. 84.  
*Discura longicauda*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 8, pl. 706. ff. 4591-2; *Bp. Ker. Zool.* 1854, p. 256; *Gould, Mon. Troch.* iii. pl. 126 (Sept. 1858); *id. Intr. Troch.* p. 85; *Cab. & Heine, Mus. Hein.* iii. p. 65; *Sci. Cat. Am. B.* p. 296; *Muls. & Verr. Class. Troch.* p. 80; *Muls. Hist. Nat. Ois.-Mouches*, iii. p. 248; *id. Ann. Soc. Linn. Lyon*, xxii. p. 224; *Elliot, Syn. Troch.* p. 140; *Salv. Cat. Strickl. Coll.* p. 364.  
*Platurus longicaudus*, *Burm. Syst. Ueb.* ii. p. 358.  
*Discura platara*, *Reich. Aufz. d. Col.* p. 8; *id. Troch. Enum.* p. 5, pl. 706. ff. 4594-5.  
*Discura* sp., *Salv. Ibis*, 1885, p. 434.

*Adult male.* Upper surface shining grass-green, tinged with bronze in the middle of the back; crown, throat, and breast glittering grass-green; a pectoral spot of more glittering feathers, each edged with white; middle of the abdomen rich bronze, each feather with a black edge; flanks green; tail dark purple, the shafts buff, the spatules of the lateral rectrices darker and bluer; bill black. Total length about 4 inches, wing 1.7; tail, central rectrices 0.65, lateral 2; bill 0.55.

*Female.* Crown dark green; throat black, bordered with a white maxillary stripe; lateral rectrices greyish at the base and tipped with buff.

*Hab.* Guiana and Brazil.

- |                                   |                                 |   |
|-----------------------------------|---------------------------------|---|
| a. ♂ ad. sk.                      | Carimang R., Brit. Guiana, Jan. | Salvin-Godman Coll.<br>( <i>H. Whitely</i> ). |
| b. ♂ ad. sk.                      | Atapurow R., Brit. Guiana, Jan. | Salvin-Godman Coll.<br>( <i>H. W.</i> ).      |
| c-e. ♂ ad. sk.                    | (Cayenne make).                 | Gould Coll.                                   |
| f. ♂ ad.; g. ♀ ad. sk.            | Bahia ( <i>Wucherer</i> ).      | Salvin-Godman Coll.                           |
| h. ♂ ad.; i. ♂ juv.; j. ♀ ad. sk. | Bahia.                          | Gould Coll.                                   |
| k. ♂ ad. sk.                      | Bahia.                          | E. Fielding, Esq.<br>[P.]                     |
| l, m. ♀ juv. sk.                  | [Brazil.]                       | Salvin-Godman & Gould Colls.                  |
| n. Juv. st.                       |                                 | Purchased.                                    |

### 127. HELIACTIN.

- |   |                     |
|---|---------------------|
| <i>Heliactin</i> , <i>Boie, Isis</i> , 1831, p. 546. . . . .      | Type.               |
| <i>Heliactinia</i> , <i>Reich. Aufz. d. Col.</i> p. 12 . . . . .  | <i>H. cornuta</i> . |
| <i>Heliactinus</i> , <i>Burm. Syst. Ueb.</i> ii. p. 356 . . . . . | <i>H. cornuta</i> . |

*Range.* Southern Brazil.

1. *Heliactin cornuta*.

*Trochilus cornutus*, *Wied, Reise n. Bras.* ii. p. 190; *id. Beitr.* iv. p. 99; *Gray, Hand-l. B.* i. p. 145.

*Trochilus dilophus*, *Vieill. Enc. Méth.* p. 573.

*Mellisuga bilopha*, *Steph. in Shaw's Gen. Zool.* xiv. p. 251, pl. 30.

*Trochilus bilophus*, *Temm. Pl. Col.* iv. pl. 18. f. 3; *Less. Man. Ois.* ii. p. 76.

*Heliactin cornuta*, *Boie, Isis*, 1831, p. 546; *Cab. & Heine, Mus. Hein.* iii. p. 64; *Gould, Mon. Troch.* iv. pl. 212 (May 1856); *id. Intr. Troch.* p. 120; *Scl. Cat. Am. B.* p. 304; *Reinh. Vidensk. Medd. nat. For. Kjöb.* 1870, p. 107; *Pelz. Orn. Bras.* p. 32; *Muls. Hist. Nat. Ois.-Mouches*, iv. p. 4, pl. 99; *id. Ann. Soc. Linn. Lyon*, xxii. p. 225; *Elliot, Syn. Troch.* p. 116; *Allen, Bull. Am. Mus. N. H.* ii. p. 258.

*Ornismya chrysolopha*, *Less. Hist. Nat. Ois.-Mouches*, pp. xx, 55, pls. 7, 8; *id. Suppl.* p. 162, pl. 32; *id. Traité d'Orn.* p. 276.

*Trochilus chrysolophus*, *Less. Ind. Gén. Troch.* p. xxxi.

*Heliactin cornutus*, *Bp. Consp. Av.* i. p. 85; *id. Rev. Zool.* 1854, p. 256.

*Heliactinia chrysolopha*, *Reich. Aufz. d. Col.* p. 12; *id. Troch. Enum.* p. 9, pl. 814. ff. 4992-4.

*Heliactinus cornutus*, *Burm. Syst. Ueb.* ii. p. 356.

*Heliactin dilopha*, *Muls. & Verr. Class. Troch.* p. 91.

*Adult male.* Upper surface shining grass-green, a little more golden on the back; crown glittering greenish blue; superciliary feathers elongated, glittering purple, shading through gold to glittering green; sides of the head and throat black; sides of the neck and whole under surface pure white; flanks green; central rectrices green, dark at the tip, lateral white, greyish on their outer webs; bill black. Total length about 4 inches, wing 1·8; tail, central rectrices 2, lateral 0·8; bill 0·7.

*Female.* Crown green; a dusky patch below the eye; throat pale buff; rest of the under surface pure white; central rectrices green, dark at the tip, lateral rectrices white, with a wide oblique transverse subterminal black band.

*Hab.* Brazil.

- |                                       |  |                              |
|---------------------------------------|--|------------------------------|
| a. ♂ ad. sk.                          | Jaraqua, Brazil, July ( <i>Natterer</i> ). | Salvin-Godman Coll.          |
| b. ♀ ad. sk.                          | Goyaz, Brazil, Aug. ( <i>Natterer</i> ).   | Salvin-Godman Coll.          |
| c, d. ♂ ad. sk.                       | Brazil.                                    | E. Fielding, Esq.<br>[P.]    |
| e-j. ♂ ad.; k. ♂ juv.; l-n. ♀ ad. sk. | Brazil.                                    | Salvin-Godman & Gould Colls. |
| o. ♂ ad.; p. ♀ ad. st.                |  | Purchased.                   |

## Suborder CORACIÆ.

Hallux connected with the *flexor perforans digitorum*, and not with the *flexor hallucis longus*.

Spinal feather-tract well defined on the neck by lateral bare tracts, but dividing into two tracts on the upper back.

Oil-gland nude, if present.

Young hatched helpless.

(See Seebohm, *Classific. Birds*, 1890, p. 21.)

### *Synopsis of the Families.*

- |   |                               |
|---|-------------------------------|
| a. Palate ægithognathous . . . . .  | Cypselidæ (xvi. p. 434).      |
| b. Palate schizognathous . . . . .  | Caprimulgidæ (xvi. p. 519).   |
| c. Palate desmognathous.  |                               |
| a'. Basipterygoid processes present . . . . .   | Steatornithidæ (xvi. p. 653.) |
| b'. Basipterygoid processes absent or rudimentary.  |                               |
| a''. Tail-feathers ten; oil-gland absent . . . . .  | Podargidæ (xvi. p. 629).      |
| b''. Tail-feathers twelve; oil-gland nude. A large powder-down patch on each side of the rump . . . . . | Leptosomatidæ (xvii. p. 1).   |
| c''. Tail-feathers twelve. No powder-down patch on the sides of the rump . . . . .                      | Coraciidæ (xvii. p. 4).       |
| d''. Tail-feathers ten; oil-gland nude . . . . .  | Meropidæ (xvii. p. 41).       |

## Family CYPSELIDÆ.

(By ERNST HARTERT.)

The Swifts have only ten primaries and always less than nine secondaries; the wing is very long and pointed. The number of rectrices is always ten, while the Swallows have invariably twelve. Feathers with a small but well-defined aftershaft. The sternum is very characteristic, having a high keel and an unnotched posterior margin. The humerus is very short, the forearm longer and the hand extremely long. Number of phalanges of outer and median

toes reduced to three in the *Cypselina*, normal in the *Chaeturina* and *Macropterygina*. Palate ægithognathous; basipterygoid processes absent; caeca absent; semitendinosus muscle absent. Hind toe directed more or less forward (*Cypselina*) or backward (*Chaeturina* and *Macropterygina*). The mouth is split to beneath the eyes; the bill short, curved, broad at base, the gape very wide. Rictal bristles absent. (Cf. Nitzsch, Pterylographie, p. 122; Shufeldt, Journ. Linn. Soc., Zool. xx. p. 299; Stejneger, Stand. Nat. Hist. p. 436; Sharpe, Rev. Class. B. p. 81.)

They moult only once in the year; at least I am unable to find any proof of the truth of a statement recently made to the contrary.

In their habits the Swifts are aerial; their food consists entirely of insects, which they catch on the wing. They cannot therefore live in very cold climates, and northern species wander to the south early in the year. Their power of flight is enormous, and they often travel extremely long distances.

The nidification varies from the concealed nests in holes and caves of *Micropus* to the enormous pendent tube of *Panyptila*, the cup-shaped edible nest of *Collocalia*, and the small exposed nest of *Macropteryx*. Eggs invariably pure white, without gloss. Young, when hatched, naked (*Macropteryx*?).

*Range.* The whole world, except the extreme Northern and Southern regions.

The *Cypselidæ* have been placed, along with the *Trochilidæ* and *Caprimulgidæ*, in the order "*Macrochires*" or "*Strisores*." This arrangement is based on good grounds, and has much to commend it. Some recent anatomists deny the near relationship of these families. If raised to the rank of orders, *Cypseli*, *Trochili*, and *Caprimulgi* should be placed near together. I may mention the striking affinity of the nidification of *Macropteryx* and *Batrachostomus*, the latter belonging to the *Podargidæ*, a family which, in my opinion, must be placed close to the *Caprimulgidæ*. Also, from an oological point of view, the order *Macrochires* seems to be very well founded. The structure of the egg-shell in the above-mentioned families is very similar, and the various colours of the eggs of the Goatsuckers are merely protective.

I do not think it necessary to reject the oldest name of the family, which undoubtedly is *Cypselidæ*, and to alter it to *Micropodidæ*. If the law of priority is carried out in the nomenclature of the genera and species, why not follow it also in that of the higher groups, if their limits remain unchanged?

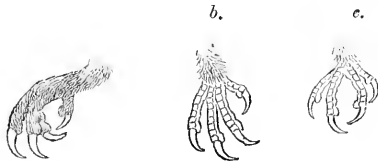
*Synopsis of the Subfamilies.*

- a. Tarsi distinctly feathered ; outer and middle toes with only three phalanges. I. *CYPSELINÆ*, p. 436.  
 arsi unfeathered or with some scanty feathers ; outer and middle toes with the normal number of phalanges.
- a'. Tarsi quite as long as or longer than middle toes ; tail short and even or only slightly furcate ; wings always reaching far beyond the end of tail ..... II. *CHÆTURINÆ*, p. 470.
- b'. Tarsi perceptibly shorter than middle toes ; tail long and deeply furcate ; wings not, or only just, reaching to the end of tail. . . . . III. *MACROPTERYGINÆ*, [p. 511.

Subfamily I. CYPSELINÆ.

*Synopsis of the Genera.*

- a. Toes all directed forward at equal intervals from each other ; generally larger birds with very strong feet.
- a'. Toes unfeathered ..... 1. *MICROPUS*, p. 436.
- b'. Toes feathered.
- a''. Tail only emarginate, outer rectrices not sharply pointed ; feathers of the breast round and full. .... 2. *ÆRONAUTES*, p. 459.
- b''. Tail very deeply forked, outer rectrices very sharply pointed ; feathers of the breast loose, whole plumage soft and silky ..... 3. *PANYPTILA*, p. 461.
- b. Toes in pairs, the outer and middle toe directed to the right, the inner and hind toe to the left ; generally smaller birds, with only moderately strong feet.
- c'. Toes unfeathered ..... 4. *TACHORNIS*, p. 462.
- d'. Toes feathered ..... 5. *CLAUDIA*, p. 469.



a. Foot of *Æronautes melanoleucus*, to show the feathered toes.  
 b. Foot of *Micropus apus*, } to show the position of the toes.  
 c. Foot of *Tachornis parva*, }

## I. MICROPUS.

	Type.
Apus, <i>Scopoli (nec Pull.)</i> , <i>Intr. Nat. Hist.</i> p. 483 (1777) . . . . .	M. apus.
Micropus, <i>Meyer &amp; Wolf</i> , <i>Taschenb.</i> i. p. 280 (1810) . . . . .	M. apus.
Cypselus, <i>Illiger</i> , <i>Prodrom.</i> p. 229 (1811) . . . . .	M. apus.
Brachyptus, <i>Meyer</i> , <i>Vög. Liv- u. Esthl.</i> p. 142 (1815) . . . . .	M. apus.

*Range.* Nearly the whole world, except the highest north. Replaced in North America by an allied genus (*Aëronautes*), and occurring in Australia as a wanderer only.

Nests in caves and holes of rocks, buildings, or sometimes trees; eggs white and usually two in number. Often more than two eggs are found, but I doubt whether one female lays more than two as a rule.

*Key to the Species.*

- a. Crown, sides and back of the neck uniform; no white collar.
  - a'. Rump uniform with the back, not white.
    - a''. Abdomen white.
      - a'''. Paler; white gular patch larger . . . . . *melba*, p. 438.
      - b'''. Darker; white gular patch smaller . . . . . *africanus*, p. 440.
    - b''. Abdomen and vent sooty or black.
      - c'''. Larger; feathers of the under surface edged with white and with a subterminal darker bar . . . . . *equatorialis*, p. 441.
      - d'''. Smaller; under surface nearly uniform sooty or black.
        - a<sup>4</sup>. Back sooty.
          - a<sup>5</sup>. Upper parts rather glossy, well defined blackish shaft-stripes on the chin . . . . . *barbatus*, p. 447.
          - b<sup>5</sup>. Upper parts less glossy, no well defined blackish shaft-stripes on the chin.
            - a<sup>6</sup>. Throat dusky white.
              - a<sup>7</sup>. Darker . . . . . *apus*, p. 442.
              - b<sup>7</sup>. Little paler . . . . . *pekinensis*, p. 444.
              - c<sup>7</sup>. Much paler . . . . . *murinus*, p. 446.
            - b<sup>6</sup>. Throat pale sooty . . . . . *unicolor*, p. 448.
          - b<sup>4</sup>. Back glossy black . . . . . *toulsoni*, p. 453.
    - c''. Abdomen sooty, vent white . . . . . *montivagus*, p. 458.
  - b'. Rump white.
    - d''. Feathers of the under surface edged with white and with a darker subterminal bar.
      - e'''. Larger . . . . . *pacificus*, p. 448.
      - f'''. Smaller . . . . . *leuconyx*, p. 450.
    - e''. Under surface unbanded.
      - g'''. Lateral rectrices more or less acute.
        - c<sup>4</sup>. Tail deeply forked, lateral rectrices very acute . . . . . } *caffer*, p. 450.
        - d<sup>4</sup>. Tail less forked, lateral rectrices less acute . . . . . } *streubeli*, p. 452.

- h*<sup>m</sup>. Lateral rectrices rounded, not acute.  
*e*<sup>l</sup>. Larger; tail emarginate ..... *subfurcatus*, p. 456.  
*f*<sup>l</sup>. Smaller; tail nearly even..... *affinis*, p. 453.  
*b*. Sides of the neck white, not uniform with the  
 crown ..... *andicola*, p. 457.

### 1. *Micropus melba*.

- The greatest Martin or Swift, *Edwards, Nat. Hist. B. i.* p. 27, pl. 27.  
*Hirundo melba, Linn. Syst. Nat. ed. x.* p. 192 (1758); *id. ed. xii.*  
 p. 345 (1766); *Gm. Syst. Nat. ii.* p. 1023 (1788); *Bechst. Gem.*  
*Naturg. Deutschl. iv.* p. 783 (1795); *Bechst. Orn. Taschenb.* p. 226.  
 La Grande Hirondelle d'Espagne, *Briss. Orn. ii.* p. 504 (1760).  
 Grand Martinet à ventre blanc, *Buff. Hist. Nat. Ois. vi.* p. 660  
 (1779); *Daubent. Pl. Enl. pl. 542.* fig. 1 (1783).  
*Hirundo alpina, Scop. Ann. I. Hist. Nat.* p. 166 (1769).  
 White-bellied Swift, *Lath. Gen. Syn. iv.* p. 586 (1783).  
 Le grand Martinet à ventre blanc, *Mont. Hist. Nat. Ois. vii.* p. 316.  
*Micropus alpinus, Mey. u. Wolf, Taschenb.* p. 282 (1810).  
*Cypselus melba, Illiger, Prodr.* p. 230 (1811); *Vieill. Nouv. Dict.*  
*xix.* p. 422 (1818); *id. Enc. Méth. p. 534* (1823); *id. Gal. Ois.*  
 p. 192, pl. 121 (1825); *Roux, Orn. Prov.* p. 238, pl. 146 (1825);  
*Brehm, Vög. Deutschl. p. 134* (1831); *Narm. Vög. Deutschl. vi.*  
 p. 115, pl. 147. fig. 1 (1833); *Gould, B. Eur. ii.* pl. 35. fig. 2  
 (1837); *Keys. u. Blas. Würbelth. Eur. p. 146* (1840); *Demidoff,*  
*Voy. Russ. Mérid. p. 204* (1840); *Mühle, Ornith. Griech. p. 27*  
 (1844); *Thomps. Nat. Hist. Ireland, p. 418* (1849); *Bp. Consp. i.*  
 p. 65 (1850); *Adams, P. Z. S. 1859, p. 175* (Cashmir); *Tristr.*  
*Ibis, 1859, p. 26, 1866, p. 77* (Palestine); *Salvin, Ibis, 1859, p. 302*  
 (E. Atlas); *Cab. & Heine, Mus. Hein. iii.* p. 84 (1860); *Powys,*  
*Ibis, 1860, p. 234* (Ionian Is.); *Jerd. B. India, i.* p. 175 (1862);  
*Wright, Ibis, 1864, p. 58* (Malta); *Scl. P. Z. S. 1865, p. 598; id.*  
*J. f. O. 1867, p. 116; Drake, Ibis, 1867, p. 425* (Tangier); *Loche.*  
*Expl. Sci. Algér., Ois. p. 98* (1867); *Deql. et Gerbe, Orn. Eur. i.*  
 p. 602 (1867); *Tytler, Ibis, 1868, p. 195* (Himalaya); *A. C. Smith,*  
*Ibis, 1868, p. 449* (Portugal); *Gray, Hand-l. i.* p. 63 (1869);  
*Borgyrevc, Vogelf. Norddeutschl. p. 65* (1869); *Fritsch, Vög. Eur.*  
 p. 84, pl. 13. fig. 4 (1870); *Elwes & Buckley, Ibis, 1870, p. 200*  
 (Turkey); *Saunders, Ibis, 1871, p. 68* (S. Spain); *Shelley, B.*  
*Egypt, p. 171* (1872); *Holtsw. P. Z. S. 1872, p. 449* (Ceylon);  
*Severtz. J. f. O. 1873, p. 345* (Turkestan); *A. B. Brooke, Ibis,*  
 1873, p. 236 (Sardinia); *Cordeauv, Ibis, 1875, p. 184* (Heligoland);  
*Irby, B. Gibraltar, p. 64* (1875); *Dresser, Severtz. Turkestan, Ibis,*  
 1876, p. 189; *Blanford, Stray Feath. v.* p. 245 (Sindh) (1877);  
*Danf. Ibis, 1877, p. 269, 1878, p. 8* (Asia Minor); *Davidson &*  
*Wenden, Stray Feath. vii.* p. 77 (Deccan) (1878); *Butl. Stray*  
*Feath. ix.* p. 379 (Maharatta); 1880; *Leyge, B. Ceylon, i.* p. 317  
 (1880); *Dresser, Hist. B. Eur. iv.* p. 603, pl. 269 (1881); *Davidson,*  
*Stray Feath. x.* p. 347, Mysore (1882); *Swinh. Ibis, 1882, p. 101;*  
*Salvin, Cat. Strickl. Coll. p. 370* (1882); *Dixon, Ibis, 1882, p. 561*  
 (Constantine); *Newt. ed. Yarr. Brit. B. ii.* p. 372 (1882); *Irby,*  
*Ibis, 1883, p. 179* (Santander); *Seeb. Ibis, 1883, p. 22* (Caucasus);  
*id. Hist. Brit. B. ii.* p. 297 (1884); *Whitehead, Ibis, 1885, p. 27*  
 (Cor-ica); *Gigl. Avif. Ital. p. 194* (1886); *ibid. p. 325* (1889);  
*Salvad. Ucc. Ital. p. 79* (1887); *Guill. Ibis, 1888, p. 113, 1889,*  
 pp. 212, 215 (Cyprus); *Koenig, J. f. O. 1888, p. 165* (Tunis);



*Saunders, Man. Brit. B.* p. 253 (1889); *Zehntner, Ibis*, 1890, p. 196 (developm.); *Saunders, Ibis*, 1891, p. 176 (Berne); *Gütke, Helgoland*, p. 441 (1891).

*Cypselus alpinus*, *Temm. Man. d'Orn.* 1815, p. 270; *ibid.* 1820, i. p. 433, pl. 8; *Thienem. Fortyfl. Vög. Eur.* p. 82 (1829); *Brehm, Vög. Deutschl.* p. 134 (1831); *Crespon, Orn. Gard.* p. 306 (1840); *Brehm, Vogelf.* p. 45 (1855); *Schalow, J. f. O.* 1876, p. 118 (Brandenb.).

*Apus melba*, *Cuv. Règne Anim.* i. p. 373 (1817).

*Micropus melba*, *Boie, Isis*, 1844, p. 165; *Stejn. Auk*, i. p. 230 (1884); *Reichen, Syst. Verz. Vög. Deutschl.* p. 26 (1889); *Hartert, Kat. Vogels. Mus. Senckenb.* p. 119 (1891).

*Cypselus melba alpinus*, { *A. E. Brehm, Verz. Samml. C. L. Brehm*,  
*C. melba microrhynchos*, { p. 3 (1866) (*teste Dresser*).

*Adult.* Mouse-brown, wings and tail rather darker; throat and abdomen white, with indications of blackish shaft-stripes, separated by a wide pectoral band of the same colour as the back, but darker; the feathers of this band as well as those of the under tail-coverts with narrow and often indistinct white edges; most of the under wing-coverts and edge of the wing bordered with whitish; feathers of the flanks like the back, with a darker subterminal bar and white edges: "bill black; toes of a dirty flesh-colour: iris dark brown" (*Naum.*). Total length about  $8\frac{1}{2}$  inches, wing 5.3 to 5.5, lateral rectrices 3.4, central 2.5, tarsi 0.6.

*Younger birds* have white edges to the dark feathers, that disappear more and more as the birds become older.

There are some very pale specimens from the Western Himalayas, and one from Belgaum, but they apparently belong to the same species.

*Hab.* The mountains of Northern Africa and Southern Europe as far north as the Alps. Eastwards through Persia along the Himalayas, and wandering south in winter to the Peninsula of India. In the Deccan they are also found breeding, while in the mountains of tropical Africa a nearly allied form is found. Accidental in the North of France, England, Heligoland, and Germany.

<i>a, b.</i> Ad. sk.	Berne, Switzerland, 30th Aug.	Tweeddale Coll.
<i>c.</i> Ad. sk.	Switzerland.	Gould Coll.
<i>d.</i> ♂ ad. sk.	Malaga, Spain, 7th Oct.	Tweeddale Coll.
<i>e.</i> ♀ ad. sk.	Vega of Granada, Spain, June.	Tweeddale Coll.
<i>f, g.</i> ♂ ad. sk.	Ain Djendeli, Algeria, May.	Salvin-Godman Coll.
<i>h.</i> ♂ ad. sk.	Constantine, Algeria, March.	Gould Coll.
<i>i.</i> Ad. sk.	Turkey.	Salvin-Godman Coll.
<i>k.</i> ♂ ad. sk.	Haskeui, Turkey, 3rd April.	Sharpe Coll.
<i>l.</i> ♂ ad.; <i>m.</i> ♀ ad. sk.	Asia Minor, June ( <i>T. Robson</i> ).	Tweeddale Coll.
<i>n, o.</i> Ad. sk.	Galilee, Palestine.	Canon Tristram [C.].
<i>p.</i> Ad. sk.	Aden, 16th March.	Major Yerbury [P.].
<i>q.</i> Ad. sk.	Al Hantal ( <i>Major Yerbury</i> ).	Hume Coll.
<i>r.</i> ♀ ad. sk.	Shiraz, Persia, 6000 ft.	India Museum.
<i>s.</i> ♂ ad. sk.	Kandahar, 2nd June.	Hume Coll.
<i>t.</i> ♀ ad. sk.	Deesa, 1st October.	Hume Coll.
<i>u.</i> Ad. sk.	Chumba State, 2nd May.	Hume Coll.
<i>v.</i> ♂ ad. sk.	Cashmere, 16th June.	Hume Coll.

<i>w.</i> Ad. sk.	Cashmere ( <i>W. E. Brooks</i> ).	Hume Coll.
<i>x.</i> Ad. sk.	Kangra ( <i>S. Pinwill</i> ).	Tweeddale Coll.
<i>y-b'</i> . Ad. sk.	N.W. Himalayas.	Pinwill Coll.
<i>e', d'</i> . ♂ ♀ ad. sk.	Koteghur.	Hume Coll.
<i>e'-h'</i> . ♂ ad.; <i>i'-l'</i> . ♀ ad. sk.	Simla, August ( <i>W. Davison</i> ).	Hume Coll.
<i>m'</i> . ♀ ad. sk.	Simla, Sept. ( <i>A. O. Hume</i> ).	Hume Coll.
<i>n'</i> . ♀ ad. sk.	Simla, 8000 ft. Aug.	Tweeddale Coll.
<i>o'</i> . ♂ ad. sk.	Landour, 7000 ft.	Hume Coll.
<i>p'</i> . ♀ ad. sk.	Bheem Tal, 10th June.	Hume Coll.
<i>q'</i> . ♀ ad. sk.	Kumaon.	Hume Coll.
<i>r'</i> . Ad. sk.	Assam.	Hume Coll.
<i>s'</i> . ♀ ad. sk.	Godavery Valley, 4th March.	Tweeddale Coll.
<i>t'</i> . ♀ ad. sk.	Khandeish, 21st Jan.	Hume Coll.
<i>u'</i> . ♀ ad. sk.	Raipur, 29th March.	Hume Coll.
<i>v'</i> . ♂ ad.; <i>w'</i> . Ad. sk.	Coimbatore, 30th June.	Hume Coll.
<i>x'</i> . ♂ ad. sk.	Sawant Wadi, 16th Jan.	Hume Coll.
<i>y'</i> . ♀ ad. sk.	Belgaum, 30th Dec.	Hume Coll.
<i>z'</i> . Ad. sk.	Coonoor, 2nd April.	Sharpe Coll.
<i>a''</i> . ♂ ad.; <i>b''</i> , <i>c''</i> . ♀ ad. sk.	Coonoor.	Hume Coll.
<i>d''</i> . ♀ ad. sk.	Palghat, 29th Oct.	Hume Coll.
<i>e''</i> . Ad. sk.	Madras ( <i>Jerdon</i> ).	Hume Coll.
<i>f''</i> . ♂ ad. sk.	Travancore ( <i>Bourdillon</i> ).	Hume Coll.
<i>g''</i> . ♂ ad. sk.	Catton Estate, Ceylon.	Col. Legge [P.].

#### Subsp. *a.* *Micropus africanus*.

Le Martinet à gorge blanche, *Lervillant, Ois. d'Afr.* v. p. 143, pl. 243 (1806) (S. Afr.).

*Cypselus alpinus africanus*, *Temm. Man. d'Orn.* 1815, p. 270 (note). 1820, i. p. 434 (note).

*Hirundo gularis*, *Steph. in Shaw's Gen. Zool.* x. p. 99 (1817).

*Cypselus gutturalis*, *Vieill. Nouv. Diet.* xix. p. 422 (1818); *id. Enc. Méth.* p. 534 (1823); *Tristr. P. Z. S.* 1867, p. 887 (dist. fr. *C. melba*); *Gurney, Ibis*, 1868, pp. 152, 460 (S. Afr.); *Gray, Hand-l.* i. p. 63, no. 720 (1869); *Layard, Ibis*, 1869, p. 72; *Fisch, Trans. Zool. Soc.* vii. p. 215 (1870) (discuss.); *Sharpe, Ibis*, 1870, p. 427; *Gurney, Anderss. B. Damara-Ld.* p. 47 (1872); *Salvad. Ann. Mus. Civic. Genov.* (2) i. p. 119 (1884); *id. op. cit.* (2) iv. p. 227 (1888).

*Cypselus fuscicollis*, *Brehm, Vogelf.* p. 45 (1855) (Afr.).

*Cypselus melba*, *Heugl. Orn. N.O.-Afr.* i. p. 140 (1869); *Shelley, Ibis*, 1875, p. 67 (S. Afr.); *Sharpe, ed. Layard's B. S. Afr.* p. 93 (1875); *Bocage, Orn. Angola*, p. 156 (1881).

*Adult.* Very similar to *M. melba*, but rather smaller, with a smaller white gular patch, a broader dark pectoral band, generally more distinct and unbroken dark shaft-lines on the white underparts, a little darker above, and with more extended dark colour on the sides and flanks. Total length about 8 to 8.5 inches, wing 8 to 8.3.

Though the smaller white gular patch and broader dark pectoral band are rather marked and the wings are generally much shorter, some specimens are difficult to distinguish, and I am therefore inclined to consider this form as only a subspecies of *M. melba*. The unbroken dark shaft-lines on the white underparts seem to be rather

characteristic, but they are also to be found in the above-mentioned pale specimen of *M. melba* from Belgaum.

*Hab.* The mountains of Africa from Shoa and Kilimanjaro southwards to Cape Colony. Apparently a resident bird in the above-named countries, while *M. melba* wanders in the cold season.

a. ♀ ad. sk.	Kilimanjaro, 5000 ft., 4th Aug.	II. C. V. Hunter, Esq. [P.].
b. ♂ ad. sk.	Otjimbingue, Damara - Land, July ( <i>C. J. Andersson</i> ).	Sharpe Coll.
c. Ad. sk.	S.E. Africa ( <i>Leyland</i> ).	Jardine Coll.
d. ♂ ad. sk.	Knysna, S. Africa, Jan. ( <i>C. J. Andersson</i> ).	Sharpe Coll.
e. Ad. sk.	S. Africa, Oct. ( <i>E. L. Layard</i> ).	Sharpe Coll.
f. Ad. sk.	Elands Post, S. Africa ( <i>Atmore</i> ).	Shelley Coll.
g. ♂ ad. sk.	Durban ( <i>Gordge</i> ).	Shelley Coll.
h. ♂ ; i. ♀ ;	Paarl, Cape Colony, Jan. ( <i>G. E. Shelley</i> ).	Shelley Coll.
k. Ad. sk.		
l. Ad. st.	Cape of Good Hope.	Sir A. Smith [C.].

## 2. *Micropus æquatorialis*.

*Cypselus æquatorialis*, *Müll. Naumannia*, 1851, p. 27 ; *id. Nouv. Ois. d'Afr.* pl. 7 (1854) ; *Scl. P. Z. S.* 1865, p. 598 ; *id. J. f. O.* 1867, p. 117 ; *Sharpe, Ibis*, 1870, p. 427 ; *Antin. & Salvad. Ann. Mus. Civ. Gen.* 1873, p. 432 (Bogos) ; *Bocage, Journ. Lisb.* 1871, p. 269, 1881, p. 123 (Angola) ; *id. Orn. Angola*, p. 157 (1881).

*Cypselus rüppelli*, *Heugl. Syst. Uebers.* no. 106 (1856) ; *id. J. f. O.* 1861, p. 421 ; *id. Orn. N.O.-Afr.* p. 141 (1869).

*Adult.* All over sooty brown with a little metallic gloss ; chin and throat whitish ; feathers of the under surface edged with white and with a subterminal dark bar ; some of the feathers of the back also with lighter edges. " Iris and feet dark brown ; bill black " (*Heuglin*). Total length a little more than 8 inches, wing 7.4 to 7.9, tail 3.5.

*Younger birds* have the throat less whitish, the secondaries with small white edges\*.

*Hab.* High mountains of Abyssinia and the Bogos country. Mr. Jackson procured three specimens at Sotik in the hills between the Kenia and the Victoria Nyanza.

a. ♀ ad. sk.	Senafé, Tigre, 7500 ft., 7th March, 1868.	Blanford Coll.
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### MICROPUS APUS and allies.

Although I have kept separate as subspecies *M. pekinensis* and *M. murinus*, I admit that I should not be able to determine every individual specimen without taking into consideration collateral evidence ; but by keeping them distinct the geographical relations

\* Through the kindness of Herr Prof. Lampert, I had the opportunity of examining the specimens collected by Heuglin, which are preserved in the Stuttgart Museum.

of the various forms are better understood. I consider this to be one of those cases the requirements of which are best met by dividing a variable form into subspecies.

### 3. *Micropus apus*.

- Hirundo apus*, *Linn. Syst. Nat.* ed. x. p. 192 (1758); *id.* ed. xii. p. 344 (1766); *Gm. Syst. Nat.* ii. p. 1020 (1788); *Bechst. Gem. Naturgesch. Deutschl.* iv. p. 779 (1795); *Bechst. Orn. Taschenb.* p. 225 (1802); *Pall. Zoogr. Rosso-Asiat.* i. p. 538 (1811).  
*Le Martinet*, *Briss. Orn.* ii. p. 512 (1760).  
*Swift*, *Lath. Gen. Syn.* iv. p. 584 (1783).  
*Le Martinet noir*, *Mont. Hist. Nat. Ois.* vii. p. 302 (1783).  
*Micropus murarius*, *Mey. u. Wolf. Taschenb.* p. 281 (1810).  
*Cypselus apus*, *Ill. Prodr.* p. 230 (1811); *Vieill. Nouv. Diet.* xix. p. 424 (1818); *id. Enc. Méth.* p. 533 (1823); *Roux, Orn. Pror.* p. 237 (1825); *Brehm, Vög. Deutschl.* p. 135 (1831); *Naum. Vög. Deutschl.* vi. p. 123, pl. 147, fig. 2 (1833); *Keys. u. Blas. Wirbelth. Eur.* p. 33 (1840); *Demidoff, Voy. Russ. Mérid.* p. 203 (1840); *Mühle, Orn. Griech.* p. 28 (1844); *Thomps. Nat. Hist. Ireland*, p. 408 (1849); *Wolley, Contr. Orn.* p. 109 (1850) (Faeroer); *Bp. Consp.* i. p. 65 (1850); *Adams, P. Z. S.* 1859, p. 175 (Cashmere); *Cab. & Heine, Mus. Hein.* iii. p. 84 (1860); *Powys, Ibis*, 1860, p. 234 (Ionian Is.); *Adams, Ibis*, 1864, p. 14 (Egypt); *Wright, Ibis*, 1864, p. 58, 1874, p. 227 (Malta); *Sperling, Ibis*, 1864, p. 283 (Mediterran.); *Tristr. P. Z. S.* 1864, p. 431; *id. Ibis*, 1866, p. 79 (Palest.); *Sci. P. Z. S.* 1865, p. 598; *id. J. f. O.* 1867, p. 117; *Degl. et Gerbe, Orn. Eur.* i. p. 601 (1867); *Gray, Hand-l.* i. p. 63, no. 717 (1869); *Borggreve, Vogelf. Norddeutschl.* p. 65 (1839); *Heugl. Orn. N.O.-Afr.* p. 142, part. (1869); *Elwes & Buckley, Ibis*, 1870, p. 200 (Turkey); *R. Gray, B. West Scott.* pp. 210, 513 (1871); *Shelley, Ibis*, 1871, p. 47 (note); *J. H. Gurney, jr., Ibis*, 1871, p. 73 (Algeria); *Shelley & Buckley, Ibis*, 1872, pp. 286, 290 (Gold Coast); *Shelley, B. Egypt*, p. 172, note! (1872); *Alst. & Brown, Ibis*, 1873, p. 59 (Archangel); *Gould, B. Great Britain*, ii. pl. 3 (1873); *Brooke, Ibis*, 1873, p. 237 (Sardinia); *Durnf. Ibis*, 1874, p. 395 (Denmark); *Goebel, J. f. O.* 1874, p. 449 (Crimea); *Irby, B. Gibraltar*, p. 63 (1875); *Sharpe, ed. Layard's B. S. Afr.* p. 90, part. (1875), & App. p. 804; *Wharton, Ibis*, 1876, p. 18 (Corsica); *Danf. Ibis*, 1878, p. 8 (Asia Minor); *Ayres, Ibis*, 1878, p. 407 (Transvaal); *id. Ibis*, 1880, p. 260; *Liebe, J. f. O.* 1878, p. 51; *Milne-Edw. & Grandid, Madagasc.* p. 189 (1879); *Seeb. Ibis*, 1880, p. 193 (Siberia); *id. Ibis*, 1882, p. 210 (Astrakhan); *Dresser, Hist. B. Eur.* iv. p. 583, pl. 266 (1881); *Newt. ed. Yarr. Brit. B.* ii. p. 364 (1882); *Salvin, Cat. Strickl. Coll.* p. 370 (1882); *Seeb. Ibis*, 1882, p. 374 (Archangel); *id. Hist. Brit. B.* ii. p. 292 (1884); *Whitehead, Ibis*, 1885, p. 27 (Corsica); *Sharpe, Ibis*, 1886, p. 498 (Bushire); *Czato, Zeitschr. ges. Orn.* 1886, p. 424 (Hungaria); *Tait, Ibis*, 1887, p. 302 (Portugal); *Lilford. Col. Fig. Brit. B.* pt. v. (1887); *Salvad. Ucc. Ital.* p. 81 (1887); *Guill. Ibis*, 1888, p. 111 (Cyprus); *Gigl. Avif. Ital.* p. 322 (1889); *Saunders, Man. Brit. B.* p. 255 (1889); *Hartwig, J. f. O.* 1889, p. 138 (Norway); *Lilford, Ibis*, 1889, p. 330 (Cyprus); *Dresser, Ibis*, 1890, p. 344; *Shelley, Ibis*, 1890, p. 168 (Arawimi R.); *Gütke, Helgoland*, p. 440 (1891).  
*Brachypus murarius*, *Mey. Vög. Liv- u. Esthl.* p. 143 (1815).

- Cypselus niger*, *Leach, Syst. Cat. M. & B. Brit. Mus.* p. 19 (1816).  
*Cypselus vulgaris*, *Steph. in Shaw's Gen. Zool.* x. p. 72 (1817).  
*Cypselus murarius*, *Tenn. Man. d'Orn.* i. p. 434, pl. ix. (1820);  
*Thiensem. Fortjfl. Vög. Eur.* p. 83 (1829); *Brehm, Vög. Deutschl.*  
 p. 135 (1831); *Gould, B. Eur.* ii. pl. 53 (1837); *Crespon, Orn.*  
*Gard*, p. 307 (1840); *Brehm, Vogelf.* p. 45 (1855).  
*Apus murarius*, *Less. Traité d'Orn.* p. 267 (1831).  
*Micropus apus*, *Boie, Isis*, 1844, p. 165; *Stejn. Auk*, i. p. 230 (1884);  
*Reichen. Syst. Verz. Vög. Deutschl.* p. 26 (1889); *Hartert, Kat.*  
*Vogels. Mus. Senckenb.* p. 119, note (1891).  
*Cypselus turrium*, *Brehm, Vogelf.* p. 46 (1855); *id. Naumannia*, 1855,  
 p. 270.  
*Cypselus aterrimus*, *Heugl. J. f. O.* 1861, p. 422.  
*Cypselus apus niger*,  
*Cypselus apus vulgaris*,  
*Cypselus apus murarius*,  
*Cypselus apus turrium*,  
 } *A. E. Brehm, Verz. Samml. C. L. Brehm,*  
 } p. 3 (1866) (*teste Dresser*).  
*Cypselus balstoni*, *E. Bartlett, P. Z. S.* 1879, p. 770 (Madagasc.);  
*Milne-Edw. & Grandid. Ois. Madag.* pt. 2. p. 189 (1882).

*Adult.* All over sooty black with a slight greenish gloss, especially in freshly moulted adult specimens; forehead a little paler than the crown; chin dusky white, generally with indications of dark shaft-stripes; under tail-coverts and under wing-coverts generally with small obsolete whitish edges; iris dark brown; bill black; feet dark brown. Total length about 7 inches, wing 6·7, central rectrices 1·7, lateral 2·9.

*Young birds* have whitish edges to many of the feathers and a whiter forehead.

Western specimens of *M. apus* are darker than Eastern, the latter being *M. pekinensis* of Swinhoe. Though they are extremely similar to *M. apus*, and most difficult to distinguish without actual comparison, I think it necessary to keep them distinct as a subspecies.

Again, *M. murinus* is much paler and seems to be a very distinct species, if typical specimens are compared with European *M. apus*. Comparing large series of *M. apus*, *M. pekinensis*, and *M. murinus*, we find it most difficult and almost impossible to draw a sharp line between them, some specimens of *M. murinus* approaching the Eastern form of *M. apus* so closely that it is almost impossible to distinguish them. I therefore think it more natural and convenient to regard *M. murinus* also as a subspecies.

*M. acuticauda*, judging from the specimens in the Hume Collection, seems to be only the immature bird of the Eastern form.

There is a specimen of *M. apus* from Asia Minor in the Seebohm Collection in which the chin is nearly uniform in colour with the breast.

*Hab.* The Western Palearctic region generally, migrating early in the year southwards to South Africa and Madagascar.

a. Ad. sk.	Bakewell, Derbyshire, July	Salvin-Godman Coll.
	( <i>O. Salvin</i> ).	
b-d. Pull. st.	Cambridge.	Purchased.
e. Ad. st.	Turnham Green.	
f. Ad. sk.	Hampstead.	Salvin-Godman Coll.

<i>g</i> , <i>h</i> . ♂ ad. ; <i>i</i> , <i>k</i> . ♀ ad. sk.	Hampstead, 16th June.	Sharpe Coll.
<i>l</i> . Imm. sk.	Erith, Kent.	Sharpe Coll.
<i>m</i> . Juv. sk.	Bray Church.	Gould Coll.
<i>n</i> , <i>o</i> . ♂ ♀ ad. sk.	Thames Valley, 2nd May.	Gould Coll.
<i>p</i> . Ad. st.	Hampshire.	G. L. Scott, Esq. [C.].
<i>q</i> . ♂ ad. ; <i>r</i> . ♀ ad. sk.	Avington, Hants, 12th May.	Shelley Coll.
<i>s</i> . ♂ ad. ; <i>t</i> . ♀ ad. sk.	Avington, May, June.	Sharpe Coll.
<i>u</i> . ♂ ad. ; <i>v</i> . Ad. sk.	Sarpsborg, Norway, July ( <i>P. S. Godman</i> ).	Salvin-Godman Coll.
<i>w</i> . ♂ ad. ; <i>x</i> . ♀ : <i>y</i> . Pull. sk.	Leyden, May ( <i>A. van Dam</i> ).	Sharpe Coll.
<i>z</i> . ♂ ad. sk.	Belgium.	Purchased.
<i>a'</i> . ♂ ad. ; <i>b'</i> . ♀ ad. sk.	Granada, Spain, March ( <i>II. Saunders</i> ).	Tweeddale Coll.
<i>c'</i> . ♂ ad. ; <i>d'</i> . ♀ ad. sk.	Valencia, Spain, March ( <i>II. Saunders</i> ).	Tweeddale Coll.
<i>e'</i> . Ad. sk.	Tangier ( <i>Oleese</i> ).	Tweeddale Coll.
<i>f'</i> . Ad. sk.	Tunis.	Purchased.
<i>g'</i> . Ad. sk.	Malta ( <i>A. L. Adams</i> ).	Jardine Coll.
<i>h'</i> . Ad. sk.	Hermon, Palestine.	Canon Tristram [C.].
<i>i'</i> . Ad. sk.	Rasheiga, Palestine.	Canon Tristram [C.].
<i>k'</i> . ♂ ad. ; <i>l'</i> . ♀ ad. sk.	Asia Minor, May, June ( <i>T. Robson</i> ).	Tweeddale Coll.
<i>m'</i> . Ad. sk.	Trebizond ( <i>Dickson &amp; Ross</i> ).	Gould Coll.
<i>n'</i> . Ad. sk.	Bushire.	A. J. V. Palmer, Esq. [P.].
<i>o'</i> . ♀ ad. sk.	Shoa ( <i>Sir W. C. Harris</i> ).	India Museum.
<i>p'</i> . Ad. sk.	Abyssinia ( <i>W. Jesse</i> ).	Shelley Coll.
<i>q'</i> . ♂ ad. sk.	Senafé, Abyssinia, 24th April ( <i>Jesse</i> ).	Sharpe Coll.
<i>r'</i> . ♂ ad. ; <i>s'</i> . Juv. sk.	Maragaz, Bogos, 27th July ( <i>Jesse</i> ).	Sharpe Coll.
<i>t'</i> . ♂ juv. sk.	Maragaz, July ( <i>Jesse</i> ).	Tweeddale Coll.
<i>u'</i> . ♂ ad. ; <i>v'</i> , <i>w'</i> . Juv. sk.	Anseba Valley.	Blanford Coll.
<i>x'</i> . Ad. sk.	Cape Coast, Feb. ( <i>T. E. Buckley</i> ).	Shelley Coll.
<i>y'</i> . Ad. sk.	Fantee.	Shelley Coll.
<i>z'</i> . Ad. sk.	Yambuya, Upper Congo.	Jameson Coll.
<i>a''</i> . ♀ ad. sk.	Matabele-Land ( <i>F. Oates</i> ).	W. E. & C. G. Oates, Esqrs. [P.].
<i>b''</i> , <i>c''</i> . Ad. sk.	South Africa ( <i>Andersson</i> ).	Sharpe Coll.
<i>d''</i> . Ad. sk.	S. Atlantic, 10° S., 35° W.	Capt. Beckett [P.].
<i>e''</i> . ♀ imm. sk.	Betsileo, Int. Madagascar.	Purchased.
	(Type of <i>Cypselus balstoni</i> , Bartl.)	
<i>f''</i> , <i>g''</i> . Skeletons.	England.	Purchased.
<i>h''</i> . Sternum.	England.	T. Ingall, Esq. [P.].
<i>i''</i> . Sternum.	S. Germany.	Dr. A. Günther.
<i>h'</i> . Skull.	S. Germany.	Dr. A. Günther.

Subsp. *a*. *Micropus pekinensis*.

*Cypselus apus*, *Jerdon (nec Linn.)*, *B. India*, p. 177 (1862); *Tacz. J. f. O.* 1872, p. 351 (E. Siber.); ? *Severtz. J. f. O.* 1873, p. 343 (Turkestan); ? *Dresser, Severtz., Ibis*, 1876, p. 189 (Turkestan).

*Cypselus acuticauda*, *Jerd. B. India, Suppl.* p. 870, note ex *Blyth MS.* (1864); *Blyth, Ibis*, 1865, p. 45 (descr., Nepal); *id. Ibis*, 1866, p. 339; *Jerd. Ibis*, 1871, p. 355; *Hume, Str. F.* ii. p. 156 (1874); *Scully, Str. F.* iv. p. 132 (1876); *Gray, Hand-l.* i. p. 63 (1869).

*Cypselus pekinensis*, *Swinh. P. Z. S.* 1870, p. 435 (China); *id. P. Z. S.* 1871, p. 345 (India); *Scully, Str. F.* iv. p. 132 (1876); *id. Ibis*, 1881, p. 428 (Gilgit); *David et Oust. Ois. Chine*, p. 68 (1877); *C. Swinh. Ibis*, 1882, p. 101; *Sharpe, Yarkand Miss., Aves*, p. 112 (1891).

This form is a little paler on the upper parts, especially on the forehead and slightly so on the tail. In all other respects it resembles *M. apus*. Typical specimens of this form are exactly intermediate between *M. apus* and typical *M. murinus*.

*Hab.* As far as I can judge from the series before me, all Asiatic birds from Sindh eastwards belong to this form. They wander southwards in the cold season, and seem to go even to South Africa.

The bird described as *Cypselus shelleyi*\* by Salvadori (type examined), and the one mentioned by myself in the 'Katalog Vogels. Senckenb. Mus.' p. 119, no. 1826 c, both from Abyssinia, are no doubt identical *inter se*, and also with two skins from Abyssinia in the British Museum; but they are extremely similar to the type of *M. pekinensis*. Besides, they most closely resemble a specimen of *M. apus* from South Africa in Mr. Dresser's collection and one from England in the British Museum, both apparently in a somewhat faded plumage, so that I am inclined to refer them to the latter species. Several other specimens of *M. apus* nearly approach them, as also does one of the Eastern form from Gilgit. However, further investigations in Shoa and Abyssinia are necessary, to show whether there is any constancy in the modification of colour in Abyssinian Swifts. At present I believe that, while *M. murinus* is the only species that breeds in Egypt, and *M. apus* passes that country on migration, the darker form reoccurs in the mountains of Abyssinia and Shoa. From various circumstances, and from the dates on which Jesse's and Salvadori's (Ragazzi's) specimens were killed, I conclude that these birds cannot be migrants.

a. ♀ imm. sk.	Shiraz, Persia, 4760 ft.	Sir O. St. John [C.].
b. ♂ ad.; c. ♀ ad. sk.	Ferghana, April, June.	Severtzoff Coll.
d. ♂ ad.; e. ♂ imm. sk.	Yarkand ( <i>J. Scully</i> ).	Hume Coll.
f. Ad. sk.	Tashgaom, Aug. 17 ( <i>F. Stoliczka</i> ).	India Museum.
g. ♀ ad. sk.	Kargalik, Nov. ( <i>F. Stoliczka</i> ).	India Museum.
h. Imm. sk.	Lukung, Sept. 20 ( <i>F. Stoliczka</i> ).	India Museum.
i, k. Ad. sk.	Kashgar ( <i>Bellew</i> ).	India Museum.

\* ? *Cypselus dubius*, *Antin. Cat. descr. Ucc. Afr.* p. 25 (1864) (juv.).  
*Cypselus apus*, *Finsch, Trans. Zool. Soc.* vii. p. 213 (1870) (Abyss.).  
*Cypselus shelleyi*, *Salvad. Ann. Mus. Civ. Gen.* xxiv. p. 227 (1853) (Shoa).

<i>l.</i> Ad. sk.	Afghanistan.	India Museum.
<i>m, n.</i> ♂ ♀ ad. sk.	Kandahar, March, April.	Swinhoe & Hume Colls.
<i>o.</i> Ad. sk.	Safed Koh, Afghan. ( <i>W.</i> <i>Ramsay</i> ).	Tweeddale Coll.
<i>p, q.</i> ♀ ad. sk.	Gilgit, 5000 & 10,000 ft., July.	Biddulph Coll.
<i>r.</i> Ad. sk.	Sonamurg, Aug. ( <i>J. Biddulph</i> ).	India Museum.
<i>s.</i> Ad. sk.	Dras, July 11 ( <i>J. Biddulph</i> ).	Tweeddale Coll.
<i>t, u.</i> ♂ ♀ ad. sk.	Cashmere.	Hume Coll.
<i>v, w.</i> Ad.: <i>x-b'</i> .	Hazara Distr. (Thandianee, Imm. sk. <i>Radcliffe</i> ).	Hume Coll.
<i>e'</i> . Ad. sk.	Lipi, N.W. Prov. ( <i>Jerdon</i> ).	Gould Coll.
<i>d'</i> . Ad. sk.	Peking, June 2.	Hume Coll.
<i>e'</i> . ♂ ad. sk.	Port Blair, Andamans, July 30.	Hume Coll.
<i>f, g',</i> ♂ ♀ ad. sk.	Potchefstroom, S. Africa, Jan.	J. H. Gurney, Esq. [P.].

### Subsp. $\beta$ . *Micropus murinus*.

*Cypselus apus*, *Webb & Berth. Orn. Canar.* p. 23 (1841); *Bolle, J. f. O.* 1857, p. 322 (Canar.); *Drake, Ibis*, 1867, p. 425 (Tangier); *Heugl. Orn. N.O.-Afr.* p. 142, part. (var. *murinus*) (1869); *Hartwig, J. f. O.* 1886, p. 457 (Madeira)\*.

*Cypselus murarius*, *Vern. Harc. Ann. & Mag. Nat. Hist.* xv. p. 437 (1855).

*Cypselus murinus*, *Brehm, Vogelf.* p. 46 (1855); *Kaiser, Ornis*, 1890, p. 466 (Egypt).

*Cypselus pallidus*, *Shelley, Ibis*, 1870, p. 445, 1871, p. 47; *id. B. Egypt*, p. 172 (1872); *Irby, Ibis*, 1872, p. 199, 1879, p. 343; *id. B. Gibraltar*, p. 63 (1875); *Saunders, P. Z. S.* 1872, p. 356 (Granada); *Godm. Ibis*, 1872, p. 170 (Madeira & Canar.); *Wright, Ibis*, 1874, p. 226 (Malta); *Sharpe, ed. Layard's B. S. Afr.* p. 92 (1875); *Reid, Zoologist*, 1878, p. 25; *Dresser, Hist. B. Eur.* iv. p. 597, pl. 268 (1881); *Bocage, Orn. Angola*, p. 158 (1881); *Sharpe, Ibis*, 1886, p. 487 (Fao); *Gigl. Arif. Ital.* p. 193 (1886); *id. ibid.* 1889, p. 325; *Salvad. Ucc. Ital.* p. 80 (1887); *Tristr. Ibis*, 1889, p. 23 (Canar.); *M. Waldo, Ibis*, 1889, p. 509; *Lilford, Ibis*, 1889, p. 330 (Cyprus); *Koenig, J. f. O.* 1890, p. 269 (Madeira), p. 346 (Canar.).

*Micropus pallidus*, *Stejn. Auk*, i. p. 230 (1884).

*Micropus apus murinus*, *Hartert, Kat. Vogels. Mus. Senckenb.* p. 119 (1891).

Similar to *M. apus*, but much paler, of a real mouse-colour, the whitish colour on the throat more extended, and the wings a trifle shorter in the average. Wing 6.5 to 6.7 inches.

Western and Mediterranean birds are darker than those from Egypt and the Persian Gulf, so that they often closely resemble Eastern specimens of *M. apus*.

\* When we consider that *M. murinus* breeds in most of the northern parts of Africa, while *M. apus* passes through on migration, it must be evident that in some cases it is impossible to decide which species is meant in older writings. I therefore give references to those authors only whose notes make it possible to distinguish between those races.



There is a specimen from Benguela in which the chin is nearly uniform in colour with the breast.

*Hab.* From Madeira and the Canary Islands through Southern Spain and some of the islands in the Mediterranean, the greater part of Northern Africa to Egypt and Bogos-land, and as far east as the Persian Gulf and Sindh. It wanders to South Africa in winter, where, however, it is not found further south than Damara-land.

<i>a, b.</i> Ad. sk.	Teneriffe, Mar. 28 ( <i>F. D. G.</i> ).	Salvin-Godman Coll.
<i>c.</i> ♂ ad. sk.	Madeira, June 18 ( <i>F. D. G.</i> ).	Salvin-Godman Coll.
<i>d.</i> ♂ ad. sk.	Madeira.	W.T. Carruthers, Esq. [P.]
<i>e.</i> ♂ ad. sk.	Gibraltar, April 21.	Lt.-Col. Irby [P.]
<i>f.</i> ♂ ad.; <i>g, h.</i> ♀ ad. sk.	Malaga ( <i>Saunders</i> ).	Tweeddale Coll.
<i>i.</i> ♀ ad. sk.	Andalusia, May 7.	Lt.-Col. Irby [P.]
<i>k.</i> Imm. sk.	Malta.	Adams Coll.
<i>l.</i> ♀ imm. sk.	Crete, March 27.	Capt. Verner [P.]
<i>m.</i> Ad. sk.	Upper Egypt.	Purchased.
<i>n.</i> ♂ ad. sk.	Egypt, Feb. 12.	Shelley Coll. (Type of <i>C. pallidus.</i> )
<i>o.</i> ♂ ad. sk.	Egypt.	Shelley Coll.
<i>p.</i> Ad. sk.	Egypt, Nov. 26.	J. H. Gurney, Esq. [P.]
<i>q.</i> Ad. sk.	Cataracts of Nile.	Gould Coll.
<i>r.</i> Ad. sk.	Benguela.	Monteiro Coll.
<i>s, t.</i> Ad. sk.	Fao, Persian Gulf.	W. D. Cuming, Esq. [P.]
<i>u, v.</i> ♂ ad. sk.	Muscat, Feb. 23 ( <i>A. O. H.</i> ).	Hume Coll.
<i>w, x.</i> ♂ ♀ ad. sk.	Karachi, Sindh, Feb. 7.	Hume Coll.

#### 4. *Micropus barbatus*.

- Cypselus apus*, Gurney, *Ibis*, 1863, p. 320; *id. Ibis*, 1865, p. 264  
*Finsch*, *Trans. Zool. Soc.* vii. p. 213 (1870) (discuss.); *Sharpe*, *ed.*  
*Layard's B. S. Afr.* p. 90, part. (1875).  
*Cypselus barbatus*, *Scl. P. Z. S.* 1865, p. 599 (S. Afr.; *ex Temm. MS.*);  
*Tristr. P. Z. S.* 1867, p. 887; *Finsch*, *Trans. Zool. Soc.* vii. p. 214  
(1870) (discuss.); *Gurney in Anderss. B. Damara-Ld.* p. 47 (1872).

Nearly allied to *M. apus*, but larger, the feathers of the flanks and abdomen with whitish edges, the dusky-white chin with well-defined blackish-brown shaft-stripes, whereas in *M. apus* these are only indicated and often hardly visible. General colour as dark as in the darkest Western specimens of *M. apus*. Wing 7.1 to 7.4 inches, central rectrices 2.1, lateral 3.2.

*Hab.* Known from the Cape Colony only.

Although the majority of authorities have come to the conclusion that there is no such species as *M. barbatus*, I cannot agree with them. It is easily distinguished by the characters given above, and I do not doubt that the whitish edges to the feathers of the flanks and abdomen are a constant character, as the birds before me appear to be fully adult. The greenish gloss is rather strong. While *M. barbatus* is probably a resident in South Africa, the true *M. apus* appears there as a migrant and in large numbers.

a. ♂ ad. sk.	Cape Town, Nov. 9 ( <i>C. J. Andersson</i> ).	Tweeddale Coll.
b. Ad. sk.	South Africa ( <i>Layard</i> ).	Sharpe Coll.
c. Ad. sk.	Cape.	Purchased.
d. ♂ ad. st.	Cape.	Sir A. Smith [C.].

### 5. *Micropus unicolor*.

- Cypselus murarius*, *Heineken, Brewst. Journ.* p. 232 (1829); *Keulemans, Nederl. Tijdschr. Dierk.* 1866, p. 364 (Cape Verde).  
*Cypselus unicolor*, *Jard. Edinb. Journ. Nat. & Geogr. Sc.* i. p. 242, pl. vi. (1830); *Jard. & Selby, Ill. Orn.* pl. 83 (1839) (Madeira); *Webb & Berth. Orn. Canar.* p. 24 (1841); *Gould, Voy. 'Beagle,'* ii. p. 41 (1841) (Cape Verde Is.); *Bp. Consp.* i. p. 65 (1850); *Vernon Harcourt, P. Z. S.* 1851, p. 144 (Madeira); *Bolle, J. f. O.* 1857, p. 323; *Newton, Ibis*, 1863, pp. 186, 192 (Madeira); *Scl. P. Z. S.* 1865, p. 600; *id. J. f. O.* 1867, p. 119; *Gray, Hand-l.* i. p. 63, no. 718 (1869); *Dohrn, J. f. O.* 1871, p. 9 (Cape Verde); *Godman, Ibis*, 1872, p. 170 (Canar.); *Dresser, Hist. B. Eur.* iv. p. 601, pl. 268 (1881); *Reid, Ibis*, 1887, p. 434; *M. Waldo, Ibis*, 1889, p. 4; *Tristr. Ibis*, 1889, pp. 23, 25, 30; *Koenig, J. f. O.* 1890, p. 270 (Madeira), p. 342 (Canar.).  
*Micropus unicolor, Stejn. Auk*, i. p. 230 (1884); *Hocke, Zeitschr. f. Oolog.* 1891, p. 17 (nest and egg); *Hartwig, Ber. Sept. Sitz. D. Orn. Ges.* p. 7 (1891).

*Adult.* Coloured like *M. apus*, but the chin not whitish, only a little lighter than the breast. A much smaller bird than *M. apus* and its allies; tail more deeply forked. Total length about 6 inches, wing 5.8 to 6, lateral rectrices 3, central 2.8.

*Hab.* Madeira and the Canary Islands. Also observed on the Cape Verde Islands, but possibly as a straggler only.

Radde's statement\* that this bird occurs in the Caucasus (Küs-jürdi) and is not a distinct species is no doubt incorrect.

a. Ad. sk.	Madeira.	Dr. Halley [C.].
b. Ad. sk.	Madeira.	Gould Coll.
c. ♂ ad. sk.	Madeira.	W.T. Carruthers, Esq. [P.].
d. ♂ ad. sk.	Madeira, June 27 ( <i>F. D. G.</i> ).	Salvin-Godman Coll.
e, f. Ad. sk.	Teneriffe, April.	Salvin-Godman Coll.
g. ♂ ad. sk.	Teneriffe, April 4 ( <i>J. G. Reid</i> ).	Shelley Coll.
h. Ad. sk.	[Africa?]	Gould Coll.

### 6. *Micropus pacificus*.

- Hirundo pacifica*, *Lath. Index Orn. Suppl.* p. 58 (1801); *Steph. Gen. Zool.* x. p. 132 (1817).  
*Hirundo apus*, var. *β. leucopyga*, *Pall. Zoogr. Rosso-Asiat.* i. pp. 539, 540 (1811).  
*Cypselus anstralis*, *Gould, P. Z. S.* 1839, p. 141; *Blyth, J. As. Soc. Beng.* xi. p. 886 (1842); *Gould, B. Austral.* ii. pl. 11 (1848); *Rosenb. J. f. O.* 1864, p. 117; *Finsch, Neu-Guinea*, p. 162 (1865); *Diggle, B. Austral.* p. 20, pl. 20 (1877).

\* *Ornis Caucas.* p. 293.

*Cypselus vittatus*, *Jard. & Selby, Ill. Orn.* iv. pl. 39 (1843); *Blyth, Cat. B. Mus. A. S. Beng.* p. 86 (1849); *Bp. Consp.* i. p. 65 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Comp.* i. p. 385 (1854); *Swinh. Ibis*, 1860, pp. 48, 427 (Amoy); *id. Ibis*, 1861, pp. 254, 328, 1863, p. 253 (Formosa); *id. P. Z. S.* 1863, p. 263 (China); *Blyth, Ibis*, 1863, p. 369 (Moulmein).

*Micropus vittata*, *Boie, Isis*, 1844, p. 165.

*Micropus australis*, *Boie, ibid.*

*Cypselus pacificus*, *Blyth, J. As. Soc. Beng.* xiv. pp. 212, 548 (1843); *Bp. Consp.* i. p. 65 (1850); *Swinh. P. Z. S.* 1863, p. 263; *Sel. P. Z. S.* 1865, p. 599; *id. J. f. O.* 1867, p. 118; *Gould, Handb. B. Austral.* i. p. 105 (1865); *Gray, Hand-l.* i. p. 64, no. 727 (1869); *Swinh. Ibis*, 1870, p. 89 (Hainan), 1874, p. 434; *id. P. Z. S.* 1871, p. 345; *Tacz. J. f. O.* 1872, p. 35 (E. Siber.); *Hume, Str. F.* ii. p. 469 (Tenasserim); *id. ibid.* iii. pp. 14, 43, viii. p. 47 (Malay Penins.); *Hume & Davison, Str. F.* vi. p. 48 (Tenasserim); *Prjev. in Rowl. Orn. Misc.* ii. p. 159 (1877); *Blak. & Pryer, Ibis*, 1878, p. 231 (Japan); *Sharpe, Journ. Linn. Soc.* xiii. p. 494 (1878) (S. New Guinea); *Salvad. Ucc. Borneo*, p. 119 (1874); *Seeb. Ibis*, 1879, p. 31 (Japan); *Salvad. Orn. Papuasias*, i. p. 534 (1880); *Hume, Str. F.* ix. p. 246 (Cachar); *id. ibid.* x. p. 185 (Pegu) (1883); *Oates, B. Burmah*, ii. p. 1 (1883); *Hume, Str. F.* xi. p. 31 (Manipur) (1888); *Salvad. Ann. Mus. Civ.* xxv. p. 573 (1888); *Seeb. B. Japan*, p. 177 (1890).

*Cypselus apus*, part., *Radde, Reis. Sibir., Vög.* p. 130 (1863).

*Micropus pacificus*, *Stejn. Bull. U.S. Nat. Mus.* no. 29, p. 321 (1885); *Hartert, Kat. Vogels. Mus. Senckenb.* p. 119, no. 1828 (Java) (1891).

*Adult.* Upper plumage dark blackish brown with a greenish gloss, the feathers narrowly edged with whitish brown, these edges becoming more indistinct if the birds are quite adult; a band across the rump pure white, with narrow brown shaft-stripes; chin and throat white, with brown shaft-stripes; remainder of the lower parts, under wing-coverts, and under tail-coverts brown, with white edges and blackish subterminal bars to the feathers in all ages: "iris brown; bill black; feet pinkish; claws dark brown" (*Oates*). Total length nearly 7 inches, wing 7 to 7.3, lateral rectrices 3.3, central 2.1, tarsus 0.45.

*Hab.* Mongolia, Baikal, and the Amoor in the North, Assam, Cachar, and Burmah in the West, and extending over China and Japan to Australia, where it is probably only a winter visitor.

<i>a.</i> ♀ ad. sk.	Siberia, June.	
<i>b.</i> ♂ ad. sk.	Salair, N.W. Altai, July 30.	Dr. O. Finsch [C.]
<i>c.</i> ♂ ad. sk.	Siberia.	Tweeddale Coll.
<i>d, e.</i> ♂ ♀ ad. sk.	N.W. Mongolia, July.	M. N. Severtzoff [C.]
<i>f, g.</i> ♂ ♀ ad. sk.	Chefoo, China, June ( <i>Swinhoe</i> ).	Tweeddale Coll.
<i>h.</i> Ad. sk.	Takow, China, March 22 ( <i>Swinhoe</i> ).	Hume Coll.
<i>i.</i> Ad. sk.	Amoy, Nov. ( <i>Swinhoe</i> ).	Hume Coll.
<i>k.</i> Ad. sk.	Amoy.	Hume Coll.
<i>l.</i> Ad. sk.	Canton ( <i>Johnston</i> ).	Hume Coll.
<i>m.</i> ♀ ad. sk.	China.	Gould Coll.

<i>n.</i> Ad. sk.	Formosa ( <i>Swinhoe</i> ).	Tweeddale Coll.
<i>o.</i> Ad. sk.	Japan, May.	Hume Coll.
<i>p.</i> Ad. sk.	Nagasaki, Japan.	P. Ringer, Esq. [P.].
<i>q.</i> ♂ ad. sk.	Nagasaki, March 18.	P. Ringer, Esq. [P.].
<i>r, s.</i> ♂ ♀ ad. sk.	Nagasaki, May 30.	P. Ringer, Esq. [P.].
<i>t.</i> ♀ ad. st.	Cape York (Voy. H.M.S. 'Rattlesnake,' <i>Macgillivray</i> ).	Capt. Stanley [P.].
<i>u, v, w.</i> Ad. sk.	Cape York, Dec. ( <i>Macgillivray</i> ).	Capt. Stanley [P.].
<i>x.</i> Ad. sk.	Cape York.	Gould Coll.
<i>y.</i> Ad. sk.	Moreton Bay.	Gould Coll.
<i>z, a', b'.</i> Ad. sk.	Queensland ( <i>Cockerell</i> ).	Salvin-Godman Coll.
<i>c'.</i> Ad. sk.	Penang ( <i>Cantor</i> ).	India Museum.
<i>d'.</i> ♀ ad. sk.	Thayetmyo, Burma, Feb. 25.	E. W. Oates, Esq. [C.].
<i>e'.</i> ♀ ad. sk.	Amherst, July ( <i>Davison</i> ).	Hume Coll.
<i>f'.</i> ♂ ad. sk.	Bankasoon, Dec. 22 ( <i>Davison</i> ).	Hume Coll.
<i>g', h'.</i> ♂ ♀ ad. sk.	Sadiya, June 20 ( <i>J. Cockburn</i> ).	Hume Coll.
<i>i'.</i> Ad. sk.	Dilkooshab, Cachar, Sept.	Hume Coll.
<i>k'.</i> Ad. sk.	Bootan ( <i>Pemberton</i> ).	India Museum.

### 7. *Micropus leuconyx*.

*Cypselus*, sp. ? *Blyth, J. As. Soc. Beng.* xi. p. 886 (1842).

*Cypselus leuconyx*, *Blyth, J. As. Soc. Beng.* xiv. p. 212 (1845); *Bp. Consp.* i. p. 65 (1850); *Horsf. & Moore, Cat. B. Mus. E. Ind. Comp.* i. p. 109 (1854); *Jerd. B. Ind.* i. p. 179 (1862); *Scl. P. Z. S.* 1865, p. 600; *id. J. f. O.* 1867, p. 119; *Blyth, Ibis*, 1865, p. 45 (note), 1866, p. 339, 1870, p. 161; *Tytler, Ibis*, 1868, p. 195; *Jerd. Ibis*, 1871, p. 354; *Bull. Str. F.* ix. p. 379, Mahratta (1880).

*Adult.* In colour quite similar to *M. pacificus*, but altogether much smaller: "iris dark brown; bill blackish; feet flesh-colour" (*Radcliffe*). Total length about 6 inches, wing 6·3, lateral rectrices 2·6, central 1·75, tarsus 0·35.

*Hab.* As yet only known from the Himalayas and rocky hills in Central India, but further investigation will probably add more to the knowledge of its distribution.

<i>a.</i> ♂ ad. sk.	Hazara District, July 10 ( <i>Radcliffe</i> ).	Hume Coll.
<i>b.</i> Ad. sk.	Simla, June 3.	Hume Coll.
<i>c.</i> Ad. sk.	Chumba, Himalaya.	Pinwill Coll.
<i>d.</i> Ad. sk.	Bootan ( <i>Pemberton</i> ).	India Museum.
<i>e.</i> Ad. sk.	India.	Gould Coll.
<i>f.</i> Ad. sk.	[India.]	Gould Coll.

### 8. *Micropus caffer*.

? *Martinet à croupion blanc, Levaill. Ois. d'Afr.* pl. 244 (1806).

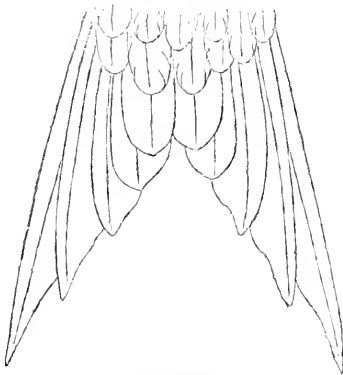
? *Cypselus leucorrhous, Steph. Gen. Zool.* x. p. 98 (1817).

? *Hirundo nigra, Vieill. Enc. Méth.* p. 525 (1823).

*Cypselus caffer, Licht. Verz. Doubl.* p. 58 (1823) (Caffraria et Nubia); *Bp. Consp.* i. p. 65 (1850); *Scl. P. Z. S.* 1865, p. 600 (part.); *id. J. f. O.* 1867, p. 120 (part.); *Gurney, Ibis*, 1865, p. 264, 1868, pp. 50, 152 (S. Afr.); *Gray, Hand-l.* i. p. 63; *Heugl. Orn. N.O.-*

*Afr.* i. p. 143, part. (1869); *Shelley, Ibis*, 1875, p. 67 (S. Afr.), 1882, p. 242 (Mashoona); *Sharpe, ed. Layard's B. S. Afr.* p. 92 (1875); *Barratt, Ibis*, 1876, p. 197 (S. Afr.); *Ayres, Ibis*, 1878, p. 406, 1884, p. 222 (Transvaal).  
*Cypselus pygargus, Temm. Pl. Col.* 460 (1828); *Bp. Consp.* i. p. 65 (1850); *Polz. Voy. Novara, Vög.* p. 38 (1865) (Cape).  
*Micropus caffer, Boie, Isis*, 1844, p. 165; *Hartert. Kat. Vogel's. Mus. Senckenb.* p. 119 (1891).

*Adult.* Tail deeply forked, lateral rectrices very acute. Head and wings brown with a slight metallic gloss, tail darker; back and abdomen nearly pure black with a steel-blue gloss; chin and throat white, a white band across the rump, shafts of the feathers brown; secondaries, except the innermost, with very perceptible whitish margins. Total length about 6 inches, wing 5.8, lateral rectrices 3, central 1.8.



Tail of *Micropus caffer*.

*Hab.* Southern Africa, replaced in the mountains of Abyssinia and the Bogos country by a smaller form, which probably wanders in winter to the Congo.

a. Ad. sk.	Cape of Good Hope.	Gould Coll.
b. Ad. sk.	Cape of Good Hope.	J. Verreaux Coll.
c. ♂ ad.; d. ♀ ad. sk.	Cape Town, Feb. 7.	Shelley Coll.
e. ♀ ad. sk.	Caledon, Oct. 10 ( <i>Butler</i> ).	Shelley Coll.
f. ♂ ad. sk.	Knysna, March 10 ( <i>Andersson</i> ).	Sharpe Coll.
g. ♂ ad. sk.	Knysna, March ( <i>Andersson</i> ).	Tweeddale Coll.
h. Ad. sk.	George ( <i>H. Atmore</i> ).	Sharpe Coll.
i. Ad. sk.	George ( <i>H. Atmore</i> ).	Shelley Coll.
k, l. Ad. sk.	Kingwilliamstown.	C. Trevelyan, Esq.
m. ♀ ad. sk.	Potchefstroom, Oct. 24.	[C.] J. H. Gurney, Esq.
n. ♂ ad. sk.	Natal ( <i>Cutter</i> ).	[P.] Sharpe Coll.

Subsp. *a.* **Micropus streubeli.**

- Cypselus caffer*, *Cab. & Heine, Mus. Hein.* iii. p. 85 (1860) (Senaar); *Finsch, Trans. Zool. Soc.* vii. p. 216 (1870) (Abyss.); *Hartl. Abh. naturw. Ver. Bremen*, xii. p. 32 (1891).  
*Cypselus streubeli*, *Hartl. J. f. O.* 1861, p. 418.  
*Cypselus abyssinicus?*, *Heugl. J. f. O.* 1861, p. 422.  
*Cypselus caffer orientalis*, *Heugl. Orn. N.O.-Afr.* i. p. 143 (1869); *Sharpe, Ibis*, 1870, p. 427 (discuss.).  
*Cypselus gularis*, *Heugl. Orn. N.O.-Afr.* i. p. 143, note MS. (1869); *Cab. J. f. O.* 1878, p. 236 (*ex Heugl.*).

Only distinguished from the Southern *M. caffer* by its much smaller size, which is even perceptible in the smaller size of the bill, and perhaps also by the less extended white patch on the throat: "iris dark brown; bill and feet blackish" (*Heugl.*). Wing 5.4 inches, lateral rectrices 2.7, central 1.6.

*Hab.* Mountains of Abyssinia, the Bogos country, and Uganda (*Jackson*). Two specimens from the Congo belong to this form. Henglin says that this bird is a wanderer in North-eastern Africa. Lichtenstein records it from "Nubia."

- |                        |  |                 |
|------------------------|--|-----------------|
| <i>a.</i> ♀ ad. sk.    | Rayrayguddi, Abyssinia, May 27<br>( <i>W. Jesse</i> ). | Tweeddale Coll. |
| <i>b, c.</i> ♂ ad. sk. | Landana, Congo ( <i>Petit</i> ).                       | Sharpe Coll.    |

9. **Micropus horus.**

- Cypselus galilejensis*, *Antin. Cat. descr. Ucc.* p. 24.  
*Cypselus affinis*, var. *horus*, *Heugl. Orn. N.O.-Afr.* i. p. 147 (*ex Hartl. & Finsch, MS.*) (1869).  
*Cypselus horus*, *Salvad. & Antin. Atti R. Ac. Tor.* viii. p. 94 (1872); *Salvad. Ibis*, 1881, p. 540.  
*Cypselus affinis*, *Bocage, Journ. Sc. Acad. Lisb.* no. xii. p. 269 (1871) (Angola).  
*Cypselus sharpii*, *Bour. Bull. Soc. Zool. France*, i. p. 228, pl. vi. fig. 1 (1876; Banana, Congo); *Sharpe & Bour. ibid.* p. 303; *L. Petit, Orn.*, 1885, p. 585.  
*Cypselus finschi*, *Bocage, Orn. Angola*, p. 159 (1877).



Tail of *Micropus horus*.

In general appearance similar to *M. caffer*, but easily distinguished

by its tail, the lateral rectrices being shorter and not so acute; the white throat is much more extended, going much further down, gradually merging into the dark colour of the abdomen; abdomen glossy brownish black; sides of the head paler; secondaries without perceptible white margins. Wing 5·9 inches, lateral rectrices 2·3, central 1·8.

One specimen without locality in the Collection is like *M. horus*, but has a longer wing and a sooty-brownish throat. Wing 6·3 inches. It may be an undescribed species, but further material would be necessary to throw light upon this bird.

*Hab.* Known from the mouth of the Congo and Angola in the West, the Useri river in the Kilimanjaro district, and in Abyssinia.

This bird is probably, like other species of the same group, a mountain-bird, and, perhaps, leaving the mountains in winter goes down to the Congo valley.

a. ♂ ad. sk.	Landana, Congo.	A. Bouvier [C.].
b. ♀ ad. sk.	Landana, Congo ( <i>Petit</i> ).	Shelley Coll.
c. ♀ ad. sk.	Useri River, E. Africa, July 18.	H. C. V. Hunter, Esq. [P.].
d. Ad. sk. ? var.	[Africa.]	

### 10. *Micropus toulsoni*.

*Cypselus toulsoni*, *Bocage, Journ. Lisb.* 1869, p. 339; *id. Orn. Angola*, p. 158 (1881).

Tail and size like *M. horus*, but without any white rump-band and with a less-extended and only dirty-white throat; head brown; back and abdomen black with a bluish gloss, paler and more brownish on flanks and upper and under tail-coverts; wings and tail blackish brown: bill black; feet dark brown (in skin). Total length about 5·9 inches, wing 6, lateral rectrices 2·4, central 1·9.

*Hab.* The only specimen before me is from Landana near the mouth of the Congo. Bocage described it from Loanda, Angola.

a. ♀ ad.	Landana, Congo.	Petit Coll.
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### 11. *Micropus affinis*.

*Cypselus parvus*, *Less. Traité d'Orn.* p. 268 (*nec Licht.*) (1831).

*Cypselus affinis*, *Hardw. apud Frankl. P. Z. S.* 1831, p. 116 (deser. nulla); *J. E. Gray & Hardw. Ill. Ind. Zool.* i. pl. 35. fig. 2 (1832); *Sykes, P. Z. S.* 1832, p. 83; *Jerd. Madr. Journ.* xi. p. 225 (1840); *Blyth, Journ. As. Soc.* xiv. p. 212 (1845); *Tick. Journ. A. S. B.* xvii. p. 302 (1848); *Jardine, Contr. Orn.* 1849, p. 5 (W. Afr.); *Bp. Consp.* i. p. 65 (1850); *Layard, Ann. & Mag. N. H.* xii. p. 167 (1853); *Pucher. Rev. et Mag. de Zool.* 1853, p. 444; *Horsf. & Moore, Cat. B. Mus. E. I. Comp.* p. 106 (1854); *Hartl. J. f. O.* 1854, p. 154; *Licht. Nomencl.* p. 61 (Nepal) (1854); *Adams, P. Z. S.* 1859, p. 175 (Cashmir); *Jerd. B. Ind.* i. p. 177 (1862); *Sci. P. Z. S.* 1864, p. 375; *id. Ibis*, 1865, p. 235; *Beavan, ibid.* p. 405; *Sclat. P. Z. S.* 1865, p. 603; *id. J. f. O.* 1867,

- p. 124; *Tristr. Ibis*, 1866, p. 76, 1867, p. 362; *Bulger, Ibis*, 1866, p. 219; *Blyth, ibid.* p. 339; *Tytler, Ibis*, 1868, p. 195; *Petz. ibid.* p. 307; *id. J. f. O.* 1867, p. 124; *Gray, Hand-l. i.* p. 63, no. 722 (1869); *Heugl. Orn. N.O.-Afr. i.* p. 146 (1869); *Brooks, Ibis*, 1869, p. 47 (egg); *Baldamus, J. f. O.* 1869, p. 407; *Wyatt, Ibis*, 1870, p. 12 (Sinai); *Sharpe, Ibis*, 1870, p. 484 (Fantee); *id. Cat. Afr. B.* p. 2 (S. Afr.) (1871); *Shelley & Buckley, Ibis*, 1872, p. 286 (Gold Coast); *Hodds. P. Z. S.* 1872, p. 419 (Ceylon); *Salvad. et Antin. Atti R. Ac. Sc. Tor.* viii. p. 95 (1872); *id. Ann. Mus. Civ. Gen. iv.* p. 433 (1873); *Hume, Str. F. i.* p. 166 (1873); *id. Nests & Eggs, i.* p. 85 (1873); *Adam, Str. F. i.* p. 370; *Ball, ibid.* ii. p. 384 (1874); *Severtz, J. f. O.* 1875, p. 74 (Turkestan); *Dress. B. Eur. iv.* p. 591, pl. 267 (1874); *Dress. (Severtz.), Ibis*, 1876, p. 189 (Turkest.); *Reichen. J. f. O.* 1875, p. 20; *Blanf. E. Persia*, p. 130 (1876); *Sharpe, ed. Layard's B. S. Afr.* p. 94 (1875); *Fairbank, Str. F.* iv. pp. 254, 393 (Palani Hills); *David. & Wenden, Str. F.* vii. p. 77, Deccan (1878); *Brehm, J. f. O.* 1878, p. 363; *Scully, Str. F.* viii. p. 234 (Nepal) (1879); *Reid, Str. F.* x. p. 19 (Lucknow) (1881); *Vidal, Str. F.* ix. p. 44 (Konkan) (1880); *Salvad. Ibis*, 1881, p. 540; *Swinh. Ibis*, 1882, p. 101 (S. Afghan.); *Oates, B. Brit. Burm.* ii. p. 3 (note); *Tristr. Faun. & Flor. Palestin.* p. 83 (1884); *Radde, Orn. Caucas.* pp. 36, 294 (1884); *Fischer, Zeitschr. ges. Orn.* 1884, p. 35 (Massai-Ld.); *id. J. f. O.* 1885, p. 127 (E. Afr.); *Reichen. J. f. O.* 1887, p. 61 (Kagehi); *Koenig, J. f. O.* 1888, pp. 138, 164 (Tunis, seen); *Dresser, Ibis*, 1889, p. 91 (Transcasp.); *Radde & Walter, Orn.* 1889, p. 73; *Oates, ed. Hume's Nests & Eggs*, iii. p. 21 (1890); *Salvad. Ann. Mus. Civ.* xxix. p. 551 (1890) (Italy; syn.).
- Cypselus nipalensis*, *Hodgs. Journ. As. Soc. Beng.* v. p. 780 (1836).
- Cypselus montanus*, *Jerd. Madr. Journ.* xiii. p. 144 (1844).
- Microptus affinis*, *Boie, Isis*, 1844, p. 165.
- Cypselus abyssinicus*, *Streubel, Isis*, 1848, p. 354 (Abyssinia); *Hartl. Beitr. Orn. W.-Afr.* p. 16 (1850); *id. Rev. et Mag. de Zool.* 1852, p. 6 (I. St. Thomé); *id. J. f. O.* 1853, p. 397; *id. Orn. W.-Afr.* p. 24 (1857); *Scl. Ibis*, 1865, p. 235; *Tristr. Ibis*, 1866, pp. 74, 78; *Dohrn, P. Z. S.* 1866, p. 325 (Ilha do Principe); *Gray, Hand-l. i.* p. 64 (1869); *Hume, Ibis*, 1870, p. 405; ? *Forbes, Ibis*, 1883, pp. 517, 520; ? *Hartert, J. f. O.* 1886, p. 591 (Haussa-Ld.).
- Cypselus galilejensis* (galilæen-sis), *Antin. Naumannia*, 1855, p. 307, pl. v. figs. 1, 2; *Tristr. P. Z. S.* 1864, p. 431; *id. Ibis*, 1864, p. 231, 1865, p. 76; *Swinh. Ibis*, 1866, p. 133; *Gray, Hand-l. i.* p. 63 (1869).
- ? *Cypselus fuliginosus*, *Verr., fide Gray, Hand-l. i.* p. 64 (1869).

*Adult.* Tail very even. Head, wings, and tail dark brown with a very slight metallic gloss; back black with steel-blue gloss; chin, throat, and a band across the rump white: "iris deep brown; bill black; feet vinous brown" (*Legge*). Total length about 5.1 to 5.5 inches, wing 5 to 5.4, lateral rectrices 1.6 to 1.9.

This species varies very much in the shade of coloration and in size, but these variations do not seem to be restricted to certain localities. In the large series before me I can only notice that birds from Ceylon, Sikkim, and some from Western Africa are darker and have the tails rather longer. The birds from Palestine have very light tails, like many African specimens that are not from the West Coast. The birds from Palestine show a great

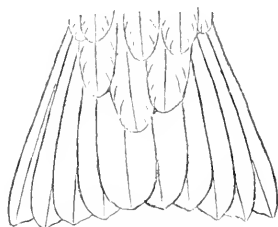
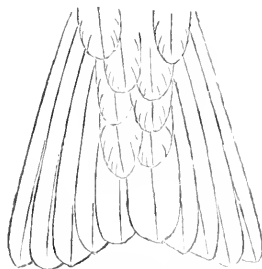


extension of the white on the throat and a very light forehead. They are named *galilejensis* and may be regarded as a local race, but cannot be distinguished from several specimens from other localities. Perhaps the darkness and lightness of colour is due to the amount of rainfall in their respective countries, as is the case in several other birds. This species is recorded by all observers as being a stationary bird all the year round.

*Hab.* Africa, from the Cape to the West Coast (St. Thomas) and Tunis (where Dr. Koenig procured it in 1891), Sennaar, and Abyssinia, through the valley of the Jordan in Palestine, and occurring locally all over India and Ceylon. A straggler has been shot in Italy.

<i>a, b.</i> ♂ ♀ ad. sk.	Ceylon, April.	Col. Legge [C.].
<i>c.</i> Ad. sk.	Madras.	Gould Coll.
<i>d.</i> Ad. sk.	Mysore, August.	Tweeddale Coll.
<i>e, f.</i> ♂ ad. ; <i>g, h.</i> ♀ ad. sk.	Belgaum, July 9 ( <i>Butler</i> ).	Hume Coll.
<i>i, k.</i> ♂ ♀ ad. sk.	Ahmednagar, January ( <i>Fairbank</i> ).	Tweeddale Coll.
<i>l.</i> Ad. sk.	Khandeish, April ( <i>J. Davidson</i> ).	Hume Coll.
<i>m, n.</i> Ad. sk.	Deccan ( <i>Burgess</i> ).	Gould Coll.
<i>o.</i> Ad. sk.	Deccan, January 22.	Col. Sykes [P.].
<i>p.</i> ♀ ad. sk.	Saugor, C. P., June 12.	Hume Coll.
<i>q.</i> Ad. sk.	Maunbhoom, April ( <i>R. C. Beavan</i> ).	Tweeddale Coll.
<i>r.</i> Ad. sk.	N. India.	India Museum.
<i>s, t.</i> Ad. sk.	Bootan, January.	T. Pemberton, Esq., & India Museum.
<i>u.</i> Ad. sk.	Sikkim, April.	Hume Coll.
<i>v, w.</i> Ad. sk.	Behar.	Hodgson Coll.
<i>x, y, z.</i> ♂ ad. sk.	Nepal ( <i>J. Scully</i> ).	Hume Coll.
<i>a'.</i> ♂ ad. sk.	Katmandu, Nepal, April ( <i>J. Scully</i> ).	Hume Coll.
<i>b'.</i> Juv. ; <i>c', d', e'.</i> Ad. sk.	Nepal.	Hodgson Coll.
<i>f', g'.</i> Ad. sk.	N.W. Himalaya.	Pinwill Coll.
<i>h'.</i> ♂ ad. sk.	Almorah, Oct. 13.	Hume Coll.
<i>i', k', l'.</i> Ad. sk. ; <i>m'-p'.</i> ♂ ; <i>q'-v'.</i> ♀ ad. sk.	Simla.	Hume Coll.
<i>y', z', a''.</i> Ad. sk.	Nandarbar, April 4.	Hume Coll.
<i>b''.</i> Ad. sk.	Umballa, March.	Hume Coll.
<i>c''.</i> ♀ ad. sk.	Burtna, February.	Hume Coll.
<i>d'', e''.</i> ♂ ad. sk.	Secunderabad, Oct. ( <i>Slaughter</i> ).	Tweeddale Coll.
<i>f''.</i> ♂ ad. ; <i>g'', h''.</i> ♀ ad. sk.	Sambhur, July ( <i>Adam</i> ).	Hume Coll.
<i>i''.</i> Ad. sk.	Jodhpur, February.	Hume Coll.
<i>k''.</i> Ad. sk.	Hissar.	Hume Coll.
<i>l'', m''.</i> ♂ ♀ ad. sk.	Dehra Ghazi Khan, May 22.	Hume Coll.
<i>n''.</i> ♂ ad. sk.	Sindh, March 10.	Hume Coll.
<i>o''.</i> Ad. sk.	Mehur, Sindh, January.	Hume Coll.
<i>p'', q''.</i> Ad. sk.	Karachi.	Hume Coll.
<i>r''.</i> ♀ ad. sk.	Kandahar, May 14.	Hume Coll.
<i>s''.</i> Ad. sk.	Muscat, March.	Hume Coll.

$l''$ . ♂ ad. sk.	Parpa, near Shiraz, Persia, 7000 ft., May 30.	C. T. Blanford, Esq. [C.].
$u''-x''$ . Ad. sk.:	Gennesareth.	Canon Tristram
$y''$ , $z''$ . ♀ ad. sk.		[C.].
$a^3$ , $b^3$ . ♀ ad. sk.	Gennesareth, May ( <i>Tristram</i> ).	Salvin-Godman Coll.
$c^3$ . ♀ ad. sk.	Gennesareth April ( <i>Tristram</i> ).	Tweeddale Coll.
$d^3$ . ♂ ad. sk.	Sooroo, Abyssinia, May 30 ( <i>Jesse</i> ).	Tweeddale Coll.
$e^3$ . ♂ ad. sk.	Sooroo, Abyssinia, May ( <i>Jesse</i> ).	Sharpe Coll.
$f^3$ . ♂ ad. sk.	Sooroo Pass, June 1 (2000 ft.).	Blanford Coll.
$g^3$ . ♀ ad. sk.	Ain Sambar, 1200 ft., July 6.	Blanford Coll.
$h^3$ . ♂ ad. sk.	Bathurst, Senegambia ( <i>Laglaize</i> ).	Tweeddale Coll.
$i^3$ . ♂; $k^3$ , $l^3$ . Ad. sk.	Cape Coast, W. Africa.	Buckley Coll.
$m^3$ , $n^3$ . Ad. sk.	Cape Coast, March.	Shelley Coll.
$o^3$ - $q^3$ . Ad. sk.	Fantee ( <i>Ussher</i> ).	Shelley Coll.
$r^3$ . Ad. sk.	Elmina ( <i>Blissett</i> ).	Shelley Coll.
$s^3$ , $t^3$ . Ad. sk.	Cape Coast ( <i>Ussher</i> ).	Sharpe Coll.
$u^3$ . ♂ ad. sk.	Cape Coast.	Gordon Coll.
$v^3$ . ♀ ad. sk.	Grand Bassam, W. Africa.	Purchased.
$w^3$ . Ad. sk.	Gaboon.	Ansell Coll.
$x^3$ . Ad. sk.	S. Africa ( <i>Layard</i> ).	Sharpe Coll.

Tail of *Micropus affinis*.Tail of *Micropus subfurcatus*.12. *Micropus subfurcatus*.

- Cypselus subfurcatus*. *Plyth, Journ. As. Soc. Beng.* xviii. p. 807 (1849); *Bp. Consp.* i. p. 65 (1850); *Swinh. P. Z. S.* 1863, p. 294 (China); *id. Ibis*, 1863, p. 254; *Gray. Hand-l.* i. p. 63 (1863); *Sci. P. Z. S.* 1865, p. 402; *id. J. f. O.* 1867, p. 123; *Blyth, Ibis*, 1865, p. 41 (note), 1870, p. 161; *Swinh. Ibis*, 1866, p. 131, 1867, p. 227 (Amoy; breed.), 1870, p. 89 (Hainan); *id. P. Z. S.* 1871, p. 345; *Salvad. Ucc. Borneo*, p. 118 (1874); *David et Oust. Ois. Chine*, p. 69 (1877); *Hume, Str. F.* v. p. 17 (Cachar) (1877), viii. p. 47 (Malay Pen.) (1879); *Hume & Davison, ibid.* vi. p. 47 (Tenasserim) (1878); *W. Ramsay, P. Z. S.* 1880, p. 14 (Sumatra); *Oates. B. Burm.* ii. p. 2 (1883).
- Cypselus affinis*, *Strickl. P. Z. S.* 1846, p. 99; *Swinh. Ibis*, 1860, p. 48 (Amoy), 1861, p. 30 (Hongkong); *Pelz. Voy. Novara*, p. 38 (China) (1865).

*Cypselus leucopygialis*, *Cuss. Proc. Ac. Phil.* v. p. 58, pl. 13 (1852);  
*Sci. Isis*, 1865, p. 235 (ident. *affinis*).

Similar to *M. affinis*, but darker on the head and under tail-coverts, and especially on the tail, which is a little longer and a little more fureated. Wings on the average a little longer. "Iris dark brown; legs and feet varying a good deal, from fleshy brownish to purplish blackish; bill black" (*Davison*). Total length about 5·7 inches, wing 5·1 to 5·6, averaging 5·3 and 5·4, lateral rectrices 2·1 to 2·25.

*Hab.* Replaces the preceding species east of the Bay of Bengal, being recorded from China as far north as Amoy, Cochin China, Sumatra, Java, the Malay Peninsula, Tenasserim, and as far north as Cachar.

The specimens from Bootan in the Collection belong to *M. affinis*, but they are very dark, and without large series to compare may easily be mistaken for *M. subfurcatus*. After all *M. subfurcatus* can only be regarded as the Eastern representative of *M. affinis*.

a. Ad. sk.	Cachar ( <i>Inglis</i> ).	Hume Coll.
b-d. ♂ ad.; e-h. ♀ ad. sk.	Malawoon, Tenasserim, May (W. <i>Davison</i> ).	Hume Coll.
i. ♀ ad.; k. ♂ ad. sk.	Klang, Malacca, May (W. <i>Davison</i> ).	Hume Coll.
l. Ad. sk.	Malacca ( <i>Maingay</i> ).	Tweeddale Coll.
m. ♂ ad. sk.	Malacca ( <i>A. R. Wallace</i> ).	Gould Coll.
n. ♂ ad. sk.	Malacca ( <i>A. R. Wallace</i> ).	Tweeddale Coll.
o, p. Ad. sk.	Malacca.	Pinwill Coll.
q. Ad. sk.	Malacca ( <i>Pinacill</i> ).	Tweeddale Coll.
r. Ad. sk.	Penang.	
s, t. Ad. sk.	Penang ( <i>Cantor</i> ).	India Museum.
u. Ad. sk.	Penang.	Gould Coll.
v, w. Ad. sk.	Sumatra ( <i>Bock</i> ).	Tweeddale Coll.
x, y. ♂ ad. sk.	Lolo, Sumatra, Dec. 12 ( <i>Bock</i> ).	Tweeddale Coll.
z. Ad. sk.	Labuan, Borneo.	Ussher Coll.
a'. Ad. sk.	Siam.	Purchased.
b'. Ad. sk.	Amoy, China, Dec. ( <i>Swinhoe</i> ).	Tweeddale Coll.
c'. Ad. sk.	Amoy, China.	Tweeddale Coll.
d'. Ad. sk.	Amoy, China.	Col. Swinhoe [C.].
e'. Ad. sk.	Amoy, China ( <i>Swinhoe</i> ).	Gould Coll.
f'. Ad. sk.	Amoy, China, Dec. ( <i>Swinhoe</i> ).	Hume Coll.

### 13. *Micropus andicola*.

*Micropus andicolus*, *Lafr. et d'Orb. Syn.* p. 70 (1837); *d'Orb. Voy.* p. 358, pl. 42, fig. 2 (1844); *Sci. P. Z. S.* 1865, p. 606; *id. J. f. O.* 1867, p. 127\*; *Sci. & Sale. P. Z. S.* 1868, p. 569 (Arequipa), 1879, p. 626 (Bolivia); *id. Nom. Av. Neotr.* p. 94 (1873); *Tacz. Orn. Pérou*, i. p. 232 (1884).

*Tachornis andecolus*, *Gray, Hand-l.* i. p. 64 (1869).

*Adult.* Above dark smoky brown, tail and wing with slight metallic gloss, head and especially the front paler, secondaries

\* Spelt *andicola*.

except the innermost with white margins; underparts white, this colour traversing over the upper parts in two broad white bands across the neck and rump, the former often speckled with brown along the middle; upper chin slightly greyish; under wing-coverts, sides of body, and longer under tail-coverts dusky brown. Total length about 5·5 inches, wing 5 to 5·7, tail 2·5, central rectrices about 0·5 shorter.

Some birds are very white underneath. These are perhaps younger birds.

The length of wing varies considerably in this bird. The outer rectrices are sometimes white near the base.

*Hab.* Andes of Peru and Bolivia to Argentina.

<i>a.</i> ♂ ad. sk.	Quito.	Purchased.
<i>b, c.</i> ♂ ♀ ad. sk.	Tinta, Peru, June ( <i>Whitely</i> ).	Selater Coll.
<i>d.</i> Ad. sk.	Lima ( <i>W. Nation</i> ).	Selater Coll.
<i>e, f.</i> ♂ ♀ ad. sk.	Arequipa, March ( <i>Whitely</i> ).	Selater Coll.
<i>g, h.</i> ♀ ad. sk.	Arequipa, March 14 ( <i>II. Whitely</i> ).	Salvin-Godman Coll.
<i>i.</i> ♀ ad.; <i>k.</i> Ad. sk.	Arequipa, March.	II. Whitely [C.].
<i>l.</i> Imm. sk.	Consata, Bolivia ( <i>C. Buckley</i> ).	Salvin-Godman Coll.
<i>m.</i> Ad. sk.	Bolivia.	
<i>n.</i> ♀ ad. sk.	Mendoza, Arg. Rep., Feb. ( <i>Weishaupt</i> ).	Salvin-Godman Coll.
<i>o.</i> ♀ ad. sk.	Pampas Argentinas ( <i>Leybold</i> ).	Salvin-Godman Coll.

#### 14. *Micropus montivagus*.

*Cypselus montivagus*, *d'Orb. Voy. Amér. Mérid.* p. 357, pl. xlii. fig. 1 (1835-44); *Lafr. & d'Orb. Syn. Av.* i. p. 70 (1837); *Bp. Consp.* i. p. 66 (1850); *Scl. P. Z. S.* 1865, p. 606; *id. J. f. O.* 1867, p. 127; *Scl. & Salv. P. Z. S.* 1879, p. 644 (crit.); *Tacz. Orn. Pérou*, i. p. 233 (1884).

Above sooty black, feathers of the lores white at the base, inner secondaries broadly bordered with white; chin and throat white, breast whitish with shades of sooty brown; abdomen dark sooty brown, whitish along the middle, a pure white band across the lower abdomen; under tail-coverts and under wing-coverts like the back; primaries sooty black, with very narrow white edges to the inner webs of the shorter ones; rectrices sooty black, with very narrow whitish edges to the tips and longitudinal whitish spots near the bases. Total length about 5 inches, wing 4·7, tail 1·7, tarsus 0·33. (Description from a specimen in the Warsaw Museum.)

Easily distinguished from *M. andicola* by the sooty-black hind neck and concolorous rump. In coloration it resembles more *Aëronautes melanoleucus*, but is much smaller and the colour of the lower parts much different. The toes seem to be quite unfeathered, and therefore it is a true *Micropus*.

*Hab.* Peru and Bolivia.

15. *Micropus myoptilus*.

*Cypselus myoptilus*, *Salvad. Ann. Mus. Civ. Gen.* xxvi. p. 228 (1888).

The very young specimen from Shoa described by Salvadori, *l. c.*, as *Cypselus myoptilus* was kindly sent me by the author for examination. It is certainly not the young of *M. apus*, nor, on account of its dusky-brownish throat, can it be the young of any of the other known species from Shoa. Further investigation must show what the adult bird is like. Probably it is an unknown species which is somewhat similar to the Atlantic *M. unicolor*. Heuglin (*Orn. N.O.-Afr.* i.) states that he several times saw a uniform dark-coloured *Cypselus*, much like *M. unicolor*, which he never procured. These were probably the old birds of *M. myoptilus*.

I have not been able to examine the following species:—

16. *Micropus niansæ*.

*Cypselus niansæ*, *Reichen. J. f. O.* 1887, p. 61.

Described as being similar to *M. equatorialis*, but much smaller. Total length nearly 6 inches, wing 5·9, tail 2·75.

*Hab.* Kagehi, on the Victoria Nyanza (*Fischer Coll.*).

## 2. AËRONAUTES.

If *Panyptila* is admitted as a distinct genus, it becomes necessary to establish a new genus for *P. melanoleuca*. The structure of the plumage and the shape of the tail are so totally different, that it cannot be associated with *Panyptila*. Little is known about its nidification, but from the notes published it is evident that it does not build such a peculiar nest as the species of *Panyptila* do.

*Range.* Western United States of North America southwards to Guatemala.

1. *Aëronautes melanoleucus*.

? *Acanthylis saxatilis*\*, *Woodhouse, Explor. Zuni River*, p. 64 (1853) (Arizona): *Coues, Ibis*, 1865, p. 356.

*Cypselus melanoleucus*, *Baird, Proc. Ac. Phil.* 1854, p. 118 (S. Francisco Mts.).

*Panyptila melanoleuca*, *Baird, B. N. Amer.* p. 141, pl. xviii. (1858); *Scl. & Salv. Ibis*, 1859, p. 125 (Guatemala): *Scl. P. Z. S.* 1865, p. 607; *id. J. f. O.* 1867, p. 128; *Cooper, Orn. Cal.* i. p. 347 (1870); *Baird, Brew. & Ridgw. N. Am. B.* ii. p. 424 (1874).

*Panyptila saxatilis*, *Coues, Key N. Amer. B.* p. 182 (1872); *id.* 2nd

\* This may be the *Cypr. melanoleucus* of Baird, but the description does not correspond, and Dr. Woodhouse seems not to have procured any specimens. See Baird, Brewer, and Ridgw., *N. Amer. B.* ii. p. 426, note.

ed. p. 456 (1884); *Ridgw. U. S. Geol. Expl. 40th Par.* iii. p. 564 (1877).

*Micropus saxatilis*, *Stejn. Auk*, i. p. 230 (1884).

*Micropus melanoleucus*, *Ridgw. Auk*, 1884, p. 230 (footnote); *Scott, Auk*, 1886, p. 430; *A. O. U. Check-list*, p. 223; *Shufeldt, Ibis*, 1887, p. 151, pl. v.; *Ridgw. Man. N. Am. B.* p. 303 (1887); *Jeffries, Auk*, ii. p. 223 (1889).

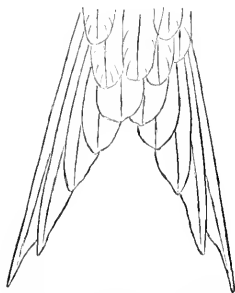
Blackish brown, forehead generally a little lighter; indication of supraloral stripe, chin, throat, and middle of abdomen, a patch on each side of the rump, the edge of the outer primary, broad ends of secondaries, small edge of outer tail-feathers, and longitudinal spots on the inner webs of median tail-feathers near their base white. Total length about 5·8 inches, wing 5·7, lateral rectrices 2·7, central 2·3.

*Hab.* Western United States southwards to Guatemala.

<i>a, b.</i> Ad. sk.	California ( <i>Henshaw</i> ).	Salvin-Godman Coll.
<i>c-x.</i> ♂ ad.; <i>y-</i>	Colorado Springs, Col., June,	Salvin-Godman Coll.
<i>g'.</i> ♀ ad. sk.	July ( <i>Henshaw</i> ).	
<i>h'.</i> ♂ ad.; <i>z'.</i>	Contra Costa, Color., June	Salvin-Godman Coll.
Ad. sk.	( <i>Henshaw</i> ).	
<i>k'.</i> ♂ ad. sk.	Fort Wingate, N. Mexico,	Salvin-Godman Coll.
	July 15 ( <i>Henshaw</i> ).	
<i>l'.</i> ♂ ad. sk.	Fort Wingate, N. Mexico,	Dr. R. W. Shufeldt
	Sept. 11.	[P.]
<i>m'.</i> ♂ ad. sk.	Arizona, March 9 ( <i>Henshaw</i> ).	Salvin-Godman Coll.
<i>n'.</i> ♀ ad. sk.	New Mexico, April ( <i>Hart</i>	Salvin-Godman Coll.
	<i>Merriam</i> ).	
<i>o'.</i> Ad. sk.	West Mexico ( <i>E. Bartlett</i> ).	Sclater Coll.
<i>p'.</i> ♂ ad. sk.	San Bernardino, California,	Salvin-Godman Coll.
	Dec. 10 ( <i>Hebron</i> ).	
<i>q'.</i> ♂ ad. sk.	Mexico, June.	Tweeddale Coll.
<i>r'.</i> Ad. sk.	Dueñas, Guatemala.	O. Salvin, Esq. [C.].
<i>s'.</i> Ad. sk.	Dueñas ( <i>O. Salvin</i> ).	Sclater Coll.
<i>t', u'.</i> ♂ ad.:	Dueñas, July, Nov. ( <i>O. Sal-</i>	Salvin-Godman Coll.
<i>v'.</i> ♀ ad. sk.	<i>vin</i> ).	



Tail of *Aëronautes melanoleucus*.



Tail of *Panyptila cayanaensis*.

## 3. PANYPTILA.

Type.

Panyptila, *Cab. Wieg. Arch.* xiii. p. 345 (1847) . . . . . *P. cayanensis*.  
 Pseudoprocne, *Streubel, Isis*, 1848, p. 358 . . . . . *P. cayanensis*.

*Panyptila* differs in so many respects from *Micropus* that it cannot be united with that genus. Mr. Salvin has discovered and described the interesting nest of *P. sanctihieronymi*, which differs entirely from all nests of *Micropus*, and he kindly informs me that the nest of *P. cayanensis* is similar in construction.

*Range.* Central and South America.

*Key to the Species.*

- a. Much smaller; wing about 4·8 inches . . . . . *cayanensis*, p. 461.  
 b. Much larger; wing about 7·3 inches . . . . . *sanctihieronymi*, p. 462.

1. *Panyptila cayanensis*.

Le Martinet à collier blanc, *Buff. Hist. Nat. Ois.* vi. p. 671 (1779);

*Daubent. Pl. Enl.* pl. 725. fig. 2 (1783).

*Hirundo cayanensis*, *Gm. Syst. Nat.* ii. p. 1024 (1788).

*Hirundo cayanensis*, *Vieill. N. D.* xiv. p. 513 (1817).

*Cypselus cayanensis*, *Steph. Gen. Zool.* x. p. 75 (1817); *Bp. Consp.*

i. p. 66 (1850); *Léot. Ois. Trinidad*, p. 81 (1866); *Gray, Hand-l.*

i. p. 64 (1869).

*Panyptila cayanensis*, *Cab. Wieg. Arch.* xiii. p. 345 (1847); *Burm.*

*Syst. Uebers.* ii. p. 369 (1856)\*; *Sci. P. Z. S.* 1865, p. 606; *id.*

*J. f. O.* 1867, p. 128; *Layard, Ibis*, 1873, p. 389; *Sci. & Salv.*

*Nom. Av. Neotr.* p. 94 (1873); *id. P. Z. S.* 1879, p. 531

(Antioq.); *Salv. Cat. Strickl. Coll.* p. 371 (1882); *Berl. & Tacz.*

*P. Z. S.* 1883, p. 569 (W. Ecuador); *id. Ibis*, 1885, p. 436 (B.

Guiana); *Sci. Ibis*, 1887, p. 318.

*Adult.* Deep black with a slight silky gloss; a patch before the eyes, chin, throat, narrow collar round the neck, large spot on each side of the rump, narrow edges of secondaries and inner webs of primaries, basal portion of shaft and outer webs of the lateral rectrices white. Total length about 4·8 inches, wing 4·8, lateral rectrices 2·3, central 1·2.

*Hab.* Colombia to Guiana and Brazil.

- |              |  |                     |
|--------------|--|---------------------|
| a. ♀ ad. sk. | British Guiana.                                | Selater Coll.       |
| b. ♀ ad. sk. | Merumé Mts., Br. Guiana ( <i>H. Whitely</i> ). | Salvin-Godman Coll. |
| c. Ad. sk.   | Venezuela ( <i>Spence</i> ).                   | Salvin-Godman Coll. |
| d. Ad. sk.   | Bogota ( <i>Ward</i> ).                        | Selater Coll.       |
| e. Ad. sk.   | Antioquia ( <i>Salmon</i> ).                   | Selater Coll.       |
| f. Ad. sk.   | Antioquia, Sept. ( <i>T. K. Salmon</i> ).      | Salvin-Godman Coll. |

\* Spelt *cayanensis*.

<i>g.</i> ♂ ad. sk.	Para, Nov. 19 ( <i>E. L. Layard</i> ).	Tweeddale Coll.
<i>h, i.</i> Ad. sk.	Bahia.	
<i>k.</i> Ad. sk.	Bahia ( <i>Wucherer</i> ).	Selater Coll.
<i>l.</i> Imm. sk.	Santarem, Amazon ( <i>Wickham</i> ).	Selater Coll.
<i>m.</i> Ad. sk.	Brazil.	Purchased.
<i>n.</i> Ad. sk.	Samiria ( <i>Whitely</i> ).	Salvin-Godman Coll.
<i>o.</i> Ad. sk.	S. America.	Salvin-Godman Coll.

## 2. *Panyptila sanctihieronymi*.

*Panyptila sanctihieronymi*, *Salvin*, *P. Z. S.* 1863, p. 190, pl. xxii.; *Sci. P. Z. S.* 1865, p. 607; *id. J. f. O.* 1867, p. 128; *Salvin*, *Ibis*, 1866, p. 195, 1874, p. 188; *Sci. & Salv. Nomencl. Av. Neotr.* p. 94 (1873).

*Adult.* Coloured exactly like *P. cayanensis*, but much larger, nearly twice as large as its congener. Total length about 7·5 inches, wing 7·3, lateral rectrices 3·6, central 1·9.

*Hab.* This rare species seems to be found only in Guatemala, where Mr. Salvin procured it near San Gerónimo, Prov. Vera Paz.

<i>a, b.</i> Ad. sk.	San Gerónimo, Vera Paz, July 1862 ( <i>O. Salvin</i> ).	Salvin-Godman Coll. (Types of the species.)
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## 4. TACHORNIS.

Type.

<i>Cypsiurus</i> ( <i>corr.</i> <i>Cypselurus</i> ), <i>Lesson</i> , <i>Echo du Monde Sav.</i> 1843, p. 134 ( <i>nec Swains.</i> , 1838) . . . . .	<i>T. parva</i> .
<i>Tachornis</i> , <i>Gosse</i> , <i>B. Jamaica</i> , p. 58, pl. 9 (1847) . . . . .	<i>T. phœnicobia</i> .

The members of this genus show great differences from the genus *Micropus*, as limited in the present volume. The character of the position of the toes is generally to be seen without difficulty in dry skins, but less so in mounted and often distorted specimens. I consider this character to be an important one, as it is not only external, but extends also to the structure of the first phalanges of the median toes. No doubt this has some relation to their habits, and probably to the manner in which they cling to the leaves of palm-trees or to grass roofs of the Naga houses in Cachar and Assam. It is remarkable that all the species contained in my genus *Tachornis* are "Palm-Swifts," as they are justly called, while all the species of *Micropus* frequent rocks or stone buildings. They build tiny nests agglutinated with saliva to the leaves of palms or the thatch of the Naga huts; while all species of *Micropus* breed in holes of rocks, buildings, or occasionally trees, and make totally different nests. The eggs are usually two in number, but sometimes three are found.

*Range.* Tropical Africa southwards to the Cape of Good Hope; Madagascar; Indo-Malayan region and the West Indies.



## Key to the Species.

- a. Uniform above; tail deeply furcate.  
 a'. Lateral rectrices very sharply pointed, considerably more than 3 inches in length ..... *parva* and allies, p. 463.  
 b'. Lateral rectrices less sharply pointed, considerably less than 3 inches in length.  
 a''. Glossy blackish above ..... *infumata*, p. 467.  
 b''. Ashy brown above ..... *batassiensis*, p. 466.  
 b. Above black, with a white band across the rump; tail slightly furcate ..... *phœnicobia*, p. 468.

1. *Tachornis parva*.

*Cypselus parvus*, *Licht. Verz. Doubl.* p. 58 (1823) (Nubia); *Streubel, Isis*, 1848, p. 351; *Brehm, J. f. O.* 1854, Extrah. p. 95; *Rüpp. Syst. Uebers.* p. 22, no. 69 (1845); *Scl. P. Z. S.* 1865, p. 601 (part.); *id. J. f. O.* 1867, p. 121 (part.); *Heugl. Orn. N. O.-Afr.* p. 144 (1869); *Finsch & Hartl. Vög. O.-Afr.* p. 131 (1870); *Shelley, Ibis*, 1871, p. 48; *id. B. Egypt*, p. 173 (1872); *Sharpe, ed. Layard's B. S. Afr.* p. 94 (1875); *Fischer, Zeitschr. ges. Orn.* p. 358 (Massai-land) (1884); *Reichen. J. f. O.* 1887, p. 61.

*Cypselus ambrosiacus*, *Temm. Pl. Col.* 460, fig. 2 (1828)\*; *Streubel, Isis*, 1848, p. 351 (1848); *Cab. & Heine, Mus. Hein.* iii. p. 85 (1860).

*Cypsiurus ambrosiacus*, *Less. Echo du Monde Sav.* 1843, p. 134.

*Micropus parvus*, *Boie, Isis*, 1844, p. 165; *Emm. J. f. O.* 1891, p. 59 (Tabora).

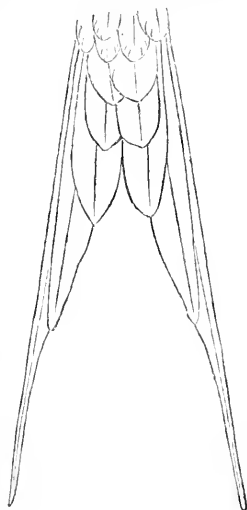
*Dendrochelidon ambrosiaca*, *Bp. Consp.* i. p. 66 (1850).

*Cypselus myochrous*, *Reichen. J. f. O.* 1886, p. 116 (Karema); *Matschie, J. f. O.* 1887, pp. 135, 141, 152.

*Micropus myochrous*, *Reichen. J. f. O.* 1891, p. 152 (Tabora).

*Adult.* Mouse-colour above and below; chin and throat lighter, with dark shaft-lines; wings and tail darker, with a slight metallic gloss; tail deeply furcated. Total length about 6.5 inches, wing 4.8-5.2, lateral rectrices 4 (if quite full-grown), central 1.4.

*Young.* In nestlings the throat is uniform; all feathers, especially on



Tail of *Tachornis parva*.

\* *Hirundo ambrosiaca*, Gm. *Syst. Nat.* i. p. 1021, founded upon *Hirundo riparia senegalensis*. Briss. *Orn.* ii. p. 508, is not a Swift. (Cf. *Scl. l. e.*; *Finsch & Hartl. l. c.*).

the upper parts, with rusty edges, disappearing more and more as the bird becomes older.

In many birds very small light edges are visible on most of the feathers; these seem to be freshly-moulted birds.

Specimens from the West-African region and Madagascar are darker, and must be regarded as a darker form, probably caused by the greater amount of rainfall in those countries.

The tail varies much in length.

*Hab.* From Nubia (Khartoom) to Senegambia, and southwards as far as South Africa (Damara-land).

Evidently an inhabitant of dry countries.

a. ♂ ad. sk.	Lamu, E. Africa, Aug. 25.	F. J. Jackson, Esq. [P.]
b. Imm. sk.	Lamu, E. Africa, Aug.	F. J. Jackson, Esq. [P.]
c. ♀ ad. sk.	Tabora, July 31 ( <i>Emin Pasha</i> ).	Berlin Museum [E.]
d, e. ♂ ad. sk.	Ondonga, S. Africa, March 2 ( <i>Andersson</i> ).	Sharpe Coll.
f. ♀ ad. sk.	Ovaquenyama, S. Africa ( <i>An- dersson</i> ).	Sharpe Coll.
g. ♀ ad. sk.	Ovaquenyama ( <i>Andersson</i> ).	Shelley Coll.
h. ♀ ad. sk.	Damara-land ( <i>Andersson</i> ).	Tweeddale Coll.
i. ♂ ad. sk.	Gorom, Senegambia, May.	Purchased.

### Subsp. a. *Tachornis gracilis*.

#### a. Referring to specimens from Madagascar.

*Cypselus ambrosiacus*, *E. Newt. Ibis*, 1863, p. 340 (Madagascar); *Grandid. Rev. et Mag. Zool.* 1867, p. 353 (Madag.).

*Cypselus parvus*, *Schleg. P. Z. S.* 1866, p. 421 (Madag.); *Pollen & Van Dam, Faun. Madag.* ii. p. 66 (1868); *Milne-Edw. & Grandid. Madagasc.* p. 189, pl. 71 (col. fig.), pl. 73 (skel.), pl. 74 (anat.) (1878).

*Cypselus gracilis*, *Sharpe, P. Z. S.* 1871, p. 315 (Madag.); *id. P. Z. S.* 1872, p. 868 (descr. juv.); *Hartl. Vög. Madag.* p. 58 (1877).

#### b. Referring to specimens from West Africa.

*Cypselus ambrosiacus*, *Hartl. J. f. O.* 1853, p. 397 (W. Afr.); *id. Orn. W.-Afr.* p. 24 (1857); *Cass. Proc. Ac. Nat. Sc. Phil.* 1859, p. 33 (Camma and Ogobai R.).

*Cypselus parvus*, *Bocage, Journ. Sc. Lisboa*, xii. p. 269 (1871); *Sharpe, Ibis*, 1872, p. 67 (Fantee); *Shelley & Buckl. Ibis*, 1872, p. 286 (Gold Coast); *Ussher, Ibis*, 1874, p. 47 (Gold Coast); *Nicholson, P. Z. S.* 1878, p. 131 (Abeokuta); *Bocage, Orn. Angola*, p. 166 (1881); *Salv. Cat. Strickl. Coll.* p. 370 (1882) (W. Afr.); *Hartert, J. f. O.* 1886, p. 590 (Hausa, Niger).

This is merely a darker coloured form of the true *T. parva*. It is darker, especially on the back, wings, and tail, and adult individuals have more distinct metallic gloss. Old birds have the throat

whitish, with broad dark shaft-stripes; younger birds have the throat nearly uniform. Total length about 7 inches, wing 4·8-5·3, lateral rectrices 3·8-4, central 1·5.

The darker colour of specimens from West Africa was first noticed by Cassin (*l. c.*). Sharpe described the bird from Madagascar as *C. gracilis*, a name which therefore must stand, if the darker race is distinguished.

The most typical specimens of this subspecies which I have seen are from Gaboon (Camma R.) and Madagascar; others are less typical; those from Accra closely approach the true *T. parvus*, and may be called intermediate forms.

*Hab.* West Africa from the Gold Coast to Gaboon, Zanzibar, and Madagascar.

Apparently an inhabitant of wooded countries with a great amount of rainfall. While the drier parts of Eastern Africa produce the paler form, the darker race is found again on the island of Zanzibar.

I at first believed that *C. myochrous* of Reichenow would belong to the darker form, but fortunately the British Museum has obtained, in exchange with Berlin, a male, collected by Emin Pasha in Tabora on the 31st of July, 1890, which is mentioned by Dr. Reichenow as *Micropus myochrous* (J. f. O. 1891, p. 152). This bird undoubtedly belongs to the pale form, and differs in no way from other specimens before me. The throat is somewhat darker than in most of the adult specimens, but some freshly moulted feathers are quite whitish.

a. *Specimens from Madagascar.*

a, b. Ad. : c.	Madagascar ( <i>Crossley</i> ).	Sharpe Coll. (Types of <i>C. gracilis</i> .)
Imm. sk.		
d. Ad. sk.	Madagascar ( <i>Crossley</i> ).	Shelley Coll.

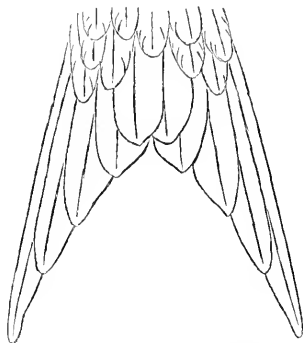
b. *Specimens from West Africa.*

a, b. Ad. sk.	Accra ( <i>Haynes</i> ).	Sharpe Coll.
c. Ad. sk.	Accra ( <i>Smith</i> ).	Sharpe Coll.
d. Ad. sk.	Accra, February 7.	Shelley Coll.
e, f. Ad. sk.	Gold Coast.	Dr. Gordon [C.].
g, h. Ad. sk.	Coonors Hill, Fantee ( <i>Ussher</i> ).	Sharpe Coll.
i, k, l. Ad. sk.	Coonors Hill, Fantee ( <i>Ussher</i> ).	Shelley Coll.
m. ♀ ad. sk.	Fantee.	Sharpe Coll.
n. Ad. sk.	Cape Coast, Feb. 9 ( <i>T. E. Buckley</i> ).	Shelley Coll.
o. Pull. sk.	Fantee.	Sharpe Coll.
p. Ad. sk.	Abeokuta.	F. Nicholson, Esq. [P.].
q. Ad. sk.	Niger.	Capt. Allen [P.].
r. Ad. sk.	Fernando Po.	
s. Ad. sk.	Gaboon ( <i>Du Chaillu</i> ).	Tweeddale Coll.
t. Ad. sk.	Gaboon ( <i>Du Chaillu</i> ).	Sharpe Coll.
u. Ad. sk.	Camma River.	Du Chaillu Coll.
v. Imm. sk.	Landana, Congo.	L. Petit, Esq. [C.].
w. Ad. sk.	Zanzibar.	Sir J. Kirk [C.].

2. *Tachornis batassiensis*.

- Balassian Swift, *Lath. Gen. Hist. B.* vii. p. 328 (1823).  
*Cypselus batassiensis* \*. *J. E. Gray, Griff. An. Kingd.* ii. p. 60 (1829);  
*Gray, Gen. B. i.* p. 54 (1845); *Horsf. & Moore, Cat. B. Mus. E.I.*  
*Co. i.* p. 108 (1854); *Jerd. B. Ind. i.* p. 180 (1862); *Sel. P. Z. S.*  
 1865, p. 602; *id. J. f. O.* 1867, p. 122; *Beavan, Ibis*, 1865, p. 405;  
*Blyth, Ibis*, 1866, p. 340; *Holdsw. P. Z. S.* 1872, p. 420 (Ceylon);  
*Fairbank, Stray Feath.* v. (1877), p. 393 (Palani Hills); *Davidson*  
 & *Weeden, ibid.* vii. (1878), p. 77 (Deccan); *Ball, ibid.* vii. p. 202  
 (Godaveri); *Reid, ibid.* x. p. 19 (1880); *Vidal, ibid.* p. 44 (S.  
 Konkan); *Legge, B. Ceylon*, i. p. 322 (1880); *Salv. Cat. Strickl.*  
*Coll.* p. 371 (1882); *Davidson, Stray Feath.* x. (1882), p. 294;  
*Davison, ibid.* p. 348 (Mysore) (1882); *Oates, ed. Hume's Nests*  
 & *Eggs Ind. B.* iii. p. 25 (1890).  
*Cypselus palmarum*, *J. E. Gray & Hardw. Ill. Ind. Zool.* i. pl. 35.  
 fig. 1 (1832); *Bp. Consp.* i. p. 65 (1850); *Bull. Stray Feath.* iii.  
 p. 454 (1875); *Fairbank, ibid.* iv. p. 254; *Gray, Hand-l.* i. p. 63,  
 no. 726 (1869); *Ball, Stray Feath.* ii. p. 384 (1874).

*Adult.* Above ash-brown; head, wings, and tail darker and with metallic greenish gloss, lower back and rump a little paler; beneath pale mouse-grey, the throat palest; the inner margins of the primaries as well as the feathers of the tail and rump have fine whitish edges, which are more perceptible in younger birds, and not visible if the bird is in abraded plumage. Total length nearly 5 inches, wing 4.6, lateral rectrices 3.5, central 1.4.



Tail of *Tachornis batassiensis*.

*Hab.* India and Ceylon, east to Assam, but not extending to the

\* Spelt *balasiensis*.

Malay Peninsula, the birds recorded from there belonging to *T. infumata* (Scl.).

<i>a-d.</i> Ad. sk.	N.W. Himalaya.	Capt. Pinwill [P.].
<i>e, f.</i> ♂; <i>g.</i> Ad. sk.	Etawah, July, Aug.	Hume Coll.
<i>h.</i> ♀ ad. sk.	Etawah.	Hume Coll.
<i>i.</i> ♂ ad. sk.	Chuppra, March 10.	Hume Coll.
<i>k.</i> Ad. sk.	Kudasee, Nov. 23.	Hume Coll.
<i>l, m.</i> Ad. sk.	Oude, November.	Hume Coll.
<i>n.</i> ♀ ad. sk.	Behar, March.	Hume Coll.
<i>o.</i> Ad. sk.	Behar.	B. H. Hodgson, Esq. [P.].
<i>p.</i> Ad. sk.	Dacca ( <i>Tytler</i> ).	India Museum.
<i>q.</i> Ad. sk.	Dacca.	Hume Coll.
<i>r.</i> Ad. sk.	Assam ( <i>McClelland</i> ).	India Museum.
<i>s.</i> ♂ ad. sk.	Maunbhoom, March ( <i>Beavan</i> ).	Tweeddale Coll.
<i>t, u.</i> ♂ ♀ ad. sk.	Raipoor, January.	Hume Coll.
<i>v, w.</i> ♂ ♀ ad. sk.	Sambulpore, December.	Hume Coll.
<i>x, y.</i> Ad. sk.	Shada, Khandeish, April 1 ( <i>J. Davidson</i> ).	Hume Coll.
<i>z.</i> ♂; <i>a'</i> Ad. sk.	Ahmednagar, Nov., Jan. ( <i>Fairbank</i> ).	Tweeddale Coll.
<i>b', c'.</i> ♂ ♀ ad. sk.	Ahmednagar ( <i>Fairbank</i> ).	Tweeddale Coll.
<i>d'.</i> Ad. sk.	Madras.	Gould Coll.
<i>e'.</i> Ad. sk.	Madras.	Dr. Jerdon [P.].
<i>f'.</i> ♂ ad. sk.	Travancore, Feb. 25.	C. Bourdillon, Esq. [P.].
<i>g'.</i> ♂ ad. sk.	Calachull, Feb. 28.	Hume Coll.
<i>h'.</i> Ad. sk.	Ceylon ( <i>H. Neville</i> ).	Tweeddale Coll.
<i>i'.</i> Ad. sk.	Ceylon ( <i>Cuming</i> ).	J. L. Layard, Esq. [C.].
<i>k'.</i> Ad. sk.	Ceylon.	H. L. Cuming, Esq. [C.].
<i>l'.</i> ♀ ad. sk.	Ceylon, December 30.	Col. V. Legge [P.].

### 3. *Tachornis infumata*.

*Cypselus batasiensis*, *Bernst. J. f. O.* 1860, p. 429 (Java).  
*Cypselus infumatus*, *Scl. P. Z. S.* 1865, p. 602 (Borneo); *id. J. f. O.* 1867, p. 122; *Gray, Hand-l.* i. p. 64, no. 730 (1869); *Hume, Ibis*, 1870, p. 533; *Jerd. Ibis*, 1871, p. 355, pl. 10; *Swinh. P. Z. S.* 1871, p. 345; *Gould, B. Asia*, i. pl. 20 (1870); *Hume, Stray Feath.* 1874, p. 469; *Salvad. Ucc. Borneo*, p. 119 (1874); *Hume, Stray Feath.* 1875, pp. 12, 44, vi. p. 48 (1878), viii. p. 47 (1879); *Bingham, Stray Feath.* viii. p. 192 (1879), ix. p. 149 (1880); *Sharpe, P. Z. S.* 1879, p. 333 (Borneo); *Kelham, Ibis*, 1881, p. 373; *Oates, B. Burmah*, ii. p. 4 (1883); *Vorderm. Nat. Tijdschr. Nederl. Ind.* 1883, p. 212; *Kutter, J. f. O.* 1885, p. 344 (nest); *Hartert (Baker), J. f. O.* 1889, p. 423 (Cachar); *Sharpe, Ibis*, 1890, p. 23.

*Cypselus tinus*, *Swinh. Ibis*, 1870, p. 90 (Hainan).

*Cypselus tectorum*, *Jerd. Proc. As. Soc. Beng.* 1870, p. 61; *Godwin-Austen, J. A. S. B.* xxxix. pt. ii. p. 94 (1870); *Hume, Ibis*, 1870, p. 532.

*Cypselus minusculus*, *Salvad. Ann. Mus. Civ. Gen.* 1889, p. 583 (Burmah).

*Adult.* Upper parts dark brown or nearly black; head, wings, and tail with rather perceptible steel-blue gloss; rump and upper tail-coverts paler; sides of head and lower plumage smoky brown; throat a little paler: "bill and feet black; claws dark brown; eyelids plumbeous; iris brown" (*Oates*). Total length about  $4\frac{1}{2}$  inches, wing 4.6, lateral rectrices 2.2, central 1.3.

*Hab.* From Cachar and Assam, over Burma and the Malay Peninsula to Borneo and Java, to the East extending into China.

a. Ad. sk.	Naga Hills ( <i>Godwin-Austen</i> ).	Tweeddale Coll.
b, c. ♂; d. ♀ ad. sk.	Manipur, March ( <i>A. O. Hume</i> ).	Hume Coll.
e. ♂; f. Ad. sk.	Tonghoo, July 26 ( <i>R. G. W. R.</i> ).	Tweeddale Coll.
g, h. ♂ ad. sk.	Pegu, May ( <i>E. W. O.</i> ).	Oates Coll.
i. Ad. sk.	Br. Burma.	Tweeddale Coll.
k. ♂ ad.; l, m. Ad. sk.	Amherst, Tenasserim, June, Sept. ( <i>W. Davison</i> ).	Hume Coll.
n. Ad. sk.	Tenasserim, Feb. 22.	J. Packman, Esq. [P.].
o, p. ♂ ad. sk.	Malawoon, Feb., July ( <i>W. Davison</i> ).	Hume Coll.
q. Ad. sk.	Khykelito, Tenasserim, Jan. 31 ( <i>Davison</i> ).	Hume Coll.
r, s. ♂ ♀ ad. sk.	Pakehan, Jan. 24 ( <i>Davison</i> ).	Hume Coll.
t, u. ♂ ♀ ad. sk.	Pahpoon, Tenasserim, Jan. 10 ( <i>Davison</i> ).	Hume Coll.
v. ♀ ad. sk.	Kossoom, July 24 ( <i>J. Darling</i> ).	Hume Coll.
w. ♀ ad. sk.	Poonya, August 3 ( <i>J. Darling</i> ).	Hume Coll.
x. ♂ ad.; y, z. ♀ ad. sk.	Mergui, June 7 ( <i>W. Davison</i> ).	Hume Coll.
a'. ♂ ad.; b', c'. ♀ ad. sk.	Klang, Malay Penins., Feb., March ( <i>W. Davison</i> ).	Hume Coll.
e'. ♂ imm. sk.	Klang, Malay Penins., March 21 ( <i>W. Davison</i> ).	Hume Coll.
f, g'. Ad. sk.	Malacca, Nov., July ( <i>Dr. Maingay</i> ).	Tweeddale Coll.
h. Ad. sk.	Malacca.	Capt. S. Pinwill [P.].
i. ♂ ad. sk.	Johore, Aug. 22 ( <i>W. Davison</i> ).	Hume Coll.
k'. ♂ ad. sk.	Singapore, Jan. 31 ( <i>W. Davison</i> ).	Hume Coll.
l, m'. ♂ ad. sk.	Hainan, March ( <i>Swinhoe</i> ).	
n'. Ad. sk.	Banjermassing, Borneo ( <i>Mottley</i> ).	A. R. Wallace, Esq. [P.]. (Type of the species.)
o'. Ad. sk.	Kina Benua R., Labuan.	Ussher Coll.
p'. Ad. sk.	Java.	Tweeddale Coll.

#### 4. *Tachornis phœnicobia*.

*Tachornis phœnicobia*, *Gosse, B. Jamaica*, p. 58, pl. 9 (1847); *Gundl. J. f. O.* 1856, p. 5 (Cuba); *Albrecht, J. f. O.* 1862, p. 194 (Jamaica); *A. & E. Newton, Handb. Jamaica*, p. 108 (1881).

*Cypselus phoenicobius*, *Bp. Consp.* i. p. 66 (1850); *Scl. P. Z. S.* 1865, p. 604; *id. J. f. O.* 1867, p. 125; *Gray, Hand-l.* i. p. 64 (1869); *Scl. & Salv. Nom. Av. Neotr.* p. 94 (1873); *Salv. Cat. Strickl. Coll.* p. 371 (1882); *Cory, B. Haiti & S. Domingo*, p. 87 (1885); *id. Auk*, iii. p. 344 (1886); *id. B. W. Ind.* p. 139 (1889).

*Cypselus cayennensis*, *Sallé, P. Z. S.* 1857, p. 232.

*Cypselus iradii*, *Lemb. Aves Cuba*, p. 50 (1850).

*Cypselus cayanensis*, *Bryant, Pr. Bost. Soc. Nat. Hist.* xi. p. 95 (1866).

*Tachornis iradii*, *Gundl. Ann. Lyc. Nat. Hist.* 1860, p. 268 (Cuba); *id. J. f. O.* 1874, p. 116.

*Adult.* Tail short, slightly furcate. Above black, wings a little lighter; head and neck dark sooty brown; a large white band across the rump, with some dark spots down the middle; throat and middle of abdomen white; under wing-coverts, under tail-coverts, sides of body, and a band across the breast dark sooty brown; chin dusky. Total length about 4 inches, wing 4.1, lateral rectrices 1.65, central 1.4.

*Hab.* Jamaica, Cuba, Haiti, and San Domingo.

<i>a-f.</i> Ad. sk.	Jamaica.	
<i>g-k.</i> ♂ ♀ ad. sk.	Spanish Town, Jamaica, Feb. ( <i>Bryant</i> ).	Slater Coll.
<i>l, m.</i> ♂ ad. sk.	Spanish Town, Jamaica.	Bryant Coll.
<i>n.</i> Sternum.	Jamaica.	Gosse Coll.

## 5. CLAUDIA.

*Cypselus*, partim, *auct. plurim.*

*Tachornis*, partim, *apud Gray.*

The single species of this genus belongs to the Palm-Swifts. It differs from *Tachornis* as *Panyptila* or *Aéronautes* (the latter of which is more allied to *Micropus* in the form of the feathers) does from *Micropus*. The feathering of the toes is quite obvious in skins.

*Range.* That of the single species hitherto known.

### 1. *Claudia squamata.*

*Cypselus squamatus*, *Cass. Proc. Ac. Phil.* vi. p. 369 (1853); *Scl. P. Z. S.* 1865, p. 605, pl. xxxiii.; *id. J. f. O.* 1867, p. 126; *Scl. & Salvin, P. Z. S.* 1867, p. 752 (Xeberos); *Pelz. Orn. Bras.* p. 16 (1867); *Scl. et Salv. Nomencl. Av. Neotrop.* p. 94 (1873); *Tacz. Orn. Pér.* i. p. 234 (1884).

*Cypselus marginipennis*, *Natt. MS., teste Scl. l. c.*

*Tachornis squamatus*, *Gray, Hand-l.* i. p. 64 (1869).

*Adult.* Tail long, very deeply furcate. Above, sides of body and under wing-coverts black with steel-blue gloss, all the feathers neatly bordered with white; beneath white, all the feathers with dark bases, which are more visible on the throat and upper breast,

and less so in the middle of the abdomen, which looks pure white; under tail-coverts blackish with longitudinal white stripes. Total length about 5.4 inches, wing 4.2, lateral rectrices 3, central 1.3.

*Hab.* South America, Guiana, and Brazil, and in Eastern Peru.

<i>a, b.</i> Ad. sk.	South America.]	Purchased.
<i>c.</i> ♂ ad. sk.	Aunai, Brit. Guiana, Jan. 1 ( <i>H. Whiteley</i> ).	Salvin-Godman Coll.
<i>d.</i> Ad. sk.	Surinam ( <i>Bartlett</i> ).	Slater Coll.
<i>e.</i> Ad. sk.	Pernambuco.	Slater Coll.
<i>f.</i> ♀ ad. sk.	Brazil, June 20 ( <i>Natterer</i> ).	Slater Coll.
<i>g.</i> ♂ ad. sk.	Xeberos, E. Peru, Oct. 10 ( <i>Bartlett</i> ).	Salvin-Godman Coll.
<i>h.</i> ♂ ad. sk.	Peru ( <i>H. Whiteley</i> ).	Salvin-Godman Coll.

## Subfamily II. CHÆTURINÆ.

### *Key to the Genera.*

- a.* Shafts of rectrices stiff and spinous.  
*a'* Shafts of rectrices very stiff, with perceptibly prominent spinous points. Plumage generally with very different colours, often with large parts of white or light grey, never with rufous . . . . . 6. CHÆTURA, p. 470.  
*b'* Shafts of rectrices not so stiff, and without perceptibly prominent spinous points. Plumage uniform or with rufous collar in the male . . . . . 7. CYPSELOIDES, p. 492.  
*b.* Shafts of rectrices ordinary and without spinous points . . . . . 8. COLLOCALIA, p. 496.

### 6. CHÆTURA.

	Type.
Chætura, <i>Steph. Gen. Zool.</i> xiii. pt. 2, p. 76 (1826) . .	<i>C. pelagica</i> .
Acanthylis*, <i>Boie, Isis</i> , 1826, p. 971 (descr. nulla) . .	<i>C. spinicauda</i> .
Hirundapus †, <i>Hodgs. Journ. As. Soc. Beng.</i> v. p. 780 (1836) . . . . .	<i>C. nudipes</i> .
Pallene, <i>Less. Compl. Buff.</i> viii. p. 493 (1857) . . . . .	<i>C. gigantea</i> .
Hemiprocne, <i>Nitzsch, Pterylogr.</i> p. 123 (1840) . . . . .	<i>C. zonaris</i> .
Hirundinapus, <i>Scl. P. Z. S.</i> 1865, p. 607.	
Rhaphidura, <i>Oates, B. Burm.</i> ii. p. 6 (1883) . . . . .	<i>C. leucopygialis</i> .

I cannot recognize the genus *Hemiprocne*, because the form of the tail alone cannot be regarded as being sufficient to separate genera in the *Cypselidæ*, as the species of the genus *Micropus* clearly show.

*Range.* From Amoorland throughout Asia, except its most

\* Should be spelt *Acanthyllis*.

† *Hirundinapus* corr.



western parts, the Malayan and Papuan region to Australia (at least on migration), Tropical Africa, and nearly the whole of America except the most southern part. Eggs invariably white.

*Key to the Species\*.*

- a. No white band across the breast.
- a'. Large, wing about 7 to 8 inches; chin and throat pure white.
- a''. Small white band across the forehead . . . . . *caudacuta*, p. 472.
- b''. Without white on the forehead . . . . . *nudipes*, p. 474.
- b'. Size similar; chin and throat not white.
- c''. Above and below steel-blue, back with purple gloss . . . . . *celebensis*, p. 476.
- d''. Lower surface smoky brown, back paler.
- a'''. No white spot between the lores and nostrils . . . . . *gigantea*, p. 475.
- b'''. White spots between the lores and nostrils . . . . . *indica*, p. 475.
- c'. Smaller; above metallic glossy blue; no white on the rump.
- e''. Greater under wing-coverts pure white. . . . . *picina*, p. 487.
- f''. Under wing-coverts glossy greenish . . . . . *novæ-guineæ*, p. 487.
- d'. Smaller; lower abdomen, rump, under and upper tail-coverts white with dark shafts . . . . . *sabinei*, p. 487.
- e'. Smaller; white band across the rump.
- g''. White band on the rump broad; lower surface only with the anal region white. . . . . *ussheri*, p. 488.
- h''. White band narrow, crossing the upper tail-coverts; entire abdomen white.
- c'''. Wing about 6 inches or more . . . . . *cassini*, p. 488.
- d'''. Wing about 5 inches . . . . . *boehmi*, p. 489.
- i''. Band across the rump, lower abdomen and lower tail-coverts white; altogether a much smaller bird . . . . . *sylvatica*, p. 489.
- f. Of smaller size; rump paler or darker brown or grey.
- k''. Lower surface black.
- e'''. Entire lower surface glossy bluish black; upper tail-coverts grey with black shafts . . . . . *leucopygialis*, p. 490.
- f'''. Entirely glossy blackish above and below, except tail, upper and under tail-coverts, which are pale ashy brown . . . . . *poliura*, p. 484.
- l''. Lower surface greyish brown with dark shaft-stripes . . . . . *grandidieri*, p. 489.
- m''. Lower surface more or less brown or greyish, without shaft-stripes.
- g'''. Throat distinctly paler than the abdomen.

\* Some forms, of which I have not been able to examine specimens or which are rather doubtful, are mentioned at the end of this genus.

- a*<sup>1</sup>. Almost uniform above.  
*a*<sup>5</sup>. Brown above.  
*a*<sup>6</sup>. Wing about 5·1 inches . . . . . *pelagica*, p. 480.  
*b*<sup>6</sup>. Wing about 4·6 inches . . . . . *vauri*, p. 481.  
*c*<sup>6</sup>. Wing about 4·2 inches . . . . . *gaumeri*, p. 482.  
*b*<sup>5</sup>. Glossy bluish black above . . . . . *sclateri*, p. 485.  
*b*<sup>1</sup>. Rump much paler than the back.  
*c*<sup>5</sup>. Rump pale ashy.  
*d*<sup>6</sup>. Only a grey band across the rump . . . . . *spinicauda*, p. 483.  
*e*<sup>6</sup>. Entire rump and shorter upper tail-coverts grey . . . . . *fumosa*, p. 483.  
*d*<sup>5</sup>. Rump bluish ashy . . . . . *cinereiventris* & *guineensis*, pp. 485, 486.  
*h*<sup>11</sup>. Throat almost uniform with the abdomen.  
*c*<sup>1</sup>. Rump and upper tail-coverts pale brown . . . . . *cinereicauda*, p. 482.  
*d*<sup>1</sup>. Rump only a little paler than the back, longer upper tail-coverts uniform with the back . . . . . *acuta*, p. 486.  
*g*<sup>1</sup>. Very large, wing about 9 inches; narrow white band on the neck only . . . . . *semicollaris*, p. 479.  
*b*. White band across the breast.  
*h*<sup>1</sup>. White band on the neck connected with the band across the neck, thus forming a ring-like collar . . . . . *zonaris* and allies, [p. 476.  
*i*<sup>1</sup>. White band on the breast separated from the white patch on the neck . . . . . *biscutata* \*, p. 479.

### 1. *Chætura caudacuta*.

- Hirundo caudacuta*, *Lath. Ind. Orn. Suppl.* p. 57 (1801); *Steph. Gen. Zool.* x. p. 133 (1817); *Vieill. N. D.* xiv. p. 335 (1817); *id. Enc. Méth.* p. 531 (1823).  
*Hirundo ciris*, *Pall. Zoogr. Rosso-As.* i. p. 541 (1811).  
*Hirundo fusca*, *Steph. Gen. Zool.* x. p. 133 (1817).  
*Chætura australis*, *Steph. Gen. Zool.* xiii. p. 76 (1826).  
*Chætura fusca*, *Steph. ibid.* p. 5 (1826).  
*Chætura macroptera*, *Swains. Zool. Ill.* pl. 42 (1833); *id. Class. B.* ii. p. 340 (1837).  
*Acanthylis caudacuta*, *Gray, Ann. S. Mag. Nat. Hist.* 1843, p. 194; *Rehb. Vög. Neuhol.* i. p. 183 (1850); *Bp. Consp.* i. p. 64 (1850); *Gould, B. Austral.* ii. pl. 10 (1851-1869); *Radde, Reis. Sibir. Vög.* p. 129 (1863); *Rosenb. J. f. O.* 1864, p. 117; *Swinh. P. Z. S.* 1863, p. 263 (China); *id. Ibis*, 1870, p. 90 (Hainan); *Newt. P. Z. S.* 1880, p. 1 (England) †; *Dresser, B. Eur.* iv. p. 613, pl. 270 (1880);

\* Bonaparte, *Consp.* i. p. 64 (1850), includes in his genus *Acanthylis* a "*Chætura albifrons*, Jard. & Selby, *Ill. Orn.* ii. pl. 56;" but on referring to that work I find described and figured *Acanthiza albifrons*, from Australia. Bonaparte must have mistaken *Acanthiza* for *Acanthylis*. (Cf. *Cat. B.* vii. p. 666.)

Gmelin's "*Hirundo sinensis*," quoted by Vieill. *Enc. Méth.* p. 534 (1822) and Bonaparte, *Consp.* i. p. 65, as *Cypselus sinensis*, is a *Cotyle*. (Cf. Sharpe, *Cat. B.* x.)

† Newton, Dresser, and a few other authors have spelt the name correctly *Acanthyllis*.

- Seeb. Ibis*, 1882, p. 423 (Siberia); *Lilford, Col. Fig. Brit. B.* pt. xvi. (1890).
- Pallene caudacuta*, { *Boie, Isis*, 1844, p. 168.  
*Pallene macroptera*, {
- Chætura caudacuta*, *Cab. et Heine, Mus. Hein.* iii. p. 83 (1860); *Scl. P. Z. S.* 1865, p. 607; *id. J. f. O.* 1867, p. 129; *Gould, Handb. B. Austr.* i. p. 103 (1865); *Savinh. P. Z. S.* 1871, p. 345; *id. Ibis*, 1875, p. 448; *Tacz. J. f. O.* 1872, p. 351 (E. Siber.); *Pelz. Ibis*, 1873, p. 108; *Ramsay, P. Z. S.* 1875, p. 581 (N.E. Queensland); *David et Oust. Ois. Chin.* p. 70 (1877); *Prjev. in Rowl. Orn. Misc.* ii. p. 160 (1877); *Blak. & Pryer, Ibis*, 1878, p. 231; *Salv. Cat. Strickl. Coll.* p. 372 (1882); *Seeb. Hist. Brit. B.* ii. p. 303 (1884); *Kirk, Ibis*, 1889, p. 298 (N. Zealand); *Seeb. B. Japan*, p. 178 (1890).
- Acanthylis ciris*, *Bp. Consp.* i. p. 65 (1850); *Blyth, Ibis*, 1866, p. 339 (part.).
- Hirundapus caudacuta*, *Gray, Hand-l.* i. p. 67, no. 770 (1869).
- Hirundapus ciris*, *Gray, ibid.* no. 771 (1869).
- Hirundinapus caudacutus*, *Salvad. Ann. Mus. Civ. Gen.* xii. p. 320 (1878); *id. Orn. Papuas.* i. p. 536 (1880).
- Hirundinapus acuticanda* (err.), *Oates, B. Burmah*, ii. p. 6, note (1883).

*Adult.* Large spot between the lores and nostrils white, generally united so that the whole forehead is white; crown, nape, and sides of the head blackish brown with metallic gloss; back, scapulars, and rump pale brown, palest on the centre of the back, feathers of the rump, in most of the specimens, distinctly white on basal portion; wings and tail black with greenish and steel-blue gloss, the latter being strongest on the wing-coverts and upper tail-coverts; innermost secondaries with the inner webs quite or mostly white; chin, throat, vent, and under tail-coverts white; rest of the underparts sooty brown, feathers of the lower abdomen with white bases; lower flanks glossy bluish black with white; under wing-coverts blackish brown with a little metallic gloss. Total length about 8 inches, wing 8·2, tarsus 0·6, tail 2·3.

*Younger birds* show only indications of the white on the forehead; the brownish spots on the under tail-coverts, which are to be seen in many specimens, are also a sign of immaturity.

The *female* seems to be slightly smaller.

*Hab.* South-eastern Mongolia and Eastern Siberia (Irkutsk, Yakutsk, Amoor, Ussuri), wandering in winter down to Australia, passing over China and Japan, in the northern parts of which it also breeds. Occurred twice as a straggler in Great Britain.

<i>a.</i> Ad. ; <i>b.</i> Imm. sk.	[Australia?]	
<i>c.</i> Imm. sk.	Australia.	Salvin-Godman Coll.
<i>d.</i> Ad. sk.	Amoor, Siberia.	Purchased.
<i>e.</i> Imm. sk.	Japan.	Tweeddale Coll.
<i>f.</i> ♀ ad. sk.	Chinese Sea, off Gutzloff, May 24.	Dr. McKinlay [P.].
<i>g.</i> Ad. st.	Australia.	Purchased.
<i>h.</i> Imm. sk.	Australia.	Purchased.

<i>i.</i> Ad. sk.	Australia.	Jardine Coll.
<i>k.</i> Ad. sk.	E. Australia.	Tweeddale Coll.
<i>l.</i> Ad. ; <i>m.</i> Imm. sk.	Queensland ( <i>J. T. Cockerill</i> ).	Salvin-Godman Coll.
<i>n. o.</i> Ad. sk.	N. S. Wales.	Gould & Hume Colls.
<i>p.</i> Ad. sk.	Asfield, N. S. W., January.	Hume Coll.
<i>q.</i> Ad. sk.	Tasmania.	Gould Coll.

## 2. *Chætura nudipes*.

*Chætura nudipes*, *Hodgs. Journ. As. Soc. Beng.* v. p. 779 (1836); *Swinh. Ibis*, 1860, p. 48 (Amoy); *Hume, Str. F.* ix. pp. 230, 286 (1880).

*Cypselus leuconotus*, *Deless. Mag. Zool.* 1840, Ois. pl. 20 (Bootan); *id. Ibis*, 1861, p. 205 (notice).

*Cypselus nudipes*, *Deless. Voy. Inde*, p. 25, pl. 9 (1834).

*Acanthylis fusca*, *Blyth, Cat. B. Mus. As. Soc.* p. 84 (part.) (1849)

*Acanthylis nudipes*, *Horsf. & Moore, Cat. B. Mus. E. I. Comp.* p. III (1854).

*Chætura caudacuta*, *Tytler, Ibis*, 1868, p. 196 (Himalaya).

*Chætura gigantea*, *Hume & Cripps, Str. F.* xi. p. 30 (1888) (Dibrughur).

The only real difference to be depended on between this species and *C. caudacuta* is, that the present species never shows any white on the forehead or any indication of it. Besides this, the steel-blue gloss on the upper parts is a little stronger, the dark hind neck reaches a little further down to the back and is blacker, so that the light centre of the back becomes more obvious by contrast. The wing is a little shorter on an average, but not always.

*Hab.* From the Hazara Mountains throughout the Himalayas to Bootan.

One specimen shot in August near Dibrughur, in Upper Assam, belongs to this species. It is erroneously quoted as *C. gigantea* (Stray Feath. xi. *l. e.*).

<i>a-d.</i> Ad. sk.	Nepal.	Hodgson Coll. (Types of the species.)
<i>e, f, g.</i> Ad. sk.	Nepal ( <i>B. H. Hodgson</i> ).	India Museum.
<i>h.</i> ♀ ad. sk.	Darjiling, May.	Hume Coll.
<i>i-m.</i> Ad. sk.	Interior of Sikkim, March, April ( <i>L. Mandelli</i> ).	Hume Coll.
<i>n.</i> Ad. sk.	Bootan.	— Pemberton, Esq. [P.].
<i>o.</i> ♀ ad. sk.	Dibrughur, Aug. 15 ( <i>J. R. Cripps</i> ).	Hume Coll.
<i>p, q.</i> Ad. sk.	N.W. Himalaya.	Pinwill Coll.
<i>r, s.</i> ♀ ad. sk.	Cashmere, Aug.	Hume Coll.
<i>t.</i> ♂ ad. ; <i>u.</i> ♀ ad. sk.	Koteghur.	Hume Coll.
<i>v, w, x.</i> ♂ ad. ; <i>y.</i> ♀ ad. sk.	Hazara Distr., June, July, Aug. ( <i>Col. R. S. S. R. S.</i> ).	Hume Coll.
<i>z.</i> Part of skeleton.	Nepal.	Hodgson Coll.

3. *Chætura gigantea*.

*Cypselus giganteus*, *Temm. Pl. Col.* 364 (1825) (Java).

*Acanthylis caudacuta*, part., *Blyth, Cat. B. Mus. As. Soc.* p. 84 (1849).

*Acanthylis giganteus*, *Bp. Consp.* i. p. 64 (1850).

*Chætura gigantea*, *Scl. P. Z. S.* 1865, p. 608; *id. J. f. O.* 1867, p. 129; *Hume, Str. F.* iv. p. 223 (1876), viii. p. 47 (1879) (Malay Pen.); ? *Hume & Davison, Str. F.* vi. p. 46 (Tenasserim) (1878); *Sharpe, P. Z. S.* 1879, p. 335; *id. Ibis*, 1888, p. 198 (Palawan); *Kelham, Ibis*, 1881, p. 372.

*Hirundinapus giganteus*, *Salvad. Ucc. Borneo*, p. 124 (1874); *Oates, B. Burmah*, ii. p. 5 (1883); *Biittik. Notes Leyden Mus.* ix. p. 40 (1887) (Sumatra); *Hartert, J. f. O.* 1889, p. 400 (Perak); *Sharpe, Ibis*, 1890, p. 24; *Steere, List B. & Mamm. Philippin.* p. 12 (1890).

Forehead, crown and nape, hind neck, sides of the head and neck, wings and tail almost black with steel-blue gloss: lores deep black, without any gloss: back, scapulars, rump, and entire lower surface deep smoky brown; under tail-coverts and stripes along the lower flanks white. Total length nearly 9 inches, wing 8, tail 2.8, tarsus 0.65.

In this species and in *C. indica* the rectrices are acute and run into a very long spine, whereas in *C. caudacuta* and *C. nudipes* they are rounded, and the spine is only half as long.

*Hab.* Malay Peninsula, Sumatra, Java, Borneo, Palawan, and Paragna.

*C. gigantea* is quoted from Malawoon in S. Tenasserim, but the specimen from that locality in the Hume Collection shows the beginning of white spots on the forehead, and therefore must belong to the somewhat doubtful *C. indica*.

<i>a.</i> Ad. sk.	Penang.	Cantor Coll.
<i>b, c, d.</i> ♀ ad. sk.	Selangore, April, June, July	Hume Coll.
	( <i>W. Davison</i> ).	
<i>e, f.</i> Ad. sk.	Malacca ( <i>Dr. Maingay</i> ).	Tweeddale Coll.
<i>g, h, i.</i> Ad. sk.	Malacca.	Pinwill Coll.
<i>k.</i> Ad. sk.	Singapore.	Wallace Coll.
<i>l.</i> ♂ ad. sk.	Palawan, Sept.	Steere Coll.
<i>m.</i> Ad. sk.	Sarawak.	J. J. Hose, Esq. [P.].
<i>n, o.</i> Ad. sk.	Labuan, Borneo.	Governor Ussher [C.].

4. *Chætura indica*.

*Acanthylis caudacuta*, *Blyth, Cat. B. Mus. As. Soc.* p. 84 (part.) (1849); *Layard. Ann. & Mag. Nat. Hist.* xii. p. 170 (1853) (Ceylon).

*Acanthylis gigantea*, *Jerd. B. Ind.* i. p. 172 (1862); *Holdsw. P. Z. S.* 1872, p. 419 (Ceylon); *Ball. Str. F.* i. p. 55 (1873) (Andamans); *Legge, Ibis*, 1874, p. 13, 1875, p. 280; *Bl. & Wald. B. Burma*, p. 84 (1875); *Wardl. Ramsay, Ibis*, 1877, p. 459.

*Hirundinapus giganteus*, *Walden, Ibis*, 1874, p. 131 (Andamans).  
*Chætura indica*, *Hume, Str. F.* i. pp. 131, 471, ii. p. 155 (1873), iv. p. 223 (1876), v. p. 17 (Cachar) (1877), vi. p. 46 (Tenasserim), vii. p. 34 (Travancore), xi. p. 30 (Manipur) (1888); *Davison, Str. F.* x. p. 347 (Mysore) (1882); *Oates, B. Burmah*, ii. p. 5 (1883).

*Chætura gigantea*, *Legge, B. Ceylon*, p. 314 (1878).

Similar to *C. gigantea*, but differs in having a large white spot between the lores and nostrils in adult birds. The wing is a little shorter on an average. The rump and back is generally paler than in *C. gigantea*, but this is not quite constant. The same is the case with the paler chin and throat, which is generally obvious, but not always. Total length about nearly 9 inches, wing 7·9, tail 2·7, tarsus 0·65.

The white spot between the lores and nostrils is not visible in young birds, and I have specimens before me of *C. gigantea* in which an indication of white is visible, so that it seems probable that the white spot is assumed as they get older. I believe that *C. indica* will have to rank as a subspecies when further materials of *C. gigantea* are compared with the long series of *C. indica* in the British Museum.

*Hab.* Hills of Southern India and Ceylon, reaching north as far as Cachar. Plentiful in the Andaman Islands.

<i>a.</i> Ad. sk.	Caehar ( <i>J. Inglis</i> ).	Hume Coll.
<i>b, c.</i> Ad. sk.	Tonghoo ( <i>W. Ramsay</i> ).	Tweeddale Coll.
<i>d, e.</i> ♂ imm. sk.	Malawoon, July 9 ( <i>W. Davison</i> ).	Hume Coll.
<i>f, g.</i> ♀ ad. sk.	Bankasoon, Dec. 21 ( <i>W. Davison</i> ).	Hume Coll.
<i>h.</i> ♂ ad. sk.	Salanga, March 3 ( <i>J. Darling</i> ).	Hume Coll.
<i>i.</i> Ad. sk.	Nilgherries.	India Museum.
<i>k, l.</i> ♂ ad. sk.	Travancore, Nov., Jan.	Bourdillon Coll.
<i>m.</i> ♂ ad. sk.	Mynall, Oct.	Hume Coll.
<i>n-r.</i> ♀ ad. ; <i>s, t,</i>	Coimbatore, July, Oct.	Hume Coll.
<i>u.</i> Ad. sk.		
<i>v-a'.</i> ♂ ♀ ad. sk.	S. Andamans, April, June, July, Aug., Sept., Nov., Dec.	Hume & Tweeddale Colls.

### 5. *Chætura celebensis*.

*Chætura gigantea*, var. *celebensis*, *Scl. P. Z. S.* 1865, p. 608; *id. J. f. O.* 1867, p. 130.

*Hirundinapus celebensis*, *Salvad. Ann. Mus. Civ. Gen.* xii. p. 320 (1878).

*Adult.* Deep steel-blue, back and rump with purple gloss; two white spots on the sides of the forehead; sides of the abdomen and under tail-coverts white. In size similar to *C. gigantea*.

A very distinct species, the only known specimens of which are preserved in the Leiden Museum.

*Hab.* Menado, Celebes.

### 6. *Chætura zonaris*.

#### *a. Referring to Continental specimens.*

*Hirundo zonaris*, *Shaw, Mill. Cim. Phys.* p. 100, pl. 55 (1796).

*Hirundo albicollis*, *Vieill. Nouv. Dict.* xiv. p. 524 (Brazil) (1817).

*Cypselus collaris*, *Temm. Pl. Col.* 195 (1823); *Wied, Beitr.* iii. p. 344 (1831).

- Hemiprocne collaris*, *Nitzsch, Pterylogr.* p. 123 (1840).  
*Pallene collaris*, *Boie, Isis*, 1844, p. 168.  
*Hemiprocne torquata*, *Streubel, Isis*, 1848, p. 362.  
*Acanthylis collaris*, *Bp. Consp.* i. p. 64 (1850); *Burm. Syst. Uebers. Th. Bras.* ii. p. 364 (1856); *id. La Plata Reise*, ii. p. 449 (1861).  
*Acanthylis albicollis*, *Scl. P. Z. S.* 1854, p. 10; *Scl. & Salvin, Ibis*, 1859, p. 125, 1860, p. 37 (Guatemala).  
*Hemiprocne zonaris*, *Cab. & Heine, Mus. Hein.* iii. p. 84 (1860); *Scl. & Salv. Nomencl. Av. Neotrop.* p. 95 (1873); *Pelz. Ibis*, 1875, p. 330; *Boucard, P. Z. S.* 1878, p. 67 (Irazu); *Scl. & Salv. P. Z. S.* 1879, p. 531 (Antioquia), p. 626 (Bolivia); *Sumichr. Naturaleza*, v. p. 250 (Mexico) (1882); *Scl. B. Argentine*, ii. p. 11 (1889).  
*Chætura zonaris*, *Scl. Cat. Am. B.* p. 282 (1862); *id. P. Z. S.* 1863, p. 99, 1865, p. 609; *id. J. f. O.* 1867, p. 131; *Scl. & Salvin, P. Z. S.* 1867, p. 752, 1873, p. 289 (E. Peru); *Pelz. Orn. Bras.* p. 15 (1867); *Gray, Hand-l.* i. p. 64 (1869); *Salvin, Cat. Strickl. Coll.* p. 372 (1882); *Bedd. Ibis*, 1885, p. 20; *Salvin, Ibis*, 1885, p. 436.  
*Hemiprocne zonaris*, *Tacz. Orn. Pérou*, i. p. 231 (1884).

b. Referring to specimens from the West Indies.

- Cypselus collaris*, *Albrecht, J. f. O.* 1861, p. 206 (Cuba).  
*Acanthylis collaris*, *Gosse, B. Jamaica*, p. 51 (1847).  
*Chætura zonaris*, *Scl. P. Z. S.* 1861, p. 77 (Jamaica); *Albrecht, J. f. O.* 1862, p. 201.  
*Nephocætes collaris*, *Gundl. J. f. O.* 1862, p. 177, 1874, p. 114; *id. Contr. Orn. Cuba*, p. 83 (1876).  
*Acanthylis zonaris*, *A. & E. Newton, Handb. Jamaica*, p. 108 (1881).  
*Hemiprocne zonaris*, *Cory, List B. W. Ind.* i. p. 17 (1885); *Wells, Proc. U. S. Mus.* ix. p. 620 (1886) (Grenada); *Cory, B. W. Ind.* p. 141 (1889).

*Adult.* All over blackish brown with a slight metallic gloss; a broad collar round the neck and breast white. Total length about 9 inches, wing 8·5 to 8·8, tail 3, tarsus 1·9.

*Younger birds* have the collar, especially on the breast, only indicated or mixed with black. Nestlings have probably no collar at all. Very young birds have also whitish edges to the feathers of the lower parts.

*Hab.* Brazil, Bolivia, Peru, Ecuador, extending northwards to Veragua, Guatemala, and Mexico. In the West Indies it is recorded from the islands of Jamaica, Cuba, San Domingo, and Grenada.

Specimens from Guatemala and Mexico seem to be a little smaller on an average, but cannot be separated from the true *C. zonaris*. They do not belong to the small form from Roraima.

Seven specimens from Jamaica and San Domingo have a very perceptible brownish-grey forehead and a short and narrow whitish stripe over the fore part of the eye. These may be only seasonal features, as I have not a quite freshly moulted specimen before me,

but they may possibly be peculiar to birds from the West Indies. I do not find them so well-defined in Continental specimens of *C. zonaris*, although they are indicated in some.

a. Ad. st.	"Caracas."	
b. Ad. sk.	Brazil.	Jardine Coll.
c. Ad. sk.	South Brazil.	Slater Coll.
d. ♀ ad. sk.	Rio Grande do Sul ( <i>Joyner</i> ).	Salvin-Godman Coll.
e. Ad. sk.	Rio Janeiro.	Hardy Coll.
f. ♀ ad. sk.	Chapada, Matto Grosso ( <i>H. Smith</i> ).	Salvin-Godman Coll.
g. Ad. sk.	Brazil.	S. de Rothsay Coll.
h. Imm. sk.	Minas Geraes, Brazil ( <i>Rogers</i> ).	Salvin-Godman Coll.
i, k. Imm. sk.	Upper Amazons.	Purchased.
l. ♀ ad. sk.	Chyavetas, E. Peru, July ( <i>E. Bartlett</i> ).	Salvin-Godman Coll.
m. Ad. sk.	Quito ( <i>W. Jameson</i> ).	Jardine Coll.
n. Imm. ; o. Ad. sk.	Consata, Bolivia ( <i>C. Buckley</i> ).	Salvin-Godman Coll.
p. Ad. sk.	Bogota.	Purchased.
q. ♀ ad. sk.	Frontino, U.S. of Colombia, Sept. ( <i>T. K. Salmon</i> ).	Salvin-Godman Coll.
r. Ad. sk.	Intac, Ecuador, Dec. ( <i>C. Buckley</i> ).	Salvin-Godman Coll.
s. ♀ imm. sk.	Veragua ( <i>Arcé</i> ).	Slater Coll.
t. ♀ ad. sk.	Chitra, Veragua ( <i>Arcé</i> ).	Salvin-Godman Coll.
u. ♂ ad. sk.	Calovevora, Veragua ( <i>Arcé</i> ).	Salvin-Godman Coll.
v. ♀ ad. sk.	Dueñas, Guatemala, Oct. ( <i>O. Salvin</i> ).	Tweeddale Coll.
w. ♀ ad. ; x. Ad. sk.	Dueñas, Guatemala, Oct. ( <i>O. Salvin</i> ).	Salvin-Godman Coll.
y. Imm. sk.	Villa Alta, Oaxaca, Mexico ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.

*Specimens from the West Indies.*

a. Ad. sk.	San Domingo.	Capt. Hamilton [C.].
b, c. Ad. sk.	Jamaica ( <i>Ward</i> ).	Slater Coll.
d. Ad. sk.	Jamaica.	Jardine Coll.
e. Ad. sk.	Jamaica.	Capt. Hamilton [C.].
f. ♂ ad. sk.	Spanish Town, Jamaica ( <i>W. T. March</i> ).	Smithsonian Inst.
g. ♂ ad. sk.	Kingston, Jamaica, June ( <i>O. Salvin</i> ).	Salvin-Godman Coll.

Subsp. a. *Chætura albicincta*.

? *Acanthylis collaris*, *Cab. in Schomb. Reis. Guiana*, iii. p. 709 (1848).

*Hemiprocne albicincta*, *Cab. J. f. O.* 1862, p. 165 (Guiana to Mexico); *Pelz, Ibis*, 1875, p. 330; *Salvin, Ibis*, 1885, p. 436.

? *Hemiprocne minor*, *Laur. Ann. N. Y. Ac. Sc.* ii. p. 11 (1882) (Bogota); *Reichen. & Schalow, J. f. O.* 1884, p. 382.

Like *C. zonaris* but considerably smaller, and the white collar



narrower on the upperside. Total length about 7·5 inches, wing 7·4, tail 2·8.

*Hab.* Roraima Mountains in British Guiana, and perhaps in some high mountains of Colombia, while the true *C. zonaris* is also found in Colombia.

Probably the smaller form from Roraima is produced by the isolated situation and great altitude of the mountains, and it is doubtful whether the birds named *Hemiprocne minor* by Lawrence really belong to the same small form.

<i>a, b.</i> ♂ ♀ ad. sk.	Roraima, 3500 ft., April	Salvin-Godman Coll.
	( <i>Whitely</i> ).	
<i>c.</i> Ad. sk.	Guiana ( <i>Brown</i> ).	Slater Coll.
<i>d.</i> Imm. sk.	"Cote Ferme" ( <i>Verreaux</i> ).	Jardine Coll.
<i>e.</i> Ad. st.	Brit. Guiana.	

### 7. *Chætura biscutata*.

*Chætura biscutata*, *Scl. P. Z. S.* 1865, p. 609, pl. 34 (Rio Janeiro & Ypanema); *id. J. f. O.* 1867, p. 130; *Pelz. Orn. Bras.* p. 15 (1867); *Gray, Hand-l. i.* p. 67 (1869); *Berl. Zeitschr. ges. Orn.* 1885, p. 155 (Rio Grande do Sul).

*Hemiprocne biscutata*, *Scl. & Salvin, Nomencl. Av. Neotrop.* p. 95 (1873).

Differs from *C. zonaris* in its collar not being complete, but broken into a large white patch on the breast and nape by the dark sides of the neck. Besides this the feathers of the chin are white with brown borders and shaft-stripes; front of head and short superciliary stripe whitish. Total length about 9 inches, wing 8·3, tail 3·2.

*Hab.* South-eastern Brazil (Ypanema, Rio de Janeiro, Rio Grande do Sul).

<i>a, b.</i> ♂ ad. sk.	Ypanema, Brazil, June 25 ( <i>Natterer</i> ).	Slater Coll.
		(Types of the species.)
<i>c.</i> ♀ ad. sk.	Rio de Janeiro.	Hardy Coll.

### 8. *Chætura semicollaris*.

*Acanthylis semicollaris*, *Sauss. Rev. Zool.* 1859, p. 118.

*Chætura semicollaris*, *Scl. Cat. Am. B.* p. 282 (1862); *id. P. Z. S.* 1863, p. 99, 1865, p. 609; *Scl. & Salvin, Ex. Orn.* p. 52, pl. iii. (1866); *Scl. J. f. O.* 1867, p. 130; *Scl. & Salvin, Nomencl. Av. Neotrop.* p. 95 (1873).

*Hemiprocne semicollaris*, *Sumichr. Naturalza*, v. p. 250 (note of type) (1882).

*Adult.* Blackish brown, with a narrow white band across the hind neck; no white on the underparts. Tail subequal. Total length about 9·5 inches, wing 9·2, tail 3·1.

*Hab.* Mexico.

<i>a.</i> Ad. sk.	Mexico ( <i>De Saussure</i> ).	Slater Coll.
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9. *Chætura pelagica*.

- Hirundo pelagica*, *Linn. Syst. Nat.* ed. x. p. 192 (1758).  
 L'Hirondelle de la Caroline, *Briss. Orn.* ii. p. 501 (1760).  
*Hirundo pelasgia*, *Linn. Syst. Nat.* ed. xii. p. 345 (1766); *Gm. Syst. Nat.* ii. p. 1023 (1788); *Wils. Am. Orn.* v. p. 48, pl. xxxix. (1812); *Veill. Nour. Dict.* xiv. p. 512 (1817); *Steph. Gen. Zool.* x. p. 129 (1817).  
*Cypselus pelagius*, *Wied, Beitr.* iii. p. 347 (1830); *Aud. Orn. Biogr.* ii. p. 329 (1834).  
*Hemiprocne pelasgia*, *Streubel, Isis*, 1848, p. 363.  
*Acanthylis pelasgia*, *Sp. Consp.* i. p. 64 (1850).  
*Chætura pelasgia*, *Baird, B. N. Amer.* p. 144 (1858); *Scl. Cat. Amer. B.* p. 282 (1862); *Scl. P. Z. S.* 1863, p. 100, 1865, p. 610; *id. J. f. O.* 1867, p. 132; *Gray, Hand-l.* i. p. 66 (1869); *Salv. Cat. Strickl. Coll.* p. 372 (1882); *id. Ibis*, 1889, p. 367 (Cozumel); *Jeffries, Auk*, vi. p. 120 (1889).  
*Chætura pelagica*, *Baird, Brew., & Ridgw. N. Amer. B.* ii. p. 432 (1874); *Scott, Auk*, i. p. 161 (1884); *Brewster, Auk*, iii. p. 105 (1886); *For, Auk*, iii. p. 319 (1886); *Chadbourne, Auk*, iv. p. 104 (1887); *Langdon, ibid.* p. 130; *Ridgw. M. N. Amer. B.* p. 303 (1887); *Richmond, Auk*, v. p. 21 (1888); *Chapman, ibid.* p. 272; *Scott, Auk*, vi. p. 252 (1889); *Pindar, ibid.* p. 314.

*Adult.* Dark sooty greyish, head and wings darker and with metallic gloss, rump and upper tail-coverts paler; lower parts sooty greyish, darker to the vent and under tail-coverts, whitish grey on the chin and throat; under wing-coverts like the abdomen. Total length about 5 inches, wing 5.1, tail 1.9.

*Young birds* have narrow whitish edges to the secondaries.

*Hab.* Eastern parts of North America, north to Labrador, west to the edge of the great plains, south, in winter, to Mexico; also Vancouver's Island.

<i>a.</i> ♂ ad. sk.	N. America.	Gould Coll.
<i>b.</i> Ad. sk.	N. America.	Audubon Coll.
<i>c.</i> Ad. sk.	Vancouver's Island.	
<i>d.</i> ♂ ad. sk.	Fort Dufferin, June ( <i>Dawson</i> ).	N. A. B. Commission.
<i>e.</i> Ad. sk.	New Brunswick ( <i>Osburn</i> ).	Sclater Coll.
<i>f.</i> ♀ ad. sk.	Waukegan, Ill., May 26 ( <i>E. W. Nelson</i> ).	Salvin-Godman Coll.
<i>g.</i> ♂ ad. sk.	Illinois, July ( <i>H. K. Coale</i> ).	Sharpe Coll.
<i>h.</i> ♂; <i>i.</i> ♀ ad. sk.	Locust Grove, N. Y., May, June ( <i>H. C. Merriam</i> ).	Salvin-Godman Coll.
<i>k, l.</i> ♀ ad. sk.	Lowville, N. Y. ( <i>A. J. Dayan</i> ).	Salvin-Godman Coll.
<i>m.</i> ♂ ad. sk.	Washington, D. C. ( <i>Smithson. Inst.</i> ).	Salvin-Godman Coll.
<i>n-p.</i> Imm. sk.;	Washington, D. C., July ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
<i>q-t.</i> ♂ ad. sk.;		
<i>u-v.</i> ♀ ad. sk.		
<i>y.</i> ♀ ad. sk.	Indiana, July ( <i>H. K. Coale</i> ).	Sharpe Coll.
<i>z, a'</i> ♂ ♀ ad. sk.	Grantville and Belmont, Massachusetts ( <i>Henshaw Coll.</i> ).	Salvin-Godman Coll.
<i>b'</i> Ad. sk.	California.	Lord Walsingham [P.].

<i>c'</i> . ♂ ad. sk.	Corpus Christi, Texas, May ( <i>F. B. Armstrong</i> ).	Salvin-Godman Coll.
<i>d'</i> . ♀ ad. sk.	Brownsville, Texas, May ( <i>F. B. Armstrong</i> ).	Salvin-Godman Coll.
<i>e', f'</i> . ♂ ad. sk.	Florida, April 22 ( <i>W. E. D. Scott</i> ).	Salvin-Godman Coll.
<i>g'</i> . Ad. sk.	Jalapa, Mexico ( <i>Boucard</i> ).	Salvin-Godman Coll.
<i>h'-i'</i> . ♂; <i>k'</i> . ♀;	Cozumel I., Yucatan ( <i>G. F. Gaumer</i> ).	Salvin-Godman Coll.
<i>l'</i> . Ad. sk.		
<i>m'</i> . Ad. sk.	Guatemala.	Tweeddale Coll.

10. *Chætura vauxi*.

*Cypselus vauxi*, *Towns. J. A. N. Sc. Philad.* viii. p. 148 (1839) (Columbia River).

*Acanthylis vauxi*, *Bp. Consp.* i. p. 64 (1850).

*Chætura vauxi*, *Baird, B. N. Amer.* p. 145, pl. xviii. (1858); *Salv. Ibis*, 1861, p. 147; *Sci. Cat. Am. B.* p. 282 (1862); *id. P. Z. S.* 1863, p. 100, 1865, p. 611; *id. J. f. O.* 1867, p. 133; *Brown, Ibis*, 1868, p. 421; *Gray, Hand-l.* i. p. 66 (1869); *Coues, Key N. Amer. B.* p. 183 (1872); *Baird, Brew., & Ridgw. N. Amer. B.* ii. p. 435 (1874); *Ridgw. U.S. Geol. Expl. 40th Par.* iii. p. 565 (1877); *id. Proc. U. S. Nat. Mus.* ix. p. 158 (1886); *Sumichr. Naturaleza*, v. p. 250 (1882); *Scott, Auk*, iii. p. 429 (1886); *Cooper, Auk*, iv. p. 92 (1887); *Towns. Proc. U.S. Nat. Mus.* x. p. 207 (N. California) (1887); *Ridgw. Man. N. Amer. B.* p. 303 (1887).

In general appearance similar to *C. pelagica*, but the wing much shorter, chin and throat much lighter, greyish white, sometimes nearly white, abdomen, rump, and upper tail-coverts paler. Total length about 4·3 inches, wing 4·6, tail 1·7.

*Hab.* Western parts of the United States of North America, north to British Columbia, south, in winter, to Guatemala.

<i>a</i> . ♀ ad. sk.	Washington Terr., July ( <i>C. B. Kennedy</i> ).	Salvin-Godman Coll.
<i>b</i> . ♂ ad. sk.	Ft. Klamath, Oregon, Aug. ( <i>S. Parker</i> ).	Salvin-Godman Coll.
<i>c, d, e</i> . Ad. sk.	N. California.	Tweeddale Coll.
<i>f, g, h</i> . ♂; <i>i</i> . ♀ ad. sk.	Nicasio, Marin Co., Cala., Sept. 24 ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
<i>j</i> . ♀ ad. sk.	Cazadero, Sonoma Co., Cala., July 6 ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
<i>k</i> . ♂ ad. sk.	St. Gorgonio Pass, California, May 4 ( <i>R. B. Herron</i> ).	Salvin-Godman Coll.
<i>l</i> . Ad. sk.	Puebla.	M. Boucard.
<i>m</i> . ♂ ad. sk.	Sierra of Mexico, Feb. ( <i>Ré- bouch</i> ).	Salvin-Godman Coll.
<i>n, o</i> . Ad. sk.	Mexico ( <i>De Saussure</i> ).	Sclater Coll.
<i>p, q</i> . ♀ ad. sk.	Alotenango, Guatemala Feb. ( <i>O. Salvin</i> ).	Salvin-Godman Coll.
<i>r</i> . Ad. st.	Henduras.	D. Dyson [C.].

11. *Chætura gaumeri*.

*Chætura gaumeri*, *Lawr. Ann. N. Y. Ac.* ii. p. 246 (1882), iii. p. 273 (1883), iv. p. 271 (1884); *Reichen. & Schalow, J. f. O.* 1884, p. 381; *Ridgw. Pr. U.S. Nat. Mus.* vi. p. 415 (Costa Rica) (1884); *id. Man. N. Amer. B.* p. 303 (1887); *Salvin, Ibis*, 1889, p. 367 (Cozumel).

*Chætura yucatanica*, *Lawr. Ann. N. Y. Ac.* iii. pp. 156, 157 (1884)\*. *Chætura peregrinator*, *Lawr. Ann. N. Y. Ac.* iii. p. 273 (1885)\* (Yucatan).

Similar to *C. vauvi*, but smaller, and darker above and on the abdomen. Total length about 4.2 inches, wing 4.2, tail 1.5.

*Hab.* Southern Mexico and Yucatan to Costa Rica.

Whereas *C. pelagica* and *C. vauvi* wander south in winter, *C. gaumeri* seems to be a resident bird throughout the year.

a, b. Ad. sk.	Temax, Yucatan, May ( <i>G. F.</i> Slater Coll. <i>Gaumer</i> ).
c-s. Ad. sk.	Cozumel I., Yucatan ( <i>G. F.</i> Salvin-Godman Coll. <i>Gaumer</i> ).
t, u. Ad. sk.	Cozumel I., Yucatan, April ( <i>G. F.</i> Salvin-Godman Coll. <i>F. Gaumer</i> ).
v. Ad. sk.	Chiriqui ( <i>Arcé</i> ). Salvin-Godman Coll.

12. *Chætura cinereicauda*.

? Vencejillo, *Azara, Apunt.* ii. p. 513 (1802)†.

? *Hirundo oxyura*, *Vieill. Nouv. Dict.* xiv. p. 536 (founded on the latter) (1817).

*Cypselus pelagius*, *Wied, Beitr.* iii. p. 347 (1833).

*Acanthylis oxyura*, *Bp. Consp.* i. p. 64 (1850); *Burm. Syst. Ueb. Th. Bras.* ii. p. 366 (1856); *Euler, J. f. O.* 1867, p. 222 (nest).

*Acanthylis cinereicauda*, *Cass. Proc. Ac. Sc. Phil.* v. p. 58, pl. 13. fig. 2 (1858).

*Chætura poliura*, *Scl. Cat. Am. B.* p. 283 (1862); *id. P. Z. S.* 1863, p. 101, 1865, p. 611; *id. J. f. O.* 1867, p. 133; *Pelz. Orn. Bras.* p. 16 (1868).

*Chætura cinereicauda*, *Scl. P. Z. S.* 1870, p. 329; *Scl. & Salv. Nomencl. Av. Neotrop.* p. 95 (1873).

*Adult.* Forehead, crown, nape, back, and wings black with steel-blue gloss; rectrices above blackish brown with metallic gloss; rump and upper tail-coverts pale dusky brown. Total length nearly 4.5 inches, wing 4.6, tail 1.7.

This species is distinguished from *C. gaumeri* by its longer tail and wings, by its underparts being uniform, the throat not at all

\* I had the opportunity of comparing the types of *C. yucatanica* and *C. peregrinator*, which were kindly sent me by Prof. Allen, and cannot detect any differences between *C. gaumeri* and the supposed new species.

† Until specimens have been procured in Paraguay it must remain doubtful whether Azara's bird is identical with that inhabiting Brazil or not.

or hardly perceptibly paler than the abdomen, and by the upper tail-coverts being very different in colour from the rectrices.

*Hab.* Brazil (Rio).

*a, b.* Ad. sk.

Brazil.

Sclater Coll.

### 13. *Chætura spinicauda*.

Hirondelle acutipenne de Cayenne, *Buff. Hist. Nat. Ois.* vi. p. 701 (1779).

Hirondelle à queue pointue de Cayenne, *Daubent. Pl. Enl.* 726. fig. 1 (1783).

Cypselus spinicaudus, *Temm. Tabl. Méth.* p. 78 (1839).

Acanthylis spinicauda, *Boie, Isis*, 1826, p. 971, 1844, p. 167; *Bp. Consp.* i. p. 64 (1850).

*Chætura spinicauda*, *Scl. Cat. Am. B.* p. 283 (1862); *id. P. Z. S.* 1863, p. 101, 1865, p. 612; *id. J. f. O.* 1867, p. 135; *Gray, Hand-l.* i. p. 66 (1869); *Scl. & Salv. Nomencl. Av. Neotrop.* p. 95 (1873); *Salv. Ibis*, 1885, p. 437 (B. Guiana).

? *Chætura spinicauda*, *Berl. & Tacz. P. Z. S.* 1883, p. 560 (W. Ecuador)\*.

*Adult.* Distinct from the allied species by a rather narrow light grey or nearly white band across the rump; all the rest of the upper parts, including the upper tail-coverts, black with slight metallic gloss; underparts greyish brown, darkest on the breast, whitish on the chin and throat, lighter on the lower abdomen; under tail-coverts uniform brown. Total length about 4 inches, wing 4 to 4.2, tail 1.75.

*Hab.* Guiana to Cayenne and Trinidad.

- a.* ♂; *b.* Ad. sk. Bartica Grove, Brit. Guiana, Salvin-Godman Coll.  
Nov., Dec. (*II. Whiteley*).
- c, d.* ♂ ♀ ad. sk. Camacusa, Brit. Guiana, Oct. 8 Salvin-Godman Coll.  
(*II. Whiteley*).
- e.* Ad. sk. British Guiana (*Brown*). Sclater Coll.
- f.* ♂ ad. sk. Surinam, April 1 (*C. B.*). Salvin-Godman Coll.
- g, h.* Ad. sk. Cayenne (*Fraser, Parzudaki*). Sclater Coll.
- i.* Ad. sk. Surinam.

### 14. *Chætura fumosa*.

*Chætura fumosa*, *Salv. P. Z. S.* 1870, p. 204 (Veragua); *Wyatt, Ibis*, 1871, p. 375 (Colombia); *Scl. & Salv. Nomencl. Av. Neotr.* p. 95 (1873).

*Chætura spinicauda*, *Layard, Ibis*, 1873, p. 389 (Para).

Very closely allied to *C. spinicauda*, but differs in the rump not only being crossed by a grey band, but the entire rump and upper tail-coverts, except the longest, being grey with dark shafts. Besides

\* This will probably prove to be a new species. The authors noticed differences in colour between specimens from Guiana and others from Ecuador.

this the lower surface, except the whitish chin and throat, is darker and more uniform than in *C. spinicauda*. Total length about 4.5 inches, wing 4.2 to 4.4, tail 1.65.

Nearly as dark on the underparts as *C. sclateri*, from which it is easily distinguished by the colour of its rump.

*Hab.* Veragua and northern parts of Colombia. Two birds from Para and one from Santarem on the Amazon belong also to this species and not to *C. spinicauda*, as we should expect.

<i>a.</i> ♂ ; <i>b.</i> Ad. sk.	Bugaba, Chiriqui ( <i>Arce</i> ).	Salvin-Godman Coll. (Types of the species.)
<i>c.</i> , <i>d.</i> ♂ ad. sk.	Chiriqui, Veragua ( <i>Arce</i> ).	Sclater Coll.
<i>e.</i> Ad. sk.	Santarem, Amazon ( <i>Wickham</i> ).	Sclater Coll.
<i>f.</i> ♂ ; <i>g.</i> ♀ ad. sk.	Para, Nov. ( <i>E. L. Layard</i> ).	Tweeddale Coll.
<i>h.</i> ♂ ad. sk.	Para, Sept. 1 ( <i>E. L. Layard</i> ).	Sharpe Coll.

### 15. *Chætura poliura*.

Hirondelle brune acutipenne de la Louisiane, *Buff. Hist. Nat. Ois.* vi. p. 699 (1779).

Hirondelle à queue pointue de la Louisiane, *Daubent. Pl. Enl.* 726. fig. 2 (1783).

*Cypselus poliurus*, *Temm. Tabl. Méth.* p. 78 (1839).

*Acanthylis brachyura*, *Jard. Ann. & Mag. N. II.* 1846, p. 120.

*Acanthylis poliourus*, *Bp. Consp.* i. p. 64 (1850); *Léot. Ois. Trinidad*, p. 86 (1866).

*Chætura poliura*, *Scl. Cat. Am. B.* p. 283 (1862); *id. P. Z. S.* 1863, p. 101, 1865, p. 611, 1870, p. 329; *id. J. f. O.* 1867, p. 133; *Pelz. Orn. Bras.* p. 16 (1867); *Gray, Hand-l.* i. p. 66 (1869); *Finsch, P. Z. S.* 1870, p. 558 (Trinidad); *Layard, Ibis*, 1873, p. 389; *Scl. & Salv. P. Z. S.* 1873, p. 289 (E. Peru); *Laur. Ann. N. Y. Ac. Sc.* i. p. 255 (1878); *Tacz. Orn. Pérou*, i. p. 229 (1884); *Cory, Ibis*, 1886, p. 473 (St. Vincent).

*Chætura brachyerca*, *Scl. & Salv. P. Z. S.* 1867, p. 758, pl. xxxiv.; *Scl. P. Z. S.* 1870, p. 329.

*Chætura brachyura*, *Cory, B. W. Ind.* p. 294 (St. Vincent and Grenada).

*Adult.* Forehead, crown, nape, back, sides of the head and neck, chin, throat, breast, and abdomen black with metallic gloss; wing black with stronger steel-blue gloss; rump and upper tail-coverts, tail, vent, and under tail-coverts cinereous grey with a brownish tinge, rectrices with black shafts and spines. Total length about 4 inches, wing 4.8, tail 1.3.

Specimens from South America and the islands are perfectly similar.

*Hab.* From the Upper Amazons in Peru and Ecuador to Para in Brazil; Guiana and the islands of Trinidad, Tobago, Grenada, and St. Vincent in the West Indies. Will probably be found in Venezuela.

<i>a, b.</i> Ad. sk.	St. Vincent, W. I., April, May ( <i>D. W. Smith</i> ).	Salvin-Godman Coll.
<i>c, d.</i> ♂ ad. sk.	I. of Tobago ( <i>Kirk</i> ).	Jardine Coll. (Types of <i>Acanth. brachyura</i> , Jard.)
<i>e.</i> Ad. sk.	Tobago.	Slater Coll.
<i>f, g, h.</i> ♂ ad. sk.	Cayenne.	
<i>i, k.</i> ♂ ♀ ad. sk.	Aunai, British Guiana, May, June ( <i>J. Whitely</i> ).	Salvin-Godman Coll.
<i>l.</i> ♀ ad. sk.	Para, Sept. 3 ( <i>E. L. Layard</i> ).	Tweeddale Coll.
<i>m.</i> ♀ ad. sk.	Xeberos, E. Peru, June ( <i>E.</i> <i>Bartlett</i> ).	Salvin-Godman Coll.
<i>n, o.</i> ♂; <i>p.</i> ♀ ad. sk.	Xeberos, E. Peru ( <i>E. B.</i> ).	Slater Coll.
<i>q.</i> ♀ ad. sk.	Chamicuros, Aug. ( <i>E. B.</i> ).	Tweeddale Coll.
<i>r.</i> Ad. sk.	Chamicuros.	Gould Coll.
<i>s.</i> Ad. sk.	Upper Amazons.	E. Bartlett [ <i>C.</i> ].
<i>t.</i> Ad. sk.	Ecuador.	Salvin-Godman Coll.

16. *Chætura sclateri*.

*Chætura sclateri*, *Pelz. Orn. Bras.* pp. 16, 56 (1868); *Gray, Hand-l.* i. p. 66 (1869); *Scl. & Salv. P. Z. S.* 1873, p. 289 (E. Peru); *Tacz. Orn. Pérou*, i. p. 230 (1884).

*Chætura sclateri occidentalis*\*, *Berl. & Tacz. P. Z. S.* 1883, p. 569 (W. Ecuador); *Reichen. & Schalow, J. f. O.* 1886, p. 83.

*Adult.* Above black with steel-blue gloss, but rump and upper tail-coverts dark slaty grey, the longest of the latter only edged with this colour; underparts slaty grey, chin and throat palest, darker towards the posterior parts; the under tail-coverts being bluish black; tail-spines very long, if not abraded 0.25–0.3 inch. Total length about 4.7 inches, wing 4.2 to 4.3, tail 1.8 to 1.9.

The allied *C. cinereiventris* is much paler on the abdomen.

*Hab.* Ecuador, Peru, and along the river Amazon to Borba on the river Madeira.

<i>a.</i> Ad. sk.	Ecuador.	Slater Coll.
<i>b.</i> Ad. sk.	Ecuador.	Salvin-Godman Coll.
<i>c.</i> ♂ ad.; <i>d.</i> Ad. sk.	Chamicuros, Peru.	E. Bartlett Coll.

17. *Chætura cinereiventris*.

*Cypselus acutus*, *Wied (nec Gm.), Beitr.* iii. p. 351 (1833).

*Acanthylis spinicauda*, *Burm. (nec Temm.) Syst. Ueber. Th. Bras.* ii. p. 367 (1856).

*Chætura cinereiventris*, *Scl. Cat. Am. B.* p. 283 (1862); *id. P. Z. S.* 1863, p. 101, pl. xiv. fig. 1; *id. P. Z. S.* 1865, p. 612; *id. J. f. O.* 1867, p. 134; *Pelz. Orn. Bras.* p. 16 (1867); *Gray, Hand-l.* i. p. 66 (1869); *Salvin, Cat. Strickl. Coll.* p. 372 (1882).

*Adult.* Above black with a little steel-blue gloss; rump and upper tail-coverts pale ashy grey, the longest of the latter only slightly margined with this colour: underparts ashy grey, paler on

\* Type compared.

the chin and throat; the under tail-coverts, but not the abdomen, bluish slaty black. Wing 4·3 inches.

In the allied *C. sclateri* the abdomen and rump are much darker, and the metallic gloss on the upper parts is of a deeper, sometimes rather purplish blue.

*Hab.* Eastern parts of Brazil.

<i>a.</i> Ad. sk.	[Brazil.]	Riocour Coll.
<i>b, c.</i> Ad. sk.	Brazil.	Sclater Coll. (Types of the species.)
<i>d.</i> Ad. sk.	Brazil ( <i>Gould</i> ).	Jardine Coll.
<i>e.</i> Ad. sk.	Brazil.	Salvin-Godman Coll.
<i>f.</i> Ad. st.	Brazil.	Jardine Coll.

#### Subsp. *a.* *Chætura guianensis*.

*Acanthylis oxyura*, *Léot. Ois. Trinidad*, p. 84 (1866).

*Chætura cinereiventris*, *Salv. Ibis*, 1885, p. 437 (B. Guiana); *Wells, Proc. U. S. Nat. Mus.* ix. p. 620 (1886) (Grenada); *Cory, Auk*, v. p. 158 (1888); *id. B. W. Ind.* p. 294 (1889).

This is merely a northern form of *C. cinereiventris*, and can be recognized by the somewhat darker, more bluish colour of the abdomen, and darker rump and upper tail-coverts. The wing seems to be generally shorter, the specimens before me having the wing 4 to 4·2 inches in length.

Besides the specimens in the British Museum, I had the opportunity of comparing some specimens sent me by my friend H. von Berlepsch.

*Hab.* Guiana, Venezuela, Trinidad (*Mus. II. v. Berlepsch*), and Grenada.

<i>a.</i> Ad. sk.	Venezuela?	Salvin-Godman Coll.
<i>b, c.</i> Ad. sk.	Guiana?	Purchased
<i>d.</i> ♀ ad. sk.	R. Atapurow, Brit. Guiana, Jan. 25 ( <i>II. Whitely</i> ).	Salvin-Godman Coll.
<i>e.</i> ♂ ad. sk.	Roraima, Brit. Guiana, April 11 ( <i>II. Whitely</i> ).	Salvin-Godman Coll.
<i>f.</i> ♀ ad. sk.	Merumé Mts., Brit. Guiana, July 13 ( <i>II. Whitely</i> ).	Salvin-Godman Coll.

#### 18. *Chætura acuta*.

Hirondelle noire acutipenne de la Martinique, *Buff. Hist. Nat. Ois.* vi. p. 702 (1779).

*Hirundo acuta*, *Gm. Syst. Nat.* ii. p. 1023 (1788); *Steph. Gen. Zool.* x. p. 131 (1817).

*Chætura poliura*, *Laur. Proc. U. S. Nat. Mus.* i. p. 62 (1878).

*Chætura dominicana*, *Laur. Ann. N. Y. Acad. Sc.* i. p. 255 (1878); *id. Pr. U. S. Nat. Mus.* i. p. 487 (1878); *Lister, Ibis*, 1880, p. 42 (St. Vincent); *Scl. Ibis*, 1880, p. 75 (Sta. Lucia); *Cory, Auk*, iii. p. 346 (1886); *id. B. W. Ind.* p. 141 (1889).

*Chætura dominicana colardeaui*, *Laur. Auk*, 1891, p. 59 (Guadeloupe) (type examined).

*Adult.* Deep blackish brown above with a very faint gloss; rump



only a little paler; under surface dark smoky brown, only a little paler on the throat, and a little darker on the under tail-coverts. Total length about 4 inches, wing 4·2, tail 1·8.

*Hab.* Islands of St. Vincent, Sta. Lucia, Dominica, Guadeloupe, and probably some other islands in the West Indies.

<i>a.</i> ♂ ad. sk.	Dominica ( <i>F. A. Ober</i> ).	Slater Coll.
<i>b.</i> Ad. sk.	Santa Lucia, W. I. ( <i>John Semper</i> ).	Slater Coll.

### 19. *Chætura picina*.

*Chætura picina*, Tweedd. *P. Z. S.* 1878, p. 944, pl. lix. (Mindanao);  
*W. Ramsay*, Tweedd. *Orn. Works*, *App.* p. 656 (1881).

*Adult.* Blue-black with a slight gloss; chin, throat, and the larger under wing-coverts pure white. Total length about 4·6 inches, wing 6·4, tail 1·2.

*Hab.* The unique specimen is from South-western Mindanao.

<i>a.</i> ♀ ad. sk.	Zamboanga, April ( <i>H. Everett</i> ).	Tweeddale Coll. (Type of the species.)
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### 20. *Chætura novæguineæ*.

*Chætura novæguineæ*, *d'Alb. & Salvad. Ann. Mus. Civ. Gen.* xiv.  
p. 55 (1879); *Salvad. Orn. Papuas.* i. p. 535 (1880).

Above glossy greenish blue; fore neck and upper breast grey; abdomen pale grey, with blackish shafts to the lateral feathers; under wing-coverts and upper tail-coverts glossy greenish; wings concolorous with the back; tail very short, equal, glossy green; bill, feet, and eyes black. Total length about 4·5 inches, wing 5, tail 1·2.

This extraordinary species, of which I have never seen a specimen, seems to have no near ally.

*Hab.* New Guinea (Fly River).

### 21. *Chætura sabinei*.

*Chætura sabini*, *J. E. Gray in Griff. An. Kingd.* ii. p. 70 (1829);

*Hartl. Orn. Westafr.* p. 25 (1857); *Scl. P. Z. S.* 1863, p. 205;

*id. P. Z. S.* 1865, p. 613; *id. J. f. O.* 1867, p. 136; *Gray, Hand-l.*

*i.* p. 67 (1869); *Shelley, Ibis*, 1890, p. 168 (Arawimi R.).

*Chætura bicolor*, *Gray, Zool. Misc.* p. 7 (1831).

*Acanthylis bicolor*, *Strickl. P. Z. S.* 1844, p. 99.

*Acanthylis sabini*, *Bp. Consp.* i. p. 64 (1850).

Hartlaub (*l. c.*) quotes *Pallene leucopygia*, Boie, *Isis*, 1844, p. 168, as a synonym of *Chatura sabinci*, but I cannot understand why that name should be referable to *C. sabinei*. Boie does not give any description or even locality, but simply quotes “*Hirundo leucopygia*, Gray in *Griff. An. Kingd.*”—which work I have carefully searched for that name, but unsuccessfully.

*Adult.* Above, wings and tail glossy blue-black; chin, throat, upper breast, sides of breast, and under wing-coverts slaty black; rump and upper tail-coverts, lower flanks, abdomen, vent, and under tail-coverts white, with black shafts. Total length about 4·2 inches, wing 4·7 to 5, tail 1·7.

*Hab.* West Africa: Sierra Leone to Congo, Island of Fernando Po.

a. Ad. sk.	West Africa.	Sir E. Sabine [P.] (Type of the species.)
b. Ad. sk.	Fernando Po.	A. Bouvier Coll.
c. Ad. sk.	Yambuya, Aruwimi R.	Mrs. Jameson [P.]

## 22. *Chætura ussheri.* (Plate X.)

*Chætura ussheri*, *Sharpe, Ibis*, 1870, p. 483 (Fantee); *Shell. & Buckl. Ibis*, 1872, p. 284; *Ussher, Ibis*, 1874, p. 47 (Gold Coast).

*Adult.* Dark brown above, a large white ring round the body, across the rump and lower abdomen; chin and throat dull white, with dark brown edges to the feathers; abdomen brown, a whitish shade along the middle; under tail-coverts and under wing-coverts dark brown; primaries, secondaries, and rectrices narrowly margined with white, a character which is not very obvious if the plumage is abraded. Total length about 5 inches, wing 5·6, tail 1·6.

*Hab.* West Africa, Gold Coast.

a, b. Ad. sk.	Fort Victoria, Cape Coast, August ( <i>Ussher</i> ).	Sharpe Coll. (Types of the species.)
c. Ad. sk.	Cape Coast ( <i>Haynes</i> ).	Sharpe Coll.
d. Ad. sk.	Cape Coast ( <i>Ussher</i> ).	Shelley Coll.

## 23. *Chætura cassini.*

*Chætura sabinei*, *Cass. (nec Gray) Proc. Acad. Sc. Philad.* 1859, p. 33.  
*Chætura cassini*, *Scl. P. Z. S.* 1863, p. 205; *id. P. Z. S.* 1865, p. 613;  
*id. J. f. O.* 1867, p. 136; *Gray, Hand-l. i.* p. 67 (1869); *Shelley, Ibis*, 1890, p. 168 (Aruwimi R.).

*Acanthylis hartlaubi*, *Jard. Edinb. Journ.* 1863, p. 147.

*Adult.* Above glossy black, except a narrow white band across the upper tail-coverts; chin and upper throat whitish with dark shaft-stripes; jugulum and throat brownish grey; remainder of under surface white, like the small band across the upper surface, with fine black shaft-lines; sides of body and under tail-coverts blackish. Total length about 4·8 inches, wing 6 to 6·5, tail 1·2.

*Hab.* West Africa: Congo, Gaboon.

a. Ad. sk.	Gaboon.	DuChailu Coll. (Type of the species.)
b. Ad. sk.	Gaboon ( <i>DuChailu</i> ).	Jardine Coll. (Type of <i>Acanth. hartlaubi</i> , Jard.)
c. ♂ ad.; d, e. ♀ ad. sk.	Landana, Congo, July ( <i>Petit</i> ).	Sharpe Coll.

<i>f, g.</i> ♂ ad. sk.	Landana, Congo, April, July ( <i>Petit</i> ).	Shelley Coll.
<i>h.</i> Ad. sk.	Yambuya, Aruwimi River.	Jameson Coll.

24. *Chætura boehmi*.

- Chætura cassini*, *Böhm, J. f. O.* 1883, p. 178 (Kakoma).  
*Chætura cassini*, *Schalow, J. f. O.* 1883, p. 352 (Kakoma).  
*Chætura boehmi*, *Schalow, Ornith. Centralbl.* 1882, p. 183; *id. J. f. O.* 1883, pp. 104, 352 (Kakoma); *Reichen. & Schalow, J. f. O.* 1884, p. 381.

Above black; chin, throat, and sides of body sooty brown; feathers of the upper throat with black shafts; wings black; lores, breast, lower tail-coverts, and small band across the rump white. Total length 3.55 inches, wing 4.9.

Differs from *C. cassini* in the throat being sooty brown and not white, the lores and breast white instead of brownish grey.

*Hab.* Kakoma, E. Africa.

I have not seen a specimen of this species.

25. *Chætura grandidieri*.

- Chætura grandidieri*, *Schleg. P. Z. S.* 1866, p. 421; *Ferr. Nouv. Arch. du Mus.* iii. *Bull.* 1867, p. 3, pl. i.; *Grandid. Rev. et Mag. de Zool.* 1867, p. 353; *Schleg. et Pollen, Faune de Madag.* ii. p. 65 (1868); *Gray, Hand-l.* i. p. 67; *Hartl. Vög. Madagasc.* p. 61 (1877); *Milne-Edw. et Grandid. Madagasc., Ois.* p. 196, pls. lxxi. & lxxvi. (1879).

*Collocalia coquerelii* (*Poll. MS.*), *Schleg. & Pollen, op. cit.*

*Adult.* Dark brown above, a brownish-white band with dark shaft-stripes across the rump; underparts from the chin to the under tail-coverts greyish brown, with darker shaft-stripes. Total length about 4.5 inches, wing 4.7, tail 1.8.

*Hab.* Madagascar.

<i>a, b.</i> ♂ ♀ ad. sk.	Madagascar.	Purchased.
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26. *Chætura sylvatica*.

- Acanthylis sylvatica*, *Tick. Journ. As. Soc. Beng.* xv. p. 284 (1846); *Jerd. B. Ind.* i. p. 170 (1862); *Blyth, Ibis*, 1866, p. 339; *Jerd. Ibis*, 1871, p. 354; *Ball, Stray Feath.* ii. p. 384 (1874); *Wald. Ibis*, 1876, p. 356.

*Chætura sylvatica*, *Scl. P. Z. S.* 1865, p. 614; *id. J. f. O.* 1867, p. 136; *Ball, Stray Feath.* vii. p. 202 (Godaveri) (1878); *Davison, ibid.* x. p. 346 (Mysore) (1882).

*Rhaphidura sylvatica*, *Oates, B. Burm.* ii. p. 7, note (1883).

*Adult.* Top of the head, back of the neck, back, wings, and tail black with some steel-blue gloss; chin, throat, and breast greyish, becoming darker and more brownish grey on the breast, and gradually shading into the colour of the lower abdomen, which is

white like the under tail-coverts and a broad band across the rump; these parts have very small dark shaft-lines and dark basal portions to the feathers; under wing-coverts dark slaty grey. Total length about 4 inches, wing 4·5, tail 1·5.

*Hab.* British India, especially the Central Provinces.

a. ♀ ad. ; b, c. Ad. sk.	Seoni, C. P.	Hume Coll.
d. ♀ ad. ; e. ♂ ad. ; f. Ad. sk.	Jashpur, May.	Hume Coll.
g-l. ♂ ad. ; m-o. ♀ ad. sk.	Raipur, C. P., December.	Hume Coll.
p. ♂ ad. sk.	Wynaad, May 1 ( <i>W. Davison</i> ).	Hume Coll.
q. Ad. sk.	Gurwhal, December.	Hume Coll.
r. ♀ ad. sk.	W. of Chota Nagpur, May 10.	Tweeddale Coll.

### 27. *Chætura leucopygialis* \*.

*Acanthylis leucopygialis*, *Blyth, Journ. As. Soc. Beng.* xviii. p. 809 (1849); *id. Ibis*, 1866, p. 339.

*Acanthylis coracina*, *Bp. Consp.* i. p. 64 (1850).

*Cypselus coracinus*, *Schleg. Handl. Dierk.* i. pp. 221, 479, *Vog.* pl. 2. fig. 14 (1857).

*Chætura coracina*, *Scl. P. Z. S.* 1865, p. 614; *id. J. f. O.* 1867, p. 137; *Gray, Hand-l.* i. p. 67, no. 777 (1869); *Salvad. Ucc. Borneo*, p. 124 (1874); *Hume, Stray Feath.* iii. p. 318 (1875), viii. p. 47 (Malay Penin.) (1879); *Hume & Davison, Stray Feath.* ii. p. 45 (Tenasserim) (1878); *Sharpe, P. Z. S.* 1879, p. 335 (Labuan); *id. Ibis*, 1890, p. 24; *Büttik. Not. Leyd. Mus.* ix. p. 39 (Sumatra) (1887).

*Rhaphidura leucopygialis*, *Oates, B. Burm.* ii. p. 6 (1883).

*Chætura leucopygialis*, *Kelham, Ibis*, 1881, p. 372 (Singapore).

*Adult.* Entirely blue-black, except the rump and upper tail-coverts, which are light ashy grey with black shaft-lines: "iris dark brown; bill black; legs and feet dark purple" (*Davison*). Total length about 4·7 inches, wing 4·8, tail 1·7.

*Hab.* Southern Tenasserim, throughout the Malay Peninsula, Sumatra, Borneo, and Marintanan.

a, b. ♂ ad. ; c. ♀ ad. sk.	Choungthanoung, Tenasserim, May ( <i>W. Davison</i> ).	Hume Coll.
d. ♂ ad. sk.	Pakchan, January ( <i>W. Davison</i> ).	Hume Coll.
e, f. ♂ ad. ; g. Ad. sk.	Klang, April, May ( <i>W. Davison</i> ).	Hume Coll.
h, i. Ad. sk.	Malacca.	Pinwill Coll.
k. ♂ ad. ; l, m. ♀ ad. sk.	Malacca, August ( <i>Wardlaw Ramsay</i> ).	Tweeddale Coll.
n. ♀ ad. sk.	Malacca.	Sharpe Coll.

\* I do not think it necessary to reject Blyth's name on account of the nomen nudum *Pallene leucopygia* (sic) of Boie, *Ibis*, 1844, p. 168, on which I remarked under *C. sabinei*.

<i>a.</i> ♀ ad. sk.	Neealys, Malacca, Oct. 14 ( <i>W. Davison</i> ).	Hume Coll.
<i>p.</i> ♂ ad. sk.	Kuroo, Malacca ( <i>W. Davison</i> ).	Hume Coll.
<i>q, r.</i> ♀ ad.; <i>s.</i> ♂ ad. sk.	Johore, Mareh ( <i>W. Davison</i> ).	Hume Coll.
<i>t-w.</i> ♂ ad. sk.	Johore, August ( <i>W. Davison</i> ).	Hume Coll.
<i>x-b'.</i> ♀ ad. sk.	Johore, August ( <i>W. Davison</i> ).	Hume Coll.
<i>c'.</i> Ad. sk.	Sarawak, Borneo.	Tweeddale Coll.
<i>d'.</i> Ad. sk.	Lawas, Borneo.	H. Veitch Coll.
<i>e'.</i> Ad. sk.	Marintauan, February.	Everett Coll.

I have not been able to examine the following species:—

### 28. *Chætura cochinchinensis*.

*Chætura cochinchinensis*, *Oust. Bull. Soc. Philom.* 1878, p. 52.

The author states that *C. cochinchinensis* is allied to *C. caudacuta* and *C. gigantea*, but considerably smaller, with dark forehead and greyish-white throat. Total length 7·1 inches, wing 7·1, tail 0·4.

*Hab.* Saigon (Cochinchina).

This form seems to be closely allied to *Chætura klaesii*, but from their habitats it is not likely they can be the same. The author has compared his specimens with *C. caudacuta* and *C. gigantea*, but the habitats assigned to these forms show that he has included in his *C. caudacuta* the allied *C. nudipes*, and in his *C. gigantea* the allied *C. indica*. It therefore becomes difficult to make out the nearest ally of his species.

### 29. *Chætura klaesii* \*.

*Hirundinapus klaesii*, *Büttikofer, Not. Leyd. Mus.* ix. p. 40 (1887).

“Very similar to *H. nudipes*, *Hodgs.*, but considerably smaller. Chin and throat, base of the feathers on occiput and hind neck, and inner web of the innermost secondaries greyish smoky instead of white. Entire crown, down to the base of the bill, lores, sides of head and neck, occiput, hind neck, lesser wing-coverts, outer web of innermost secondaries, a stripe running from the base of the tibia to the rump, rump and upper tail-coverts glossy bluish green; scapularies and back smoky brown, becoming pale straw-colour towards the centre of the back. Upper surface of wing and tail

\* Whilst this sheet was passing through the press, I had an opportunity of examining the type in the Leiden Museum. It is similar to *Ch. indica*, of which it may be a smaller form.

blackish brown, with a somewhat purplish gloss; inner edge of quills, lower surface of wing and tail, chest, breast, abdomen, flanks, and thighs smoky brown, a stripe from the base of thighs to the root of the tail and also the under tail-coverts pure white." Total length 6·5 inches, wing 6·8, tail 2. (*Büttikofer.*)

*Hab.* West Sumatra (Lubu Gedang, Highlands of Padang).

### 30. *Chætura anchietæ.*

*Chætura anchietæ*, *Sousa, Journ. Sci. Lisb.* 1887, pp. 93, 105.

Distinguished from *Chætura cassini* by the great difference in size, by the colour being uniform from the base of the bill to the breast, without any black shaft-stripes, and by the end of the tail being edged with white. Total length 3·55 inches, wing 5·1, tail 1·1.

*Hab.* Benguela.

This species and *C. boehmei* are remarkably smaller than *C. cassini*, and the measurements of both are almost the same. They must be very different from *C. cassini*, but very closely allied to each other, if not identical.

### 31. *Chætura stictilæma.*

*Cypselus stictilæmus*, *Reichen. Orn. Centralbl.* 1879, p. 114 (Ualimi);  
*id. J. f. O.* 1879, pp. 293, 315, 314.

*Chætura stictilæma*, *Reichen. J. f. O.* 1885, p. 127 (Ualimi, E. Afr.).  
*Chætura gierræ*, *Oust. Natural.* xii. p. 274 (Mombassa, E. Afr.)  
(1890).

The descriptions of both Reichenow and Oustalet agree with that of *C. ussheri* from West Africa; but both authors kindly wrote me that the white mark on the lower abdomen is separated from the white band across the rump by the dark-coloured sides of the body, whereas in the true *C. ussheri* they are connected and form a white ring round the body.

*Hab.* E. Africa.

## 7. CYPSELOIDES.

	Type.
<i>Cypseloides</i> , <i>Streubel, Isis</i> , 1848, p. 366 .....	<i>C. fumigatus</i> .
<i>Nephocætes</i> *, <i>Baird, B. N. Amer.</i> p. 142 (1858) ..	<i>C. niger</i> .

This genus is closely allied to *Chætura*, but may be recognized by the characters given above. The plumage is softer than in true *Chætura*; the shafts of the rectrices are not so stiff. *C. rutilus*

\* *Corr. Nephocætes*, *Sci. P. Z. S.* 1859, p. 236 etc.

and *C. brunneitorques* are better placed with *Cypseloides*, although the spines are a little visible.

*Range.* The greater part of America and the West Indies.

*Key to the Species.*

- a. The male with a rufous collar.
- a'*. Chin blackish brown..... *brunneitorques*, p. 493.  
    *b'*. Chin rufous ..... *rutilus*, p. 493.
- b. The male uniform like the female.
- c'*. Tail deeply emarginate..... } *niger*, p. 494.  
    *d'*. Tail subequal.                  } *borealis*, p. 495.
- a''*. Much larger; wing about 6·9 inches. *senex*, p. 496.  
    *b''*. Much smaller; wing about 5·8  
        inches..... *fumigatus*, p. 496.

1. *Cypseloides rutilus*.

*Hirundo rutila*, *Vieill. Nouv. Dict.* xiv. p. 528 (1817); *Léot. Ois. Trinidad*, p. 87 (1866); *Sci. Ibis*, 1867, p. 107.

*Hirundo robini*, *Less. Traité d'Orn.* p. 270 (1831).

*Chætura rutila*, *Sci. P. Z. S.* 1863, p. 100 (part.); *id. P. Z. S.* 1865, p. 613 (part.); *Salv. & Godm. Ibis*, 1882, p. 82 (Merumé Moun-tains); *Salv. Ibis*, 1885, p. 437 (Guiana).

*Adult male.* Tail slightly but perceptibly emarginate. Forehead and crown, back, rump, wings, tail, abdomen, under and upper tail-coverts, under and upper wing-coverts black; crown and back rather glossy; wings and tail more brownish; chin, throat and upper breast, and a broad collar round the neck bright rufous. Total length about 5·4 inches, wing 5·4, tail 2·4, tarsus 0·5.

*Female.* Unknown to me. Probably without red collar as in the female of *C. brunneitorques*.

*Hab.* Guiana, Trinidad, and perhaps Venezuela(?).

- a. ♂ ad. sk. Merumé Mts., Brit. Guiana, Salvin-Godman Coll.  
    July 27 (*H. Whiteley*).

2. *Cypseloides brunneitorques*.

*Chætura brunneitorques*, *Lafr. Rev. Zool.* 1844, p. 81; *Bp. Consp.* i. p. 64 (1850); *Ridgw. Man. N. Amer. B.* p. 303 (1877) (Mexico); *Salv. & Godm. Ibis*, 1882, p. 83.

*Acanthylis rutila*, *Sci. P. Z. S.* 1855, p. 135.

*Chætura rutila*, *Sci. & Salv. Ibis*, 1860, p. 37, pl. 3; *id. P. Z. S.* 1860, p. 363; *Sci. P. Z. S.* 1863, p. 100 (part.); *id. P. Z. S.* 1865, p. 613 (part.); *id. J. f. O.* 1867, p. 135 (part.); *Sumichr. Natur-aleza*, v. p. 250 (1882).

*Adult male.* Tail-feathers subequal. Very similar to the true *C. rutilus*, but easily distinguished by the dark sooty-blackish chin and upper throat. Besides this, the blackish crown is extended a little further down, the rufous collar is darker, rather more fer-

ruginous, with blackish shaft-stripes on most of the feathers of the fore neck, and the blackish colour of the upper and under parts is not so black, but rather dark sooty brown.

*Female.* Without the rufous collar.

*Young.* Coloured like the female; in male birds the rufous colour seems to be gained without a moult, as traces of it soon become visible.

*Hab.* Mexico and Central America, south to Ecuador and Peru.

a. ♀ ad. sk.	Mexico.	Slater Coll.
b. ♀ ad. ; c. ♂ imm. sk.	Dueñas, July 25 ( <i>O. Salvin</i> ).	Slater Coll.
d. ♀ ad. sk.	Dueñas, Oct.	Tweeddale Coll.
e, f. ♂ ad. ; g-k. Imm. sk.	Dueñas ( <i>O. Salvin</i> ).	Salvin-Godman Coll.
l, m. ♂ ad. sk.	Chiriqui ( <i>Arce</i> ).	Salvin-Godman Coll.
n. ♂ ad. ; o. ♀ ad. sk.	U.S. Colombia.	Salvin-Godman Coll.
p. ♂ ad. sk.	Retiro, Col. ( <i>Salmon</i> ).	Slater Coll.
q. ♂ ad. sk.	Ecuador ( <i>Lawrence</i> ).	Slater Coll.
r. ♂ ad. sk.	Ecuador.	Salvin-Godman Coll.

### 3. *Cypseloides niger*.

Martinet de Saint-Domingue, *Briss. Orn.* ii. p. 514, pl. 46. fig. 3 (1760).

Hirundo apus dominicensis, *Briss. Orn.* ii. p. 514, pl. 46. fig. 3 (1760).

Le petit Martinet noir, *Buff. Hist. Nat. Ois.* vi. p. 668 (1779).

Hirundo nigra, *Gm. Syst. Nat.* i. p. 1025 (1788).

*Cypselus niger*, *Gosse, B. Jamaica*, p. 63, pl. 10 (1847); *Bp. Conspect.* i. p. 66 (1850); *Gundl. Ann. Lyc. Nat. Hist.* 1860, p. 268 (Cuba); *Albrecht, J. f. O.* 1861, p. 207, 1862, p. 194; *A. & E. Newton, Handb. Jamaica*, p. 108 (1881).

*Nephocætes niger*, *Gundl. J. f. O.* 1874, p. 115.

*Cypseloides niger*, *Scl. P. Z. S.* 1865, p. 615; *id. J. f. O.* 1867, p. 138; *id. Ibis*, 1880, p. 74 (Sta. Lucia); *Lister, Ibis*, 1880, p. 41 (St. Vincent); *Cory, Auk*, iii. p. 345 (1886); *id. B. W. Ind.* p. 140 (1889).

*Nephocætes niger*, *Cory, B. Haiti & St. Domingo*, p. 88 (1885).

*Adult.* Tail emarginate. Entire plumage blackish brown with slight metallic reflexions; throat a little paler; forehead generally a little whitish, caused by light grey edges to the feathers; spot in front of the eye black: "bill and feet black" (*Gosse*). Total length about 6 inches, wing 6, tail 2.6, central rectrices nearly half an inch shorter, tarsus 0.45.

*Young.* Feathers of the lower parts terminally edged with white

*Hab.* West Indies (San Domingo, Jamaica, Cuba, Porto Rico, Guadeloupe, Martinique, Dominica), and (straggler?) Merumé Mountains in Guiana.



a. Ad. sk.	San Cristobal, Cuba ( <i>G. F. Gaumer</i> ).	Salvin-Godman Coll.
b. ♂ ad. sk.	Jamaica, Sept. 22 ( <i>E. Newton</i> ).	Salvin-Godman Coll.
c, d. Ad. sk.	Jamaica ( <i>Gosse</i> ).	Slater Coll.
e. ♀ Imm.; f. ♂ ad. sk.	Le Vega, San Domingo, July 27 ( <i>C. B. Cory</i> ).	Salvin-Godman Coll.
g, h. ♂ ad. sk.	Guadeloupe, W. I.	C. B. Cory Coll.
i. Imm. sk.	Martinique, W. I.	Purchased.
k. Ad. sk.	St. Vincent, May ( <i>Dr. W. Smith</i> ).	Salvin-Godman Coll.
l. ♂ ad. sk.	Merumé Mts., Brit. Guiana, June 13 ( <i>H. Whitely</i> ).	Salvin-Godman Coll.

Subsp. a. *Cypseloides borealis*.

- Cypselus borealis*, *Kenn. Proc. Ac. Nat. Sc. Phil.* 1857, p. 202.  
*Nephocætes niger*, *Baird, B. N. Amer.* p. 142 (1858).  
*Nephocetes borealis*, *Sci. P. Z. S.* 1859, p. 236 (Vancouver Is.).  
*Cypseloides borealis*, *Sci. P. Z. S.* 1865, p. 615; *id. J. f. O.* 1867, p. 138.  
*Cypseloides niger*, *Lawr. Proc. U.S. Nat. Mus.* i. pp. 459, 487 (1878); *Ridgw. Man. N. Amer. B.* p. 302 (1887); *Gormley, Auk*, v. p. 424 (1888).  
*Nephocætes niger*, var. *borealis*, *Coues, Key N. Amer. B.* p. 183 (1872).  
*Nephocetes niger*, *Baird, Brew., & Ridgw. N. A. B.* ii. p. 429 (1874).  
*Cypseloides niger borealis*, *Drew, Auk*, ii. p. 17 (1885); *Hensh. Auk*, iii. p. 78 (1886) (migrat.).

*Adult.* Similar to *C. niger*, from which it differs only by its larger size, the wing measuring from 6.4 to 6.8 inches and even longer.

*Young.* Feathers of the lower (and upper?) parts with white edges terminally.

Though Kennerly had apparently no idea of the smaller insular form, his name must stand for the northern form, Gmelin's name being founded on Brisson's "*Hirundo apus dominicensis*."

*Hab.* Western parts of North America from British Columbia and Nevada south to Costa Rica.

a. Ad. sk.	N.W. America ( <i>Baird</i> ).	Slater Coll.
b, c. Imm. sk.	British Columbia.	J. K. Lord Coll.
d, e. Ad. sk.	Pitt River, N. California.	Tweeddale Coll.
f, g. ♂ ♀ imm. sk.	San Bernardino Mts., June ( <i>R. B. Herron</i> ).	Salvin-Godman Coll.
h. ♂ vix ad. sk.	San Miguel Molino, Mexico ( <i>Ferrari-Perez</i> ).	Salvin-Godman Coll.
i-l. ♂ ♀ imm. sk.	Sierra Madre de Tepic, Mexico, June ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.

4. *Cypseloides fumigatus*.

- Hemiproene fumigata*, *Streubel, Isis*, 1848, p. 366 (*ex Natt. MS.*).  
*Cypseloides fumigatus*, *Scl. P. Z. S.* 1865, p. 615; *id. J. f. O.* 1867,  
 p. 138; *Scl. & Salv. P. Z. S.* 1869, p. 598; *id. Nomencl. Av.*  
*Neotrop.* p. 95 (1873); *Tacz. Orn. Pérou*, i. p. 232 (1884).  
*Nephocætes fumigatus*, *Pelz. Orn. Bras.* p. 16 (1867).  
*Chætura fumigatus*, *Gray, Hand-l.* i. p. 68 (1869).

In general aspect similar to *C. niger*, but distinguished by its shorter and subequal tail-feathers with their somewhat stiffer shafts. Entire plumage dark sooty brown. Total length about 5½ inches, wing 5·7 to 5·9, tail 1·9.

*Hab.* Brazil, Peru, Ecuador.

a. Ad. sk.	[Brazil?] ( <i>Gould</i> ).	Slater Coll.
b. ♂ ad. sk.	Brazil ( <i>Natterer</i> ).	Slater Coll.
c, d. Ad. sk.	Brazil.	Purchased.
e. ♂ ad. sk.	W. Peru, Nov. ( <i>H. Whitely</i> ).	Slater Coll.
f. Ad. sk.	Ecuador ( <i>Gould</i> ).	Salvin-Godman Coll.

5. *Cypseloides senex*.

- Cypselus senex*, *Temm. Pl. Col.* 397 (1826); *Streubel, Isis*, 1848,  
 p. 366.  
*Hemiproene temminckii* seu *temminckiana*, *Streubel, Isis*, 1848,  
 p. 368.  
*Acanthylis senex*, *Bp. Consp.* i. p. 65 (1850); *Burm. Syst. Uebers.*  
*Th. Bras.* ii. p. 365 (1856).  
*Cypseloides senex*, *Scl. P. Z. S.* 1865, p. 614; *id. J. f. O.* 1867,  
 p. 137; *Scl. & Salv. Nomencl. Av. Neotrop.* p. 95 (1873).  
*Chætura senex*, *Pelz. Orn. Bras.* p. 16 (1867).

Readily distinguished by its very large size. Sooty brown, head and neck a little paler, with whitish edges and darker shaft-lines; spot before the eyes blackish. Tail-feathers subequal, not at all emarginate, but on the contrary rather rounded. Total length about 8 inches, wing 6·9, tail 2·5, tarsus 0·8.

*Hab.* Brazil.

a. Ad. sk.	Brazil ( <i>Natterer</i> ).	Slater Coll.
b. Ad. sk.	Brazil ( <i>Dr. Such</i> ).	Jardine Coll.

## 8. COLLOCALIA.

Type.

- Collocalia*, *Gray, Gen. B.* p. 8 (1840) . . . . *C. esculenta*.  
*Salangana*, *Streubel, Isis*, 1848, p. 368 . . . . "*Hemiproene salangana*."

The members of the genus *Collocalia* are remarkable for their interesting nests, which are composed of moss or similar materials agglutinated with saliva; those wholly composed of the latter are the "edible nests." These Swifts lay pure white eggs; I believe the number is two as a rule. In large dark caves, where hundreds or thousands are known to breed, they may often mistake

a neighbour's nest for their own, so that frequently more than two eggs are found and sometimes one only. Possibly some species may lay more than two, but I greatly doubt it.

*Range.* The Indian and Malayan countries, throughout Papuasia and the Pacific Islands to Northern Australia and the Fiji Islands. As far East as Mauritius and the Seychelles, and perhaps Madagascar.

So many species of *Collocalia* have been distinguished and named by various ornithologists and subsequently reunited by others, that it would be most difficult, and in some cases almost impossible, to determine the species from the literature; but the materials in the British Museum, supplemented by the specimens lent to me by several friends, though still quite imperfect from certain localities, have enabled me, I believe, to throw a little light upon this group. Ornithologists are no doubt aware of the fact that *Collocaliæ* are resident birds, often confined to a small tract of country, where they find suitable caves for breeding, and may therefore readily form local races; on the other hand, their power of flight is so great that the occurrence of any species far from their regular abode is by no means astonishing.

### Key to the Species.

- a. Without white on the abdomen.
- a'. Without whitish or greyish band across the rump.
    - a''. Larger; tail-feathers nearly equal. *lowi*, p. 498
    - b''. Smaller; tail distinctly emarginate. [pp. 498-501.
    - a'''. Lighter below ..... *fuciphaga* and allies,
    - b'''. Darker below, especially on the throat; wings rather long .... *leucophaea*, p. 502.
  - b'. With a greyish or whitish band across the rump.
    - c''. Larger; wing more than 5 inches. *innominata*, p. 503.
    - d''. Smaller; wing less than 5 inches. *francica* and allies, [pp. 503-506.
- b. With more or less white on the abdomen.
- c'. With a white band across the rump.
    - e''. With blackish shaft-stripes to the white feathers of the rump; no white spots on the rectrices.
      - c'''. Much larger; wing more than 4 inches ..... *leucopygia*, p. 506.
      - d'''. Much smaller; wing less than 4 inches ..... *trogodytes*, p. 507.
    - f''. Band across the rump pure white without dark shaft-stripes; white spots (sometimes obsolete) on most of the rectrices. .... *uropygialis*, p. 507.
  - d'. Without white band across the rump.
    - g''. Rectrices without white spots.
      - e'''. Upper tail-coverts, except the longest, distinctly margined with white ..... *marginata*, p. 508.

- f*<sup>''</sup>. Upper tail-coverts concolorous with the rest of upper parts ..... *linchi*, p. 508.  
*h*<sup>''</sup>. Rectrices with white spots.  
*g*<sup>''</sup>. Uppersurface black, with strong steel-blue and greenish gloss ..... *esculenta*, p. 509.  
*h*<sup>'''</sup>. Upper surface plumbeous grey, with greenish gloss.  
*a*<sup>4</sup>. White spots on the rectrices sharply defined ..... *neglecta*, p. 510.  
*b*<sup>4</sup>. White spots on the rectrices not sharply defined ..... *natalis*, p. 511.

### 1. *Collocalia lowi*.

*Cypselus lowi*, *Sharpe*, *P. Z. S.* 1879, p. 333 (N. Borneo).  
*Cypselus labuanensis*, *Ibis*, 1879, p. 116 (note).

*Adult*. Upper surface sooty black with a little greenish gloss, somewhat purplish on the tail; lower surface brownish grey, with somewhat darker shaft-stripes; feathers in front of the eye white, broadly tipped with black; under wing-coverts blackish. Total length about 5 inches, bill at base 0·2, wing 5·3; tail 2, nearly quite even; tarsus 0·4, thinly but obviously feathered if not abraded by the string of the label.

The plumage of the *young* bird does not differ from that of the adult.

This species is easily distinguished by its large size. The specimens from Palawan seem to be a little smaller on the average.

*Hab.* Palawan and Northern Borneo, where Everett found it breeding in caves in October, making a nest of moss fastened to the wall with its saliva. The island of Nias off the west coast of Sumatra, and parts of Sumatra.

<i>a, b.</i> Ad. sk.	Labuan, Borneo.	Ussher Coll. (Types of the species.)
<i>c.</i> Ad. sk.	Sarawak.	C. Hose Coll.
<i>d, e.</i> ♂ ad. sk.	Paku, Oct., Nov.	H. Everett Coll.
<i>f.</i> Imm. sk.	Baram.	H. Everett Coll.
<i>g.</i> Ad. sk.	"Caves of Borneo."	Selater Coll.
<i>h.</i> ♂ ad.; <i>i.</i> ♀ ad. sk.	Puerto Princesa, Palawan, Aug., Sept.	E. L. Moseley Coll.
<i>k.</i> Imm. sk.	Sumatra ( <i>C. Bock</i> ).	Tweeddale Coll.

### 2. *Collocalia fuciphaga* \*.

*Hirundo fuciphaga*, *Thunb. Act. Holm.* xxxiii. p. 151, pl. 4 (Java) (1772); *Steph. Gen. Zool.* x. p. 111 (1817).

\* I cannot adopt G. R. Gray's reasons for rejecting Thunberg's name and calling this species *C. nidifica*; and I agree with Salvadori and others that the oldest and well-known name, i. e. *fuciphaga* of Thunberg, should stand.

- Esulent Swallow, *Lath. Gen. Syn. Suppl.* ii. p. 257, pl. 135 ("Sumatra") (1802).
- Hirundo esculenta (*nec L.*), *Horsf. Trans. Linn. Soc.* xiii. p. 142; ? *Raffl. ibid.* p. 315 (1822).
- Cypselus fuciphagus, *S. Müll. Verh. Land- u. Volkenk.* p. 456 (1839-1844).
- Hirundo unicolor, *Jerd. Madr. Journ.* 1840, p. 238 (Nilgherries).
- Cypselus concolor, *Blyth, Journ. As. Soc. Beng.* xi. p. 886 (1842).
- Cypselus unicolor, *Jerd. Journ. As. Soc. Beng.* xiii. pt. i. p. 173, pt. ii. p. 144 (1844).
- Collocalia unicolor, *Blyth, Journ. As. Soc. Beng.* xiv. pp. 209, 212 (1845); *Hume, Stray Feath.* iv. p. 374 (1876); *Scully, ibid.* viii. p. 235 (1879); *Butler, Stray Feath.* ix. p. 380 (Maharatta) (1880); *Davison, Stray Feath.* x. p. 348 (Mysore) (1882); *Outes, ed. Hume's Nests & Eggs Ind. B.* iii. p. 28 (1890).
- Collocalia nidifica, *Gray, Gen. B.* i. p. 55 (1845); *Blyth, Cat. B. Mus. As. Soc.* p. 86 (1849); *Bp. Consp.* i. p. 343 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Comp.* i. p. 98 (1854); *G. R. Gray, P. Z. S.* 1858, pp. 170, 189 (var.; Louisiade); *id. Cat. B. New Guinea*, pp. 17, 54; *Bernst. J. f. O.* 1859, p. 118 (nidific.); *Jerd. B. India*, p. 182 (1862); *Rosenb. Nat. Tijdschr. Nederl. Ind.* xxv. p. 234 (1863); *Sel. P. Z. S.* 1863, p. 212 (S. Borneo); *id. J. f. O.* 1864, p. 120 (Waigiou); *Finsch, Neu-Guinea*, p. 162 (1865); *Pelz. Reis. Novara, Voy.* p. 39, (Java) (1865); *Gray, Ann. & Mag. Nat. Hist.* 1866, xvii. p. 118; *id. Hand-l.* i. p. 65, no. 746 (1869); *Iegge, Ibis*, 1874, p. 13 (Ceylon); *Rey, J. f. O.* 1875, p. 286 (India); *Brooks, Stray Feath.* iii. p. 232 (1875); *Green, Journ. Physiology*, 1885, p. 40; *Varigny, Nature*, 1885, p. 186; *Büttikof. P. Z. S.* 1885, p. 610; *Pryer, Zoologist*, 1885, p. 296; *Murray, t. c.* p. 147.
- Hemiproecne salangana, *Streubel, Isis*, 1848, p. 368 (India)\*.
- Collocalia fuciphaga, *Bp. Compt. Rend.* xli. p. 977 (1855); *id. Rev. et Mag. Zool.* 1855, p. 581; *Wallace, P. Z. S.* 1863, pp. 384, 484 (Timor); *Sel. P. Z. S.* 1865, p. 616; *id. J. f. O.* 1867, p. 139; *Holdsw. P. Z. S.* 1872, p. 420 (Ceylon); *Wald. Trans. Zool. Soc.* viii. p. 46 (Celebes) (1872); *Salvad. Ucc. Borneo*, p. 120 (1874); *id. Ann. Mus. Civ.* 1879, p. 647 (Kei); *id. Orn. Papuas.* i. p. 544 (1880); *id. Agg. Orn. Pap.* i. p. 63 (1889); *Tristr. Ibis*, 1880, p. 246 (Salomon Is., corr.); *Sharpe, Journ. Linn. Soc., Zool.* xvi. p. 430 (1880); *A. B. Meyer, Abbild. Vogelsk.* pl. 46, fig. 2 (1883); *id. Zeitschr. ges. Orn.* 1884, p. 278; *W. Blas. J. f. O.* 1884, p. 217 (S.E. Borneo); *Kutter, J. f. O.* 1885, p. 346 (eggs); *Finsch & Meyer, Zeitschr. ges. Orn.* 1886, p. 14 (New Guinea); *Hartert, J. f. O.* 1889, p. 359 (N.E. Sumatra); *Tristr. Ibis*, 1889, p. 556; *Sharpe, Ibis*, 1890, p. 23.
- Hirundo vanikorensis, *Quoy et Gaim. Voy. Astrolabe, Zool.* i. p. 206, pl. xii, fig. 3 (1830).
- Cotyle vanicorensis, *Boie, Isis*, 1844, p. 170.
- Collocalia vanicorensis, *Hartl. & Finsch, P. Z. S.* 1868, pp. 4, 116 (Pelew Is.); *Finsch & Hartl. Orn. Centralpol.* p. 47, part. (1867);

\* I do not think that the above quoted name of Streubel can belong to any other species; but *Hemiproecne fucivora*, Streub., is described as totally different, though the author states that his name is only created to set aside the vox hybrida *C. fuciphaga*. The description of *C. fucivora* (Streub.) seems to suit *C. linchi* rather than *C. fuciphaga*. The other names of Streubel, viz. *H. gelatinosa*, *borbonica*, *philippina*, *malaisia*, *ulensis*, without any descriptions, cannot be identified and have no value whatever. (*Cf. Streubel, l. c.*)

*Finsch, Journ. Mus. Godeffr.* viii. p. 15 (Palau Is.) (1875); *id. ibid.* xii. p. 23 (Ponapé) (1876); *Layard, P. Z. S.* 1876, p. 50; *id. Ibis*, 1876, p. 391; *Finsch, P. Z. S.* 1877, p. 778 (Friendly Is.); *id. J. f. O.* 1880, p. 285 (Ponapé); *id. P. Z. S.* 1880, p. 575; *id. J. f. O.* 1880, p. 298 (Kuschai); *id. Ibis*, 1881, pp. 105, 108, 115, 536.

*Cypselus inquietus*, *Kittl. Denkv. Reise*, ii. p. 26 (1858); *Finsch, Ibis*, 1881, p. 105 (= *vanicor.*).

*Collocalia francaica*, *Tweedd. P. Z. S.* 1878, p. 283 (Negros); *Steere, List B. & Mamm. Philippines*, p. 12 (1890).

*Collocalia*, sp. inc., *Scl. P. Z. S.* 1879, p. 447 (Duke of York I.).

*Collocalia linchi*, *Tristr. Ibis*, 1879, p. 438 (Salomon Is.).

*Collocalia cinerea*, *Layard, Ibis*, 1880, pp. 223 (Loyalty Is.), 298 (New Hebrides); *id. Ibis*, 1882, p. 503 (New Caledonia).

*Adult.* Upper surface dark sooty brown with very little gloss; head, wings, and tail darker and more glossy; feathers in front of the eye whitish with dark-brown tips; lower surface brownish grey with darker shaft-stripes; under wing-coverts blackish brown. Total length about 4·5 inches, bill at base 0·15, wing 4·4 to 4·7, tail 2·2.

The *young* bird is like the adult in plumage.

*Hab.* The islands of the Malay Archipelago and Papuasia, north to the Philippines, Western Himalayas to the Nilgherries, Ceylon, and the Seychelles in the West; islands of Santa Cruz and Duke of York in the East. Some parts of Sumatra seem also to be its home, but *C. lowi* appears to live on the same island. A careful comparison of a series of specimens from Sumatra is required.

This bird has a very wide range and forms several local races. There is no difference between the birds from the Malay Archipelago and the so-called *C. unicolor* from the Nilgherries. The birds from the Eastern Himalayas and Manipur differ so much from those of the Nilgherries, that they are considered by several ornithologists to constitute a distinct species; but after having compared large series from all localities, it is evident that intermediate forms occur, and therefore it is not possible to allow it more than sub-specific rank. The birds from Negros in the Philippines are very black and glossy above and the wings average a little shorter, so that they seem to constitute a good race, but the bird from the Astrolabe range in New Guinea is exactly similar. The specimens from Celebes have generally rather short wings, but this character is not quite constant and does not seem sufficiently obvious to justify the formation of even a distinct race.

I have examined two specimens from the Seychelles—one in the Cambridge Museum, kindly lent me by Prof. Newton, and the other by Canon Tristram. They have no trace of a pale band across the rump, and therefore do not belong to *C. francaica*, but they are perfectly similar to *C. fuciphaga* from the Nilgherries.

Specimens from Tahiti are so different, that it may be better to regard them as a distinct species, all the more so as their abode is so far from the countries inhabited by the true *C. fuciphaga*.

The typical form of *C. fuciphaga* is not rare in Borneo; but in the northern parts of that island a much larger species is found, to which those from Palawan and Nias also belong. They sometimes inhabit the same localities as *C. fuciphaga*, and certainly form a distinct species; but it must be admitted that they vary to some extent *inter se*, and are sometimes approached though not reached by specimens of *C. fuciphaga*.

<i>a-d</i> . Ad. sk.	Java ( <i>Horsfield</i> ).	India Museum.
<i>e, f</i> . Ad. sk.	Java ( <i>H. Blyth</i> ).	Jardine Coll.
<i>g, h</i> . Imm. sk.	Sarawak.	C. Hose Coll.
<i>i, k</i> . Ad. sk.	Borneo.	
<i>l</i> . Pull. sk.	Borneo.	Cuming Coll.
<i>m</i> . Ad. sk.	Lawas River, Borneo.	Veitch Coll.
<i>n-q</i> . ♂ ad.; ♀ ad. sk.	Valencia, Negros, August ( <i>H. A. Everett</i> ).	Tweeddale Coll.
<i>r</i> . ♂ ad. sk.	Damaguete, Negros, Feb.	Moseley Coll.
<i>s, t</i> . ♂ ♀ ad. sk.	Macassar.	Wallace Coll.
<i>u</i> . Ad. sk.	Celebes.	Wallace Coll.
<i>v</i> . ♂ ad. sk.	Timor Coupang.	Wallace Coll.
<i>w</i> . Ad. sk.	Morty Is.	Wallace Coll.
<i>x</i> . Ad. sk.	Duke of York Is.	Rev. G. Brown [C.].
<i>y</i> . ♂ ad. sk.	Chaumont Is., Louisiade Archipel., July 5.	Voy. H.M.S. 'Rattlesnake.'
<i>z</i> . Ad. sk.	Astrolabe Range, S.E. New Guinea.	A. Goldie [C.].
<i>a'-d'</i> . ♂; <i>e'</i> . ♀ ad. sk.	Kotegurh, N.W. Himalayas.	Hume Coll.
<i>f'-p'</i> . ♂ ♀ ad. sk.	Vingorla, S. Konkan, April ( <i>G. Vidal</i> ).	Hume Coll.
<i>q', r'</i> . Ad. sk.	Bramahgherries, June ( <i>Darling</i> ).	Hume Coll.
<i>s'</i> . Ad. sk.	Coonoor, Aug. ( <i>W. Ramsay</i> ).	Tweeddale Coll.
<i>t'</i> . ♂ ad. sk.	Coonoor, April ( <i>W. Davison</i> ).	Hume Coll.
<i>w'-z'</i> . Ad. sk.	Tiger's Cave, Ootacamund, Dec. ( <i>A. O. H.</i> ).	Hume Coll.
<i>a'', b''</i> . ♀ ad. sk.	Ootacamund, April ( <i>W. Davison</i> ).	Hume Coll.
<i>c'', d''</i> . ♂ ad. sk.	Eridge, S. Travancore, March 18 ( <i>J. W. Bourdillon</i> ).	Hume Coll.

#### Subsp. *a*. *Collocalia brevirostris*.

*Hirundo brevirostris*, *McClelland*, *P. Z. S.* 1839, p. 155.

*Collocalia brevirostris*, *Hume*, *Stray Feath.* iii. p. 232 (1875); *id. op. cit.* ix. p. 290 (Assam) (1880); *id. op. cit.* xi. p. 32, Manipur (1888).

*Adult*. Similar to the true *C. fuciphaga*, but the wings are very long and the tarsi thinly feathered, when the bird is fresh and not damaged in skinning or by the strings of labels, whereas the tarsi seem to be quite unfeathered in the birds from the Nilgherries. Wing 5 inches to 5.1.

*Hab*. Replaces the typical *C. fuciphaga* (the *C. unicolor* of most Indian ornithologists) in the Himalayas and Manipur, but in the

Western Himalayas the smaller form is also found, and some specimens are intermediate between the two.

a. Ad. sk.	N. India.	
b, c, d. Ad. sk.	Kangra, N.W. Himalayas.	Pinwill Coll.
e. ♂ ad. sk.	Dhanolti, May 30 (W. E. Brooks).	Hume Coll.
f. ♀ ad. sk.	Naini Tal, May 26.	Hume Coll.
g-m. Ad. sk.	Nepal ( <i>Hodgson</i> ).	India Museum.
n. Ad. sk.	Nepal, Aug. 20 ( <i>J. Scully</i> ).	Hume Coll.
o. Ad. sk.	Darjiling, Aug. 6 ( <i>Blanford</i> ).	Tweeddale Coll.
p-w. Ad. sk.	Sikkim, April to Oct.	Hume Coll.
x-a'. Ad. sk.	Nat. Sikkim, May to Oct.	Hume Coll.
b', c'. Ad. sk.	Bootan ( <i>Pemberton</i> ).	India Museum.
d'. Ad. sk.	Assam.	McClelland Coll.
		(Type of the species.)
e'. ♂ ; f'. ♀ ad. sk.	Manipur, Feb. ( <i>A. O. H.</i> ).	Hume Coll.

### 3. *Collocalia leucophæa* \*.

*Macropteryx leucophæa*, Peale, *Un. St. Explor. Exp.* p. 178 (1848); *Hartl. Wieg. Arch. f. Naturgesch.* 1852, p. 113.

*Collocalia cinerea* †, *Cass. Un. St. Expl. Exp.* p. 183, pl. xii. fig. 4 (1858); *Pelz. Reis. Novara, Vög.* p. 38 (Tahiti) (1865); *Finsch, P. Z. S.* 1877, p. 408 (Marquesas).

*Collocalia vanicorensis*, *Finsch & Hartl. Orn. Centralpol.* p. 47 (part.).

♀ *Collocalia leucophæa*, *Gray, Ann. & Mag. Nat. Hist.* 1866, xvii. p. 124.

*Collocalia fuciphaga*, *Finsch, P. Z. S.* 1877, p. 740; *id. in Sci. Rep. 'Challenger,'* p. 55 (1880) (Tahiti).

*Adult.* Similar to *C. fuciphaga*, but much darker underneath, the chin and throat especially are dark smoky brown; feathers in front of the eye very dark brown, the bases being light brown instead of pure white; upper surface very dark smoky brown, only the wings and tail with slight metallic gloss. Wing 5 inches, tarsus 0.4.

*Hab.* Tahiti and Marquesas.

Easily distinguished from the true *C. fuciphaga* by its long wing, which is as long as in the subspecies *C. brevirostris* from the Eastern Himalayas, but the latter has the face and sides of neck and the whole under surface much lighter.

a, b. ♂ ; c. ♀ ad. sk. Tahiti. 'Challenger' Exped.

\* Though the name *leucophæa* of Peale is most ill chosen, it cannot be denied that he referred to the present species.

† The name "*Collocalia cinerea*" cannot be accepted, because it is the *Hirundo cinerea*, Gm. S. N. ii. p. 1026 (1788), which is, according to Sharpe (*Cat. B. x.*), a Swallow, a conclusion which is perfectly correct. Neither the *Hirundo peruviana* of Brisson (*Orn.* ii. p. 498, 1760) nor the "*Petite hirondelle noire à ventre cendré*" (*Buff. Hist. Ois.* vi. p. 673) can with any certainty be referred to the *Collocalia* from Tahiti. Hartlaub's *Herse forsteri* (*J. f. O.* 1854, p. 169, without description) is referred by this author himself as a synonym to *Coll. spodiopygia*. Gray (*Ann. & Mag. Nat. Hist.* 1866, xvii. p. 123) quoted it as "♀ *Collocalia forsteri*."



4. *Collocalia innominata*.

*Collocalia innominata*, *Hume, Stray Feath.* i. p. 294 (1873); *id. op. cit.* ii. pp. 160, 493 (1874); *id. op. cit.* viii. p. 85 (1878); *Hume & Davison, Stray Feath.* vi. p. 49 (1877); *Oates, B. Burmah* ii. p. 7 (1883).

*Collocalia maxima*, *Hume, Stray Feath.* iv. p. 223 (1876).

*Adult.* Crown, nape, and back dark smoky brown with a little metallic gloss, the cap somewhat darker; feathers in front of the eye blackish with white bases; wings and tail more blackish with metallic gloss; rump brownish grey with dark shaft-lines, forming a usually quite perceptible but sometimes less defined band across the upper surface; lower surface dusky brownish grey, the feathers with dark shaft-lines; chin and upper throat a little darker; under wing-coverts dark glossy brown; tarsi feathered except on the lowest part. Total length about 5.2 inches, bill at base 0.2 broad, culmen 0.2, tarsus 0.5, wing 5.2 to 5.4, tail 2.2.

*Hab.* Southern parts of Tenasserim from Mergui to Bankasoon. One specimen, the type of the species, was obtained in South Andaman.

a-e. ♂ ad.; f. ♀ ad. sk.	Bankasoon, June and Dec. ( <i>W. Davison</i> ).	Hume Coll.
g. ♀ ad. sk.	Mergui, June 18 ( <i>W. Davison</i> ).	Hume Coll.
h. ♀ ad. sk.	Port Mouat, And., Jan. 6 ( <i>W. Davison</i> ).	Hume Coll. (Type of the species.)

5. *Collocalia francica*.

La petite Hirondelle noire à croupion gris, *Buff. Hist. Nat. Ois.* vi. p. 696 (1779); *ibid.* fol. vii. p. 345 (1783)\* (Ile de France).

Grey-rumped Swallow, *Lath. Gen. Syn.* ii. p. 582 (1783).

*Hirundo francica*, *Gm. Syst. Nat.* ii. p. 1017 (1788); *Lath. Ind. Orn.* p. 580 (1780); *Steph. Gen. Zool.* x. p. 115 (1817); *Griff. An. Kingd.* vii. p. 67 (1829).

*Hirundo francica*, *Vieill. Nouv. Dict.* xiv. p. 525 (1817).

*Hirundo francica*, *Less. Tr. Orn.* p. 270 (1831).

*Collocalia francica*, *Gray, List Spec. B. Brit. Mus.* p. 21 (1848); *E. Newton, Ibis*, 1860, p. 201; *Cab. & Heine, Mus. Hein.* iii. p. 82 (1860); *Hartl. Orn. Beitr. Faun. Madag.* p. 27 (1861); *Coquerel, Alb. Réunion*, p. 21, fig. 1 (1865); *Schleg. P. Z. S.* 1866, p. 421; *Gray, Ann. & Mag. Nat. Hist.* 1866, xvii. p. 122; *E. Newton, Ibis*, 1861, p. 271 (Mauritius); *ibid.* 1867, p. 359; *Schleg. & Pollen, Faun. Madag.* ii. p. 67 (1868); *Gray, Hand-l.* i. p. 65 (1869); *Walden, Ibis*, 1874, p. 132 (part.); *id. ibid.* 1876, p. 356 (part.); *Hartl. Vög. Madag.* p. 59 (1877); *Milne-Edw. & Grandid. Madagascar*, p. 198, pls. lxxii.-lxxv. (1879); *Salv. Cat. Strickl. Coll.* p. 372 (1882).

\* The description is quite significant, but the figure in Daubent. Pl. Enl. 544 does not show the whitish rump, and may possibly belong to another bird.

- Macropteryx spodiopygia*, Peale, *U. S. Expl. Exp.* 1848, p. 170, pl. 49 (1848); *Hartl. Wieg. Arch.* 1852, p. 112.
- Collocalia spodiopygia*, Cass. *U. S. Expl. Exp.* 1858, p. 184, pl. xii. fig. 3 (1858); *Gray, Ann. & Mag. Nat. Hist.* 1866, xvii. p. 122; *id. Hand-l.* i. p. 65 (1869); *Hartl. & Finsch, Orn. Centr.-Polynes.* p. 48 (1867); *Finsch & Hartl. P. Z. S.* 1871, p. 23; *Whitmee, Ibis*, 1875, p. 437 (Samoa); *Layard, Ibis*, 1876, p. 391; *Kleinschm. Journ. Mus. Godeffr.* xii. p. 166 (Fiji) (1876); *Cab. & Reichen. J. f. O.* 1876, p. 324 (Yavao); *Finsch, P. Z. S.* 1876, p. 19 (Ovalau); *id. P. Z. S.* 1877, p. 723 (Tongatabu); *Ramsay, Pr. Linn. Soc. N. S. W.* iii. p. 265 (1878); *Salvad. Ibis*, 1879, p. 323 (N. Guinea); *id. Atti R. Ac. Sc. Tor.* xv. p. 347 (1880); *id. Orn. Papuasias*, i. p. 546 (1880); *Scl. Voy. Challeng.* pp. 34, 44 (1880).
- Cypselus francicus*, Schleg. & Pollen, *Ois. Mad.* ii. p. 67 (1868).
- Cypselus terre reginæ*, Ramsay, *P. Z. S.* 1874, p. 601 (Austral.).
- Collocalia terre reginæ*, Gould, *B. N. Guinea*, iv. pl. 38 (1875); *Ramsay, Proc. Linn. Soc. N. S. W.* ii. p. 178 (1877); *Sharpe, Journ. Linn. Soc. N. S. W.* iii. p. 265 (1878); *Salvad. Ibis*, 1879, p. 323.
- Collocalia infusca*\*, *Salvad. Atti R. Ac. Sc. Tor.* xv. p. 348 (1880); *id. Orn. Papuasias*, i. p. 547 (1880); *id. Atti R. Ac. Sc. Tor.* xvii. p. 450 (1882); *id. Agg. Orn. Pap.* i. p. 64 (1889).

*Adult.* Differs from *C. innominata* chiefly in its much smaller size; the band across the rump is dusky white or smoky grey with darker shafts; the tarsi seem to be always unfeathered, except in some specimens from the Malay Peninsula, which differ much from the form from the islands in the Pacific Ocean. Total length over 4 inches, wing 4.4 to 4.5, tail 2.1.

*Hab.* Fiji, Samoa, Friendly, and Solomon Islands, Ternate, New Guinea and Northern Australia, and Mauritius and Bourbon.

It is often stated to inhabit Madagascar, but I do not know whether specimens have been actually obtained in that island. Slightly differentiated forms are found in Tenasserim and the Malay Peninsula, and the islands off the West coast of the Malay Peninsula to South Andaman.

This species has an enormous distribution, and forms several local races like its congener *C. fuciphaya*. The large birds from the Mergui Archipelago cannot be mistaken and may safely be regarded as a species, *C. innominata* of Hume. The birds from Fiji, Samoa, Friendly Islands, Solomon Islands, and Ternate are very dark and the back has very little gloss. The colour of the back in specimens from Australia (i. e. *C. terre reginæ* of Ramsay) is a little paler, but those from Mauritius and Bourbon are perfectly similar. Specimens from Mergui are paler beneath, and the feathers of the lower surface and of the light grey band across the rump have more obvious dark shaft-stripes. The specimens from South Andaman and Selangore (Klang) in the Malay Peninsula have the light band across the rump, which is dusky whitish or pale dusky grey in the typical forms, ill-defined, often so faint, that they nearly approach

\* A typical specimen, kindly lent me by the author, does not differ from many examples of the dark Pacific form in the collection.

*C. fuciphaga*. Most of these forms are so alike, and their geographical distribution is so wide and curious, that very few races can be kept separate. I cannot allow specific or even subspecific rank to either the birds from Australia or those from Mauritius, but may recognize as a subspecies the dark-rumped bird from the Andamans, i. e. *C. inexpectata* of Hume, and the paler bird from Mergui, so that we have two forms which are somewhat differentiated in their respective habitats. It may seem feasible to allow subspecific rank to the Pacific specimens on account of their generally darker upper surface; but larger series show that this character is not constant, and therefore it is not advisable to keep them separate from *C. francica*.

<i>a, b.</i> Ad. sk.	Bourbon I. ( <i>Bewsher</i> ).	Shelley Coll.
<i>c, d.</i> Ad. sk.	Mauritius.	Purchased.
<i>e.</i> ♂ imm. sk.	Guadalecanar I., Solomon Is.	C. M. Woodford, Esq. [C.]
<i>f, g.</i> Ad. sk.	Samoa.	Rev. S. J. Whitmee.
<i>h-m.</i> ♂ ; <i>n, o, p.</i> ♀ ad. sk.	Taviumi, Fiji, April to Aug. ( <i>E. L. Layard</i> ).	Tweeddale Coll.
<i>q.</i> ♀ ad. sk.	Levuka, Fiji, July ( <i>E. L. Layard</i> ).	Tweeddale Coll.
<i>r, s, t.</i> ♀ ad. sk.	Ovalau, Fiji, June and Sept. ( <i>E. L. Layard</i> ).	Tweeddale Coll.
<i>u-x.</i> ♀ ad. sk.	Ovalau, Aug. ( <i>F. M. Rayner</i> ).	Voy. H.M.S. 'Herald.'
<i>y.</i> ♂ ; <i>z.</i> ♀ ad. sk.	Mauga, Fiji, Dec. ( <i>E. L. Layard</i> ).	Tweeddale Coll.
<i>a', b'.</i> ♂ ♀ ad. sk.	Kandavu Is.	'Challenger' Exped.
<i>c', d'.</i> Ad. sk.	Tongatabu.	'Challenger' Exped.
<i>e'.</i> ♂ ; <i>f'.</i> ♀ ad. sk.	Vavau, Friendly Is.	Brenchley Coll.
<i>g', h', i'.</i> Ad. sk.	Rockingham Bay, Austr. ( <i>Waller</i> ).	Gould Coll.
<i>k', l'.</i> ♂ ♀ ad. sk.	Dunk Is., June 4 ( <i>J. Macgillivray</i> ).	Gould Coll.
<i>m'.</i> Ad. sk.	Queensland.	E. P. Ramsay [P.]
<i>n'.</i> Skeleton.	Samoa.	Rev. S. J. Whitmee.

#### Subsp. *a.* *Collocalia inexpectata*.

*Collocalia inexpectata*, *Hume, Stray Feath.* 1873, p. 296 (S. Andamans); *id.* *Stray Feath.* 1874, p. 493.

*Collocalia spodiopygia*, *Hume, Stray Feath.* 1874, p. 160.

Beneath rather dark and brownish, rump-band not so well defined as in typical *C. francica*. Wing 4.5 to 4.7 inches in specimens from the South Andamans; a little longer, 4.7 to 4.9, in those from the Malay Peninsula. Some specimens from Malacca show scanty feathers on the tarsus. The ill-defined rump-band is very perceptible.

*Hab.* S. Andamans and southern half of the Malay Peninsula.

One specimen from Amherst in Tenasserim, in the Hume Collection, labelled *Cypselus infumatus* also undoubtedly belongs to this form. On the wing the dark-coloured forms of *Collocalia* so

closely resemble the *Tachornis infumata*, that most Indian field-ornithologists admit that they have often shot one for the other.

<i>a-h.</i> ♂ ♀ ad. sk.	Port Blair, S. Andaman, June, Tweeddale and July ( <i>R. J. Wimberley</i> ).	Hume Colls.
<i>i-n.</i> ♂ ; <i>o, p.</i> ♀ ad. sk.	Button Island, March ( <i>A. O.</i> <i>Hume</i> ).	Hume Coll. (Types of <i>C. inexpectata</i> .)
<i>q, r.</i> ♂ ad. sk.	Mount Harriet, S. Andaman, March ( <i>W. Davison</i> ).	Hume Coll.
<i>s.</i> Ad. sk.	Aberdeen, S. Andaman, Nov. ( <i>A. de Roepstorff</i> ).	Hume Coll.
<i>t, u.</i> ♂ ; <i>v.</i> ♀ ad. sk.	S. Andaman, March ( <i>W. Ram-</i> <i>say</i> ).	Tweeddale Coll.
<i>w.</i> Ad. sk.	Malacca ( <i>Verreaux</i> ).	
<i>x, y.</i> ♂ ; <i>z-d'</i> . ♀ ad. sk.	Selangore, March, April, Nov. ( <i>W. Davison</i> ).	Hume Coll.
<i>e'</i> . ♂ ad. sk.	Amherst, Tenasserim, June 20 ( <i>W. Davison</i> ).	Hume Coll.

#### Subsp. β. *Collocalia merguiensis*.

*Collocalia spodiopygia*, *Hume, Stray Feath.* 1875, p. 318; *Hume & Davison, Stray Feath.* 1878, p. 51; *Oates, B. Burmah*, ii. p. 8, part. (1883).

Similar to *C. inornata*, but smaller. Lower surface rather pale as a rule, and with very perceptible dark shaft-lines. Feathers of the rump with much developed shaft-lines. This form is paler than *C. francica* and has longer wings. Single specimens are similar to typical *C. francica*, but larger series show well the above-mentioned characters. Wing 4.75 inches.

*Hab.* Southern portion of Tenasserim and islands of the Mergui Archipelago, from Tavoy Island southwards.

<i>a, b.</i> ♀ ad. sk.	Pakchan, Tenasserim, Jan. ( <i>W. Da-</i> <i>vison</i> ).	Hume Coll.
<i>c-o.</i> ♂ ad. sk.	Mergui, June, July ( <i>W. Davison</i> ).	Hume Coll.
<i>p-u.</i> ♀ ad. ; <i>v.</i> <i>w.</i> Ad. sk.	Mergui, April to Dec. ( <i>W. Davison</i> ).	Hume Coll. (Types of the subspecies.)

#### 6. *Collocalia leucopygia*.

*Collocalia leucopygia*, *Wallace, P. Z. S.* 1863, p. 384 (New Caledonia); *Gray, Ann. & Mag. Nat. Hist.* 1866, xvii. p. 122; *id. Hand-l. i.* p. 65 (1869); *Layard, Ibis*, 1878, p. 252 (New Caledonia); *Tristram, Ibis*, 1879, p. 181 (New Caledonia); *Salvad. Atti R. Ac. Sc. Torino*, xv. p. 347 (1880); *Layard, Ibis*, 1880, p. 223 (Loyalty Islands); *id. Ibis*, 1882, p. 503.

*Adult.* Above sooty black, wings and tail glossy black; a broad white band of feathers with dark shaft-lines across the rump; chin, upper throat, sides of head, and neck dusky brown, feathers in front of the eye with white bases; lower surface dirty white, browner on the sides of the body, purer white on the abdomen; all the feathers with darker shaft-lines; longer under tail-coverts glossy brown; under wing-coverts dark brown; thighs and scanty feathers of the

tarsus blackish brown. Total length about 4 inches, wing 4·3, tail 1·8.

*Hab.* New Caledonia and Loyalty Islands.

- a. Ad. sk. New Caledonia. Purchased.  
(Type of the species.)  
b. ♂ ; c, d. ♀ ad. New Caledonia, May 9 (*E. L.* Tweeddale Coll.  
sk. *Layard*).

### 7. *Collocalia troglodytes*.

*Collocalia troglodytes*, *Gray, Gen. B.* pl. 19 (1845); *id. Hand-l. i.* p. 65 (1869); *Wall. P. Z. S.* 1863, p. 384; *Martens, J. f. O.* 1866, p. 18; *Bp. Compt. Rend.* xli. p. 977; *Pelz. Reise Novara, Vög.* p. 40 (1865); *Walden, Trans. Zool. Soc.* ix. p. 158 (1875); *Tweedd. P. Z. S.* 1877, p. 823 (Mindanao); *Sharpe, Trans. Linn. Soc. i.* p. 320 (1877); *Hume, Stray Feath.* viii. p. 47 (Malay Peninsula) (1879); *Sharpe, Ibis*, 1888, p. 198 (Palawan); *Whitely, Ibis*, 1890, p. 46; *Steere, List B. & Mamm. Philippines*, p. 12 (1890).

*Adult.* Above metallic black, with a white band 0·2 inch broad across the rump, with blackish longitudinal stripes, the feathers being white with black tips and blackish shaft-lines; sides of head and neck dusky, feathers in front of the eye with white bases; feathers of the lower surface brown, with darker shafts and white edges, giving these parts a mottled brown and white appearance; the chin and sides of body uniform brown; under tail-coverts and under wing-coverts blackish. Total length about 3·5 inches, wing 3·7 to 3·8, tail 1·5.

*Hab.* Philippine Islands down to Palawan.

- a-d. Ad. sk. [Philippines.] Cuming Coll.  
(Types of the species.)  
e-h. ♂ ; i-m. ♀ Placer, Mindanao, July (*A. H.* Tweeddale Coll.  
ad. sk. *Everett*).

### 8. *Collocalia uropygialis*.

*Collocalia uropygialis*, *Gray, Ann. & Mag. Nat. Hist.* 1866, xvii. p. 123 (New Hebrides); *id. Hand-l. i.* p. 65 (1869); *Tristr. Ibis*, 1876, p. 260; *Gray, in Cruise of the 'Curaçoa'*, p. 356, pl. ii. fig. 2 (1873); *Finsch, P. Z. S.* 1877, p. 738; *id. in Sel. Rep. Challeng.* p. 53; *Layard, Ibis*, 1878, p. 253 (N. Caledonia); *id. Ibis*, 1879, p. 107; *id. Ibis*, 1880, pp. 223, 337 (Loyalty Islands); *id. Ibis*, 1882, p. 502.

*Adult.* Above black with steel-blue gloss, a band across the rump pure white; chin, throat, upper breast, and sides of body dark grey, with some whitish edges to the feathers; lower breast and abdomen white; under tail-coverts bluish black with white edges, the longest entirely bluish black; under wing-coverts blackish, the longest with white tips; rectrices with white spots on the basal portion of their inner webs, these spots varying in extent and not being developed on the central pairs of rectrices. Total length about 3·5 to 4 inches, wing 3·9, tail 1·7.

*Hab.* New Hebrides and New Caledonia.

a. Ad. sk.	New Hebrides.	J. W. Perry, Esq. [P.].
b. Ad. sk.	Aneiteum.	Brenchley Coll.
c, d. Ad. sk.	Aneiteum.	J. Macgillivray [C.]. (Types of the species.) Tweeddale Coll.
e. Ad. sk.	Aneiteum ( <i>L. C. Layard</i> ).	
f-i. Ad. sk.	Aneiteum, June, Aug.	
k, l. ♂ ad. sk.	Api, New Hebrides.	Voy. H.M.S. 'Chal- lenger.'

### 9. *Collocalia marginata*.

*Collocalia fuciphaga*, *Tweedd. P. Z. S.* 1878, p. 429 ("Luzon").

*Collocalia marginata*, *Salvad. Atti R. Ac. Sc. Tor.* xvii. p. 448 (1882); *Reichen. & Schalow, J. f. O.* 1884, p. 382.

*Collocalia cebuensis*, *Kutter, J. f. O.* 1882, p. 171 (Cebu); *Reichen. & Schalow, J. f. O.* 1884, p. 382.

*Adult.* Above sooty black with greenish gloss; wings and tail with steel-blue gloss; upper tail-coverts, except the longest, with narrow but distinct white edges; feathers in front of the eye with white bases; sides of head, neck, and chin mouse-grey; feathers of the throat with white edges, gradually increasing in width on the underparts, so that the abdomen appears to be almost white; rectrices without white marks, longest under tail-coverts like the back; under wing-coverts with very small white edges. Total length about 3.6 inches, wing 4, tail 1.6.

*Hab.* Cebu, Philippines (Luzon?).

a. Ad. sk.	Manila? ( <i>Herr Othberg</i> ).	Tweeddale Coll.
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### 10. *Collocalia linchi*.

*Hirundo fuciphaga*, *Horsf. (nec Thunb.!)* *Trans. Linn. Soc.* xiii. p. 143 (1821).

*Collocalia fuciphaga*, *G. R. Gray, Gen. B.* i. p. 55 (1845); *Blyth, Journ. As. Soc. Beng.* xiv. p. 548 (1845), xv. p. 22 (1846); *id. Cat. B. Mus. As. Soc. Beng.* p. 86 (1849); *Walden, Ibis*, 1874, p. 133.

*Collocalia linchi*, *Horsf. & Moore, Cat. B. Mus. E. I. Comp.* i. p. 100 (1854); *Bp. Compt. Rend.* xli. p. 548 (1855); *Bernst. J. f. O.* 1859, p. 119 (midific.); *Wall. P. Z. S.* 1863, p. 548; *Scl. P. Z. S.* 1865, p. 616; *Pelz. Reis. Novara, Vög.* p. 39, pl. ii. fig. 2, & pl. vi. fig. 2 (1865); *Gray, Ann. & Mag. Nat. Hist.* 1866, xvii. p. 118; *Gray, Hand-l.* i. p. 65 (1869); *Ball, Stray Feath.* i. p. 55, Andamans (1873); *Hume, ibid.* ii. p. 157 (1874), vi. p. 48 (1878), viii. p. 47 (1879); *Salvad. Ucc. Borneo*, p. 121 (1874); *Sharpe, Ibis*, 1879, p. 250 (Borneo); *Tristr. Ibis*, 1879, p. 438 (New Hebrides); *Nicholson, Ibis*, 1881, p. 143 (Java); *Kelham, Ibis*, 1881, p. 374 (Malacca); *Oates, B. Burmah*, ii. p. 10 (1883); *Vorderm. Nat. Tijdschr. Nederl. Ind.* p. 193 (1883); *Kutter, J. f. O.* 1883, p. 302 (eggs); *id. J. f. O.* 1885, p. 344; *W. Blas. J. f. O.* 1884, p. 227 (S.E. Borneo); *Grabowsky, Ornith.* 1885, p. 157; *Sharpe, Ibis*, 1890, p. 23; *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 33 (1890).

*Collocalia affinis*, *Tytler & Beavan, Ibis*, 1867, p. 318 (Andamans); *Blyth, Ibis*, 1868, p. 131; *Walden, Ibis*, 1873, p. 302; *Salvad. Ibis*, 1880, p. 130.

*Adult.* Similar to *C. marginata*, but no white edges to the upper tail-coverts; the back a little darker; chin, throat, and breast uniform mouse-grey, only the feathers of the abdomen, flanks, and smaller under tail-coverts bordered with white; rectrices without white marks. Total length nearly 4 inches, wing 4, tail 1.5.

*Young.* Perfectly similar to the adult.

*Hab.* Andamans and Nicobars, southern parts of the Malay Peninsula, Sumatra, Java, Borneo.

<i>a.</i> ♂ ad. sk.	Kondul I., Nicobars, March 14.	Hume Coll.
<i>b, c.</i> ♂ ad. sk.	S. Andamans, March ( <i>R. G. W. R.</i> ).	Tweeddale Coll.
<i>d.</i> Ad. sk.	Ross Island, July ( <i>R. G. W. R.</i> ).	Tweeddale Coll.
<i>e.</i> ♂ ad. sk.	Jolly Boys Isl., March 9 ( <i>W. Davison</i> ).	Hume Coll.
<i>f, g.</i> Ad. sk.	Chatham Isl., Jan. 6 ( <i>R. G. W. R.</i> ).	Tweeddale Coll.
<i>h-m.</i> ad. sk.	Chatham Isl., Jan. 2 ( <i>R. G. W. R.</i> ).	Hume Coll.
<i>n-p.</i> ♀ ad. sk.	Andamans, March, Dec. ( <i>Davison</i> ).	Hume Coll.
<i>q-u.</i> Ad.; <i>v-x.</i> Immi. sk.	Port Blair, Andamans ( <i>A. O. H.</i> ).	Hume Coll.
<i>y.</i> Ad. sk.	Malacca.	Purchased.
<i>z, a',</i> ♂; <i>b',</i> ♀ ad. sk.	Johore, March, August ( <i>W. Davison</i> ).	Hume Coll.
<i>c'-f'</i> Ad. sk.	Java ( <i>Horsfield</i> ).	India Museum.
<i>g'.</i> Ad. sk.	Lawas River, Borneo, April.	(Types of the species.) Ussher Coll.
<i>h'.</i> ♀ ad. sk.	Paku, Borneo, October.	H. Everett Coll.

### 11. *Collocalia esculenta* \*.

- Apus marina*, *Rumph. Herb. Amboin.* vi. p. 183 (1750).  
*Hirundo esculenta*, *Linn. Syst. Nat.* ed. x. i. p. 191 (1758); *id. Syst. Nat.* ed. xii. p. 343 (1766); *Vieill. Nouv. Dict.* xiv. p. 529 (1817).  
*Cypselus esculentus*, *S. Müll. Verh. Land- u. Volkenk.* p. 110 (1839-1844).  
*Collocalia esculenta*, *Gray, Gen. B.* i. p. 55 (excl. synonym.) (1845); *Bp. Consp.* i. p. 343 (1850); *Bp. Rev. et Mag. Zool.* 1855, p. 580; *Gray, P. Z. S.* 1860, p. 345 (Amboina); *Wall. P. Z. S.* 1863, pp. 384, 485 (Molucca, New Guinea); *Sel. P. Z. S.* 1865, p. 615; *Finsch, Neu-Guinea*, p. 162 (1865); *Wald. Trans. Zool. Soc.* viii. p. 46 (1872); *Salvad. Ann. Mus. Civ. Gen.* x. p. 312 (1877); *id. Atti R. Ac. Sc. Tor.* xv. p. 345 (1880); *id. Orn. Papuasia*, i. p. 540 (1880); *A. B. Meyer, Ibis*, 1879, p. 65 (Celebes); *Sharpe, Journ. Linn. Soc., Zool.* xvi. p. 430 (1882); *Blas. & Nehrck. Verh. zool.-bot. ges. Wien*, 1882, p. 421 (Amboina); *Finsch & Meyer, Zeitschr. ges. Orn.* 1886, p. 14 (New Guinea).  
*Collocalia hypoleuca*, *G. R. Gray, P. Z. S.* 1858, pp. 170, 189 (Aru Is.); *id. Cat. B. New Guinea*, pp. 18, 54 (1859); *id. P. Z. S.* 1860,

\* Gray has not adopted Linné's name *H. esculenta*. I quite agree with Count Salvadori and many others, that there is no reason whatever to reject it. *Briss. Orn.* ii. p. 510, pl. 46. fig. 2 a (1760), describes and figures a bird with an edible nest; but it appears that they have nothing to do with one another, the bird probably being some kind of Swallow, although the nest is that of some species of *Collocalia*. Linné (1758) quotes Rumphius, whose description certainly refers to our bird.

p. 345 (Batchian); *id.* *P. Z. S.* 1861, p. 433 (Mysol); *Rosenb. Nat. Tijdschr. Ned. Ind.* xxv. p. 234 (1863); *id.* *J. f. O.* 1864, p. 120; *Gray, Ann. & Mag. N. H.* 1866, xvii. pp. 120, 121; *id. Hand-l. i.* p. 65, no. 749 (1869); *id. Ann. & Mag. Nat. Hist.* 1870, v. p. 329 (Ugi); *id. Cruise of the 'Curacoa,' Birds*, p. 356, pl. ii. fig. 1 (1873); *Tristr. Ibis*, 1882, p. 143 (Solomon Is.).

*Collocalia viridinitens*, *G. R. Gray, Ann. & Mag. Nat. Hist.* 1866, xvii. p. 120 (Celebes).

*Collocalia spilura*, *Gray, Ann. & Mag. Nat. Hist.* 1866, xvii. p. 120 (Batchian); *id. Hand-l. i.* p. 65, no. 750 (1869).

*Adult.* Above black, with strong greenish and steel-blue, sometimes rather purplish, gloss; feathers in front of the eye white, with black tips; sides of head and neck and chin dark grey; throat and breast dark grey with white edges, increasing in width on the underparts, so that the abdomen is entirely white; under tail-coverts glossy green, broadly bordered with white, longest uniform; rectrices, except central, with large white spots to the basal half of the inner webs, these spots varying greatly in extent and sometimes being nearly obsolete: in one specimen from Cape York, on the north coast of Australia, they are not at all developed, but are visible in the two others from the same locality. Total length nearly 4 inches, wing 3.8-4.

*Young birds* are not so glossy above but are otherwise similar to the adult; nestlings are probably greyish brown above without steel-blue gloss.

*Hab.* Moluccan and Papuan Islands, from Celebes in the West to New Guinea; Cape York on the north coast of Australia, and the Solomon Islands in the East.

a. Ad. sk.	Macassar, Celebes.	Wallace Coll.
b. Ad. sk.	Mysol.	Wallace Coll.
c. ♂ imm. sk.	Mysol.	Wallace Coll.
d. ♀ ad.; e. Imm. sk.	Batchian.	Wallace Coll.
f. Ad. sk.	Matabello Island.	(Types of <i>C. spilura</i> , Gray.) Wallace Coll.
g. ♀ ad. sk.	Aru Islands.	Wallace Coll.
h. Ad. sk.	Astrolabe Mts., S.E. New Guinea.	(Type of <i>C. hypoleuca</i> , Gray.) Goldie Coll.
i. ♂ ad.; k. ♀ imm. sk.	Gulf Isl., Solomon Isl., Aug.	Brenchley Coll.
l, m, n. Ad. sk.	Cape York, Austr. ( <i>J. T. Cockerill</i> ).	Salvin-Godman Coll.

## 12. *Collocalia neglecta*.

*Hirundo esculenta*, var., *Less. Tr. d'Orn.* 1831, p. 270 (Timor).

*Collocalia esculenta*, *Bp. Compt. Rend.* xli. p. 977 (1855) (Timor).

*Collocalia neglecta*, *G. R. Gray, Ann. & Mag. Nat. Hist.* 1866, xvii. p. 121 (Timor); *id. Hand-l. i.* p. 65, no. 751 (1869); *Salvad. Atti R. Ac. Sc. Tor.* xv. p. 346 (1880).

*Adult.* Crown, tail, and wings glossy brownish black; feathers of the neck, back, rump, and upper wing-coverts dark plumbeous grey;



feathers of the rump with small white edges; upper wing-coverts with obsolete pale brown edges; feathers in front of the eye blackish, with white bases; chin, sides of head, and neck brownish grey; throat dirty white; breast and abdomen white; under tail-coverts white, with dark patches along the shafts, longest entirely glossy blackish; rectrices, except central, with long white, sharply-defined spots, occupying nearly the entire basal half of the inner web. Total length nearly 4 inches, wing 3·8, tail 1·6.

*Hab.* Timor.

<i>a.</i> Ad. sk.	Timor ( <i>Wallace</i> ).	Gould Coll.
<i>b, c, d.</i> Ad. sk.	E. Timor.	Wallace Coll.
		(Types of the species.)

### 13. *Collocalia natalis*.

*Collocalia natalis*, *Lister*, *P. Z. S.* 1888, p. 250.

*Adult.* Similar to *C. neglecta*, from which it differs only in having a very dark, almost blackish chin and upper throat; the white spots on the basal half of outer rectrices merging into the dark colour, especially on the under surface; the dark patches on the under tail-coverts broader, and the white edges of the rump-feathers a little larger. Wing 4·8 inches.

*Hab.* Christmas Island in the Indian Ocean, south of Western Java.

<i>a, b.</i> Ad. sk.	Christmas Island, October 1.	J. J. Lister, Esq. [P.]
		(Types of the species.)

## Subfamily III. MACROPTERYGINÆ.

The external characters by which this subfamily is distinguished are given in the key to the subfamilies of the *Cypselidæ*. It consists of only one genus, which stands by itself among the *Cypselidæ*. In the softness of its plumage and the form of some of the bones of the skull it somewhat resembles the *Caprimulgidæ*. On the flanks there is a patch of silky downy feathers, not found in any other species of *Cypselidæ*. In all the species of the genus *Macropteryx* some feathers of the head, either moustache-stripes, superciliary stripes, or feathers of the crown, are obviously elongated. The plumage of the nestling is quite different from the adult, while in the members of the subfamily *Cypselinæ* it differs only slightly from the adult, and differs in no perceptible way in the members of the subfamily *Chaturinæ*. The sexes are perceptibly different.

The nidification of these birds is most interesting—the very small nest, containing a single egg—and differing entirely from that of all the other Swifts, reminding one strikingly of that of *Batrachostomus*.

The tarsus is very short, the posterior margin of the sternum has two foramina, instead of being imperforate as in the sternum of the *Cypselinae* and *Chaturinae*.

For further anatomical remarks, cf. Lucas, Auk, vi. p. 8 (1889), where a new family, *Dendrochelidonidæ*, is proposed.

### 9. MACROPTERYX.

	Type.
Macropteryx, <i>Swains. Zool. Ill.</i> ii. pl. 47 (1832) ..	M. longipennis.
Pallestre, <i>Less. Compl. Buff.</i> viii. p. 490 (1837) ..	M. longipennis.
Dendrochelidon, <i>Boie, "in litt.," Ersch &amp; Gruber, Enc.</i> xxix. p. 158 (1837) ..	M. longipennis.
Dendrochelidon, <i>Boie, Isis</i> , 1844, p. 165 ..	M. longipennis.
Palæstra, <i>Agass. Nomencl. Zool. Ind. Univ.</i> p. 271 (1876).	
Chelidonia, <i>Streubel, Isis</i> , 1848, p. 370 ..	M. mystacea.

*Range.* India, Malayana, and Papuasias.

#### *Key to the Species.*

- a. Breast and rump grey.
- a'. Smaller: crown greenish bronze with steel-blue gloss, or bluish ashy with metallic gloss.
- a''. Upper neck and back uniform with the rump, *i. e.* ashy grey. . . . . *coronata*, p. 512.
- b'. Upper neck and back greenish bronze.
- a'''. Smaller: under tail-coverts almost white . . . . . *longipennis*, p. 514.
- b'''. Larger: under tail-coverts dirty greyish white . . . . . *wallacei*, p. 515.
- b'. Very large: crown deep steel-blue . . . . . *mystacea*, p. 516.
- b. Breast and rump bronze . . . . . *comata*, p. 517.

### 1. Macropteryx coronata.

- Hirundo coronata*, *Tick. J. As. Soc. Beng.* ii. p. 580 (1833).
- Macropteryx coronatus*, *Tick. J. As. Soc. Beng.* xv. p. 21 (1846); *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 87 (1849); *Layard, Ann. & Mag. Nat. Hist.* 1853, p. 167; *Fairb. Stray Feath.* iv. p. 254 (1867); *Wardl. Ramsay, Ibis*, 1877, p. 458; *Salv. Cat. Strickl. Coll.* p. 373 (1882); *Oates, B. Burm.* ii. p. 12 (1883); *id. ed. Hume's Nests & Eggs Ind. B.* p. 36 (1890).
- Macropteryx longipennis*, *Jerd. Madr. Journ.* 1840, p. 236.
- Dendrochelidon schisticolor*, *Bp. Consp.* i. p. 66 (1850).
- Dendrochelidon coronatus* (-a), *Gould, B. Asia*, i. pl. 21 (1859); *Jerd. B. India*, i. p. 185 (1862); *Scl. P. Z. S.* 1865, p. 67; *id. J. f. O.* 1867, p. 141; *Beavan, Ibis*, 1865, p. 405, 1869, p. 405; *Gray, Hand-l.* i. p. 65 (1869); *Holdsw. P. Z. S.* 1872, p. 420 (Ceylon); *Bull, Stray Feath.* ii. p. 384 (1874); *Hume, Stray Feath.* ii. p. 469 (Tenasserim) (1874); *id. ibid.* iii. p. 45 (1875); *Fairb. Stray Feath.* v. p. 393 (Palani II.) (1877); *Bull, ibid.* vii. p. 202 (Godaveri); *Leyce, B. Ceylon*, p. 328 (1878); *Bingh. Stray Feath.* vii. p. 192

(Malay Pen.) (1879); *Vidal, ibid.* ix. p. 48 (S. Konkan); *Davidson, ibid.* x. p. 294 (Khandeish) (1882); *Davidson, ibid.* p. 348 (Mysore) (1882); *Swinh. Ibis*, 1885, p. 60 (Centr. Ind.); *Barnes, Bombay Journ. N. H. Soc.* iii. pt. 1 (1888) (nest figured).

*Adult male.* Lores deep black; a narrow and indistinct line over the eye whitish; upper chin, moustache-stripe, and ear-coverts light chestnut (hazel, Ridgw. Nomencl. Col. pl. iv. fig. 12); upper plumage and sides of neck bluish ashy, with metallic greenish gloss on the elongated feathers of the crown and the longest upper tail-coverts; throat, breast, and sides of body light grey, gradually merging into the colour of the abdomen, which is white like the vent and under tail-coverts; upper wing-coverts metallic blue; under brownish grey; wings and tail brown with metallic greenish gloss: "iris dark brown, sometimes reddish hazel; bill black; legs pinkish brown" (*Oates*). Total length nearly 9 inches, wing 6-6.3, tail 5.2.

*Adult female.* Differs from the male in having no chestnut on the head, the chin being like the throat; the ear-coverts like the sides of the neck, but darker; the grey throat is separated from the dark grey sides of the head by a whitish line.

*Young.* With very broad brownish-grey and narrow white edges to the feathers of the upper parts, and dark brown subterminal bars to those of the lower surface.

This plumage is that of the very young. They seem to be whiter again when in the nest, but assume the adult plumage at a very early age.

*Hab.* India and Ceylon, extending to Burma and Siam in the East, and Tenasserim, except the southern portion, in the South.

a. ♂ ad. ; b. ♀ ad. sk.	Dehra Doon.	Pinwill Coll.
c. ♂ ad. sk. ; d. ♀ ad. st.	Behar.	Hodgson Coll.
e-g. ♂ ad. sk.	Darjiling.	Hume Coll.
h, i. ♂ ad. ; k. ♀ ad. sk.	Lower Hills, Bhootan, Jan., Feb. ( <i>L. Mandelli</i> ).	Hume Coll.
l. ♂ ad. ; m. ♀ ad. sk.	Maunbhoom, April ( <i>Beavan</i> ).	Tweeddale Coll.
n. ♂ ad. ; o, p. ♀ ad. sk.	Chanda, C. P.	Blanford Coll.
q. ♂ ad. ; r. ♀ ad. sk.	Mhow, Feb. ; Manpore, May.	Col. C. Swinhoe [P.].
s, t. ♂ ad. ; u, v. ♀ ad. sk.	Khandeish, May and December ( <i>Davidson</i> ).	Hume Coll.
w-z. ♂ ad. ; a'. ♀ ad. sk.	Mirzapoor Distr., March ( <i>R. Thompson</i> ).	Hume Coll.
b'. ♂ ad. sk.	Chindwara Distr., June ( <i>R. Thompson</i> ).	Hume Coll.
c', d'. ♂ ad. ; e', f'. ♀ ad. sk.	Nagpur Distr., March.	Hume Coll.
g'. ♂ ad. sk.	Raipur, January.	Hume Coll.
h'-k'. ♂ ad. sk.	Seoni, C. P.	Hume Coll.
l'. ♂ imm. sk.	S. Konkan, May 5 ( <i>G. Vidal</i> ).	Hume Coll.

<i>m'</i> . ♂ imm. sk.	Base of Palani Hills, June 25 ( <i>Fairbank</i> ).	Tweeddale Coll.
<i>n'</i> . ♀ ad. sk.	Madras.	Jardine Coll.
<i>o'</i> . ♂ ad. ; <i>p'</i> . ♂ imm. ; <i>q'-t'</i> . ♀ ad. sk.	Ceylon, April and Oct. ( <i>H.</i> <i>Nevill &amp; Chapman</i> ).	Tweeddale Coll.
<i>u'</i> . ♀ ad. sk.	Ceylon, Nov. ( <i>Hart Brothers</i> ).	Hume Coll.
<i>v'</i> , <i>w'</i> . ♂ ad. ; <i>x'</i> . ♀ ad. sk.	Ceylon, Dec.	Col. W. V. Legge [P.].
<i>y'</i> , <i>z'</i> . ♂ ad. ; <i>a''</i> . ♀ ad. sk.	Karen Nee, March 17 ( <i>W.</i> <i>Ramsay</i> ).	Tweeddale Coll.
<i>b'</i> . ♂ ad. sk.	Thayetmyo, Nov. ( <i>W. Ram-</i> <i>say</i> ).	Tweeddale Coll.
<i>c'</i> . ♂ ad. sk.	Thayetmyo.	Oates Coll.
<i>d'</i> , <i>e'</i> . ♀ ad. sk.	Moulmain.	Pinwill Coll.
<i>f'</i> . ♂ ad. ; <i>g''</i> . ♂ imm. ; <i>h''</i> , <i>i''</i> . ♀ ad. sk.	Tonghoo, Feb., July, Dec. ( <i>W.</i> <i>Ramsay</i> ).	Tweeddale Coll.
<i>k'</i> . ♀ ad. sk.	Attaran R., Tenass., March 8 ( <i>W. Davison</i> ).	Hume Coll.
<i>l'</i> . ♀ ad. sk.	Salween Distr., February 17 ( <i>W. Davison</i> ).	Hume Coll.

## 2. *Macropteryx longipennis*.

*Hirundo longipennis*, *Rafn. Bull. Soc. Philom.* iii. p. 153 (1804).

*Hirundo klecho*, *Horsf. Trans. Linn. Soc.* xiii. p. 143 (1821).

*Cypselus longipennis*, *Temm. Pl. Col.* 83. fig. 1, text (1823).

*Cypselus klecho*, *Steph. Gen. Zool.* xiii. p. 81 (1826).

*Macropteryx longipennis*, *Swains. Zool. Ill.* ii. pl. 47 (1832); *Blyth, Cat. Mus. As. Soc. B.* p. 322 (1849); *Sharpe, Ibis*, 1876, p. 33; *Tweedd. Ibis*, 1877, p. 299; *Salvin, Cat. Strickl. Coll.* p. 373 (1882); *Vorderm. Nat. Tijdschr. Nederl. Ind.* 1883, p. 213; *Oates, B. Burmah*, ii. p. 13 (1883); *Hartert, J. f. O.* 1889, p. 359 (Sumatra); *id. Kat. Vogels. Senckenb. Mus.* p. 118, note (1891).

*Macropteryx klecho*, *Gray, List Gen. B.* p. 8 (1840); *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 87 (1849); *Scl. P. Z. S.* 1863, p. 212.

*Dendrochelidon klecho*, *Boie, Isis*, 1844, p. 165; *Bp. Consp.* i. p. 66 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Comp.* i. p. 110 (1854); *Gould, B. Asia*, i. pl. 22 (1859); *Bernst. J. f. O.* 1859, p. 183, pl. ii. (nest and eggs); *id. J. f. O.* 1860, p. 268; *Cab. & Heine, Mus. Hein.* iii. p. 83 (1860); *Scl. P. Z. S.* 1865, p. 616; *id. J. f. O.* 1867, p. 140; *Gray, Hand-l.* i. p. 64 (1869).

*Dendrochelidon longipennis*, *Salvad. Ucc. Borneo*, p. 122 (1874); *Hume & Davison, Stray Feath.* vi. p. 52 (Tenasserim) (1878); *Hume, Stray Feath.* viii. p. 47 (Malay Penins.) (1879); *Sharpe, Ibis*, 1879, p. 250 (Borneo); *id. P. Z. S.* 1879, p. 334; *id. Ibis*, 1890, p. 24.

*Adult male.* Lores black; forehead, crown, nape, back, tail, scapulars, and wing-coverts greenish bronze, generally with metallic blue edges to the feathers, this latter colour being sometimes very prevalent, sometimes entirely absent; rump and upper tail-coverts, except the longest, grey; tips of scapulars and innermost secondaries whitish grey; wings brown with steel-blue gloss; ear-coverts pure chestnut; chin, throat, breast, upper abdomen, and sides of

body grey; lower and middle of upper abdomen, vent, and under tail-coverts white. Total length about 8.5 inches, wing 6.5, tail 4.

*Adult female.* Like the male, but ear-coverts metallic greenish brown.

*Young.* Similar to that of *M. coronata*, but the brownish bars are smaller, the white edges broader, and the feathers of the crown have chestnut edges and white tips.

*Hab.* From Tenasserim down the Malay Peninsula; Sumatra, Java, Bangka, Borneo.

<i>a.</i> ♂ ad. sk.	[Asia.]	Gould Coll.
<i>b-e.</i> ♂ ad.; <i>f-i.</i> ♀ imm. sk.	Bankasoon, Tenasserim, Jan., Feb., June, Dec. ( <i>Davison</i> ).	Hume Coll.
<i>k.</i> ♂ ad. sk.	Malewoon, July ( <i>Davison</i> ).	Hume Coll.
<i>l.</i> ♂ ad.; <i>m.</i> ♀ ad. sk.	Haukachan and Pakchan, Feb. & Jan. ( <i>Davison</i> ).	Hume Coll.
<i>n.</i> ♀ ad. sk.	Pulu Seban, Nov. ( <i>Davison</i> ).	Hume Coll.
<i>o-w.</i> ♂ ad.; <i>x-</i> <i>b'</i> . ♀ ad.; <i>c'</i> . Imm. sk.	Mergui, Jan. & June ( <i>Davison</i> ).	Hume Coll.
<i>d'</i> . ♂ ad. sk.	Perak.	L. Wray, Esq., Junr. [C.]
<i>e', f'</i> . ♂ ad.; <i>g'</i> , <i>h'</i> . ♀ ad. sk.	Selangore, Jan. & May ( <i>Davison</i> ).	Hume Coll.
<i>i'-m'</i> . ♂ ad.; <i>n'-p'</i> . ♂ ad. sk.	Klang, June, July, & Sept., March, April ( <i>W. Davison</i> ).	Hume Coll.
<i>s', t'</i> . ♂ ad. et imm. sk.	Malacca, May ( <i>A. C. Maingay</i> ).	Tweeddale Coll.
<i>u'</i> . ♂ ad.; <i>v-x'</i> . ♀ ad. sk.	Malacca, July.	Hume Coll.
<i>y', z'</i> . ♀ ad. sk.	Mt. Ophir, Malacca ( <i>W. Ramsay</i> ).	Tweeddale Coll.
<i>a''-e''.</i> ♂ ad. sk.	Johore, August ( <i>Davison</i> ).	Hume Coll.
<i>d''.</i> ♀ ad. sk.	Singapore, January ( <i>Davison</i> ).	Hume Coll.
<i>e''-k''.</i> ♂ ♀ ad. sk.	Sumatra.	
<i>l''.</i> ♂ ad. sk.	Labuan, Borneo.	Sir H. Low [C.].
<i>m''.</i> ♀ ad. sk.	Kina Balu ( <i>Burbidge</i> ).	H. Veitch, Esq. [P.].
<i>n''.</i> ♂ pnil. sk.	Sarawak.	A. H. Everett [C.].
<i>o''.</i> ♂ ad. sk.	Java ( <i>Dr. Horsfield</i> ).	India Museum.
	(Type of <i>Dendrochelidon klecho</i> , Horsf.)	
<i>p''</i> , <i>q''.</i> ♂ ad. sk.	Java.	Tweeddale Coll.
<i>r''.</i> ♀ ad. sk.	Djapannan, E. Java, Sept. 5.	Wallace Coll.
<i>s''</i> , <i>t''.</i> ♂ ad., ♀ imm. sk.	Java ( <i>Diard</i> ).	Salviu-Godman Coll.
<i>u''.</i> ♀ ad. sk.	Billiton.	Tweeddale Coll.

### 3. *Macropteryx wallacei*.

*Dendrochelidon wallacei*, *Gould, P. Z. S.* 1859, p. 100 (Celebes); *id. B. Asia*, i. pl. 23 (1859); *Wallace, P. Z. S.* 1862, p. 339 (Sula Is.); *Scl. P. Z. S.* 1865, p. 616; *id. J. f. O.* 1867, p. 140; *Gray, Hand-l.* i. p. 65 (1869).

*Macropteryx wallacii*, *Walden, Trans. Zool. Soc.* viii. p. 45 (Celebes) (1874); *A. B. Meyer, Ibis*, 1879, p. 65; *W. Blas. Zeitschr. ges. Orn.* 1885, p. 246.

*Adult male.* In general appearance like *M. longipennis*, but larger, the steel-blue colour on the upper parts very prevalent; vent and under tail-coverts not pure white, but suffused with grey; the ear-coverts of a very dark chestnut, and separated from the grey throat by a dark line. Total length about 9·5 inches, wing 7·2, tail 4·8.

*Adult female.* As in the other species of this genus differs from the male in having the ear-coverts greenish steel-blue, not chestnut.

*Young.* Spotted like the young of *M. coronata* and *longipennis*.

*Hab.* Celebes and Sula Islands.

<i>a, b.</i> Imm. sk.	Celebes.	Wallace Coll.
<i>c.</i> ♀ ad. sk.	N. Celebes.	Tweeddale Coll.
<i>d, e.</i> ♂ ♀ ad. sk.	Menado, Celebes ( <i>Wallace</i> ).	
<i>f.</i> ♂ ad. sk.	Macassar, Celebes ( <i>Wallace</i> ).	Tweeddale Coll.
<i>g.</i> ♂ ad. sk.	Macassar.	Wallace Coll.
<i>h.</i> ♂ ad. sk.	Macassar.	Gould Coll. (Type of the species.)
<i>i.</i> ♀ ad. sk.	Sula Islands.	Wallace Coll.

#### 4. *Macropteryx mystacea.*

*Cypselus mystaceus*, *Less. Voy. Coq., Zool. Atl.* pl. 22 (1826); *id.*

*Man. d'Orn.* i. p. 417 (1828); *Cuv. Règne An.* i. p. 395 (1829);

*d'Alb. Ann. Mus. Civ. Gen.* x. pp. 10, 19 (1877).

*Hirundo mystacea*, *Gieb. Thes. Orn.* ii. p. 21 (*Cuv. Mus. Par.*).

*Apus mystaceus*, *Less. Tr. d'Orn.* p. 268 (1831).

*Macropteryx mystaceus*, *Swains. Class. B.* ii. p. 430 (1837); *Cass. Cat.*

*Hirund. Mus. Phil.* p. 15 (1853); *Wall. Ann. & Mag. Nat. Hist.*

xx. p. 477 (1857); *Sel. Journ. Pr. Linn. Soc.* ii. p. 155 (1857);

*Gray, P. Z. S.* 1858, pp. 170, 189, 1860, p. 345, 1861, p. 433;

*Salvad. Ann. Mus. Civ. Gen.* vii. p. 763 (1865), x. p. 131 (1877).

*Pallestre mystaceus*, *Less. Compl. du Buffon, Ois.* p. 441 (1838).

*Macropteryx mystacea*, *S. Müll. Verh. Land- u. Volkenk.* p. 110

(1839-44); *Salvad. Ann. Mus. Civ. Gen.* x. pp. 130, 311 (1877);

*id. P. Z. S.* 1878, pp. 81, 95; *id. Orn. Papuaasia*, i. pp. 537, 538

(1880); *A. B. Meyer, Zeitschr. ges. Orn.* 1884, p. 278 (Ostind.

Arch.); *id. ibid.* 1886, pp. 14, 34; *Nehrkorn, J. f. O.* 1885, p. 32;

*Guillem. P. Z. S.* 1885, pp. 569, 630.

*Dendrochelidon mystacea* (-us), *Boie, Isis*, 1844, p. 166; *Bp. Consp.*

i. p. 66 (1850); *Gould, B. Asia*, i. pl. 24 (1859); *Bernst. J. f. O.*

1859, p. 183; *Cab. & Heine, Mus. Hein.* iii. p. 82 (1860); *Wall.*

*P. Z. S.* 1863, p. 22; *Rosenb. J. f. O.* 1864, p. 117; *Sel. P. Z. S.*

1865, pp. 596, 616; *id. J. f. O.* 1867, p. 140; *Gray, Hand-l.* i.

p. 65 (1869); *A. B. Meyer, Sitzb. k. Ak. Wissensch. Wien*, lxx.

p. 218 (1874); *Salvad. Ann. Mus. Civ. Gen.* viii. p. 372 (1876);

*Cab. & Reichen. J. f. O.* 1876, p. 324 (Salomon Is.); *d'Alb. Ibis*,

1877, p. 366; *Sel. P. Z. S.* 1877, p. 105 (Buru); *Finsch, P. Z. S.*

1879, p. 10; *Layard, Ibis*, 1880, p. 298 (New Hebr.); *Tristr. Ibis*

1882, pp. 134, 143 (Solomon Is.).

*Dendrochelidon mystacina*, *Rosenb. Nat. Tijdschr. Ned. Ind.* xxv  
p. 229 (1863).

*Cypselus mystacalis*, *Rosenb. Reis naar Zuidoostereil.* p. 37 (1867).

*Adult male.* Lores black; forehead, crown, wings and tail, upper and under wing-coverts and longer upper tail-coverts deep steel-blue; neck, back, rump, scapulars, shorter upper tail-coverts, throat, breast, upper abdomen, and sides of body grey; stripes from the

forehead over the eyes, chin and long moustache-stripes, and innermost secondaries pure white; lower abdomen, vent, and under tail-coverts white, more or less suffused with grey; small chestnut spots on the tips of the ear-coverts. Total length about 12-13 inches, wing 8.8, tail 7.

*Adult female.* Without the chestnut spot on the ear-coverts.

*Young.* With light cinnamon-rufous edges to the feathers of the upper parts, with broad subterminal bars of the same colour to the white feathers of the under surface. Before the adult plumage is assumed, the white feathers seem to become brownish grey and the reddish bars on them much broader. The change no doubt takes place at a very early age.

*Hab.* Papuasia from Gilolo and Buru in the West to the Salomon and Duke of York Islands in the East.

a. Pull. sk.	[Papuasia.]	Gould Coll.
b. ♂ ad. sk.	Guebeh, Feb. 22 ( <i>Leyden Mus.</i> ).	Salvin-Godman Coll.
c. ♂ ad. sk.	Gilolo ( <i>A. R. Wallace</i> ).	Gould Coll.
d, e. ♂ ad. sk.	Batchian.	Wallace Coll.
f. ♂ ad.; g. ♀ ad. sk.	Buru ( <i>A. R. Wallace</i> ).	Tweeddale Coll.
h. Imm. sk.	Buru.	Wallace Coll.
i. ♂ ad. sk.	Mysol ( <i>A. R. Wallace</i> ).	Gould Coll.
k. ♀ ad.; l, m. Pull. sk.	Ceram.	Wallace Coll.
n. ♀ ad. sk.	Amboina, May 12 ( <i>Leyden Mus.</i> ).	Salvin-Godman Coll.
o-r. ♂ ♀ ad. sk.	Amboina.	
s-u. ♂ ♀ ad. sk.	Aru Islands.	
v. ♀ ad. sk.	Pt. Moresby, S.E. New Guinea.	Broadbent Coll.
w. Imm. sk.	New Britain, March.	Rev. G. Brown [C.].
x. ♂ ad. sk.	Duke of York Island.	Rev. G. Brown [C.].
y. ♂ ad. sk.	New Ireland ( <i>Rev. G. Brown</i> ).	Tweeddale Coll.

### 5. *Macropteryx comata*.

*Cypselus comatus*, *Temm. Pl. Col.* 268 (1824) (Sumatra).

*Dendrochelidon comatus* (-a), *Boie, Isis*, 1844, p. 166; *Bp. Consp.* i. p. 66 (1850); *Gould, B. Asia*, i. pl. 25 (1859); *Cab. & Heine, Mus. Hein.* iii. p. 82 (1860); *Sci. P. Z. S.* 1865, p. 617; *id. J. f. O.* 1867, p. 141; *Gray, Hand-l.* i. p. 65 (1869); *Salvad. Ucc. Borneo*, p. 123 (1874); *Hume, Stray Feath.* iii. p. 318 (1875); *id. ibid.* viii. p. 47 (Malay Penins.) (1879); *Sharpe, Ibis*, 1878, p. 414 (Borneo); *id. ibid.* 1879, p. 250; *Hume & Davison, Stray Feath.* vi. p. 51 (Tenasserim) (1878); *Sharpe, P. Z. S.* 1879, p. 334 (Labuan, nest); *Kelham, Ibis*, 1881, p. 376 (Malacca).

*Macropteryx comatus*, *Swains. Class. B.* ii. p. 340 (1837); *Blyth, Cat. B. Mus. As. Soc.* p. 87 (1849); *Walden, Trans. Zool. Soc.* ix. p. 158 (Philippines) (1875); *Sharpe, Ibis*, 1876, p. 33; *id. Trans. Linn. Soc.* ser. 2, i. p. 319 (Philippines) (1877); *Tweedd. P. Z. S.* 1877, p. 823 (Mindanao); *Salv. Cat. Strickl. Coll.* p. 373 (1882); *Oates, B. Burmah*, ii. p. 14 (1883); *Hartert, J. f. O.* 1889, p. 401 (Perak); *id. J. f. O.* 1891, p. 295 (Mindoro).

*Adult male.* Lores deep black; forehead, crown, nape, throat, sides of head, upper and under wing-coverts metallic blue; a few

feathers on the forehead, a broad stripe from the base of the culmen continued over the eye and running out in elongated feathers to the nape, chin, and a broad stripe under the ear-coverts, continued in elongated feathers, vent, under tail-coverts, and innermost secondaries white; ear-coverts chestnut; back, rump, upper tail-coverts, breast, abdomen, and sides of the body metallic bronze-brown; wings and tail brown glossed with deep blue, especially on the outer webs of the primaries; shafts of rectrices brown above, white below: "iris dark brown; feet purplish; bill black" (*Hartert*). Total length about 6.5 inches, wing 5-5.5, tail 3.2.

*Adult female.* Like the male, but the ear-coverts metallic blue.

*Young.* A very young bird collected by Hose in Baram, Borneo, with the wings only 3.8 inches in length, has faint remains of pale brownish edges to the feathers of the upper parts and abdomen, and clear white edges to the tips of the quills; some parts of the abdomen, concealed by the bronze feathers of the adult, show the buffy white plumage of the nestling.

Specimens from the Philippines are generally larger with longer wings; but this feature does not seem to be constant, and I cannot find any other differences.

*Hab.* From Tenasserim throughout the Malay Peninsula, extending into Siam; Sumatra, Java, Borneo, Celebes, Timor, Philippines.

a. ♂ ad. sk.	Malewoon, Tenasserim, Jan. 4	Hume Coll.
	( <i>W. Davison</i> ).	
b, c. ♂ ad.; d. ♀ ad. sk.	Bankasoon, Jan., June ( <i>W. Davison</i> ).	Hume Coll.
e-g. ♂ ad.; h-m. ♀ ad. sk.	Choungthanoung, Dec. ( <i>W. Davison</i> ).	Hume Coll.
n. ♂ ad.; o, p. ♀ ad. sk.	Packchan, Jan., Feb., Dec. ( <i>W. Davison</i> ).	Hume Coll.
q, r. ♀ ad. sk.	Perak.	L. Wray, Esq. [C.].
s. ♂ ad.; t-v. ♀ ad. sk.	Klang, April, July ( <i>W. Davison</i> ).	Hume Coll.
w-a'. ♂ ad.; b'-f'. ♀ ad. sk.	Johore, March, July, Aug. ( <i>W. Davison</i> ).	Hume Coll.
g', h'. ♂ ad.; i'. ♀ ad. sk.	Sumatra ( <i>Wallace, C. Boek</i> ).	Tweeddale Coll.
k', l'. ♂ ad. sk.	Lamong, S.E. Sumatra ( <i>E. C. Buxton</i> ).	Tweeddale Coll.
m'. Imm. sk.	Baram, Borneo.	C. Hose [C.].
n'. ♂ ad. sk.	Sarawak.	Wallace Coll.
o'. ♂ ad. sk.	Sarawak ( <i>Ussher</i> ).	Tweeddale Coll.
p', q'. ♀ ad. sk.	Sarawak, Sept. 20 ( <i>A. Everett</i> ).	Hume Coll.
r', s'. ♂ ♀ ad. sk.	Philippines.	Cuning Coll.
t'. ♂ ad.; u'. ♀ ad. sk.	Luzon, Jan. ( <i>A. B. Meyer</i> ).	Tweeddale Coll.
v'. ♀ ad.; w'. ♂ ad. sk.	Manila ( <i>Maitland-Heriot</i> ).	Tweeddale Coll.
x'. ♀ ad. sk.	Manila.	Gould Coll.
y', z'. ♀ ad. sk.	Cebu, March ( <i>Everett</i> ).	Tweeddale Coll.
a'', b''. ♂ ad.; c''. ♀ ad. sk.	Placer, March, July ( <i>Everett</i> ).	Tweeddale Coll.
d'', e''. ♂ ad.; f'. ♀ ad. sk.	Negros.	Stere Coll.



## Family CAPRIMULGIDÆ.

(By ERNST HARTERT.)

The Goatsuckers have always ten primaries and ten rectrices. Spinal feather-tract well defined on the neck, but forked on the upper back. Feathers with a small but well-defined aftershaft. No powder-down patches in the *Caprimulginae*, but large patches in the *Nyctibiinae*. Number of phalanges reduced to four in outer toe, and claw of middle toe peculiarly pectinated in the *Caprimulginae*. The mouth is split very far, the gape very wide. The palate is schizognathous.

In their habits the Goatsuckers are crepuscular or nocturnal, and they have the very soft plumage of almost all nocturnal birds. Their food consists entirely of insects, which they generally catch on the wing. Northern species wander to the south in autumn. The species of this family are, as a rule, very variable in coloration; most of them have highly protective colours, and they often vary according to the soil and surroundings of the localities which they frequent.

None of the species make a nest, the two eggs are deposited on the ground. The eggs are coloured and mostly, though not always, protectively.

Young hatched helpless, but covered with down.

*Range.* The family ranges over most parts of the world, except the Arctic and Antarctic regions, and seems to be absent from the Eastern Pacific Islands. It is most developed in tropical countries.

### *Synopsis of the Subfamilies.*

- |  |                          |
|--|--------------------------|
| A. Number of phalanges reduced to four in outer toe, claw of middle toe pectinated; no powder-down patches . . . . .   | [p. 519.                 |
|  | I. <i>CAPRIMULGINÆ</i> , |
| B. Number of phalanges in outer toe normal, claw of middle toe not pectinated; large patches of powder-down on the sides of the body and on the breast; tarsus extremely short, much shorter than any of the toes. . . . . | [p. 623.                 |
|  | II. <i>NYCTIBIINÆ</i> ,  |

### Subfamily I. CAPRIMULGINÆ.

#### *Key to the Genera.*

- A. Rictus armed with strong bristles.
- a. No greatly elongated central or lateral rectrices.
- a'. No greatly elongated wing-feather.
- a''. Wing equally formed in both sexes, quite normal.

- a'''*. Tarsus more or less feathered in front, shorter than middle toe with claw.
- a<sup>3</sup>*. Tail more or less rounded.
- a<sup>5</sup>*. No tufts of elongated feathers on the occiput.
- a<sup>6</sup>*. Head with distinct longitudinal, or at least without cross markings . . . . . 1. CAPRIMULGUS, p. 521. [p. 579.]
- b<sup>6</sup>*. Head with distinct cross markings . . . . . 2. PHALÆNOPTILUS,
- b<sup>5</sup>*. Erectile tufts of elongated feathers on the occiput . . . . . 3. OTOPHANES, p. 581.
- b<sup>4</sup>*. Tail equal or emarginate . . . . . 4. STENOPSIS, p. 582.
- b'''*. Tarsus entirely bare, as long as or longer than middle toe.
- c<sup>4</sup>*. Bill behind the nostrils not so broad as the length of the culmen; nostrils not very prominent . . . . . 5. NYCTIDROMUS, p. 587.
- d<sup>4</sup>*. Bill behind the nostrils as broad as the length of the culmen; tubular nostrils very conspicuously prominent . . . . . 6. SIPHONORHIS, p. 591.
- b''*. Wing normal in the female, but abnormal in the male, the first six primaries being equal in length, the seventh, eighth, and ninth longest, nearly or quite half an inch longer than the first . . . . . [p. 592.]
- b'*. Male with an enormously elongated wing-feather.
- c''*. First primary shorter than the second; the ninth primary of the male enormously elongated, its shaft bare . . . . . [p. 594.]
- d''*. First primary longer than the second; seventh and eighth distinctly, ninth enormously elongated in the male, shafts never bare. . . . . 7. HELEOTHREPTUS,
- b*. Some of the rectrices greatly elongated.
- c'*. Central pair of rectrices greatly elongated; rectrices decreasing in length to the lateral ones, lateral pair shortest. . . . . 8. MACRODIPTERYX,
- d'*. Central and lateral pair of rectrices elongated, the pair next to the central shortest . . . . . 9. COSMETORNIS, p. 595.
- e'*. Lateral pair of rectrices enormously elongated; rectrices decreasing in length to the middle, central pair shortest. . . . . 10. SCOTORNIS, p. 596.
- e'*. Lateral pair of rectrices enormously elongated; rectrices decreasing in length to the middle, central pair shortest. . . . . 11. HYDROPSALIS, p. 598.
- e'*. Lateral pair of rectrices enormously elongated; rectrices decreasing in length to the middle, central pair shortest. . . . . 12. MACROPSALIS, p. 601.
- B. Rictus without conspicuous bristles.
- c*. Tail distinctly longer than half the wing.
- f'*. Tail rounded, outer pair of rectrices shortest.
- e''*. Some feathers on the sides of the occiput elongated, forming ear-tufts; wing much pointed. . . . . 13. LYNCORNIS, p. 603.

- f''*. No elongated feathers on the occiput; wing more rounded . . . . . 14. EUROSTOPUS, p. 607.  
*g'*. Tail emarginate, outer pair of rectrices longest.  
*g''*. First primary longer than second. 15. CHORDEILES, p. 609.  
*h''*. First primary shorter than second. 16. NYCTIPROGNE, p. 619.  
*d*. Tail about half as long as the wing or shorter.  
*h'*. Tarsus longer than middle toe without claw, entirely bare; abdomen white. . . . . 17. PODAGER, p. 619.  
*i'*. Tarsus shorter than middle toe without claw, partly feathered in front; abdomen rufous . . . . . 18. LUROCALIS, p. 621.

## 1. CAPRIMULGUS.

Type.

- Caprimulgus, *Lin. Syst. Nat.* ed. x. p. 193 (1758) . . . C. europæus.  
 Nyctichelidon, *Rennie, Mont. Orn. Dict.* p. 335 (1831) C. europæus.  
 Antrostomus, *Nutt. Man. Ornith. U. S.* ed. ii. p. 739  
 (1840) . . . . . C. carolinensis.

The rictus of all the species of this genus is beset with strong bristles, which in some are extremely long. The wing is rather long and pointed, first primary generally much shorter than second and third, which are longest; the tail more or less rounded; the tarsus more or less feathered in front or almost bare. The sexes are easily distinguishable in most of the species, the male having white patches on the primaries and outer rectrices, which are absent in the female. In several species, however, there is no marked difference between the sexes. The first plumage after the downy stage is mostly more or less similar to that of the adult female, but in several species the markings of the sexes, when adult, are already present in the first plumage. The American species cannot be separated generically.

*Range.* The same as that of the family.

*Key to the Species* \*.

- A. Both webs of primaries entirely uniform in colour.  
*a*. Wing more than 6 inches in length . . . . . *concretus*, p. 576.  
*b*. Wing less than 6 inches in length . . . . . *nygrescens* ♀, p. 572.  
 B. Inner webs of primaries uniform, outer webs spotted.  
*c*. Clearly defined buff crescent round the hind neck, round black spots on the crown . . . . . *enarratus*, p. 577.  
*d*. Without distinct buff crescent round the hind neck. [p. 567.  
*a'*. Tail more than 5 inches in length . . . . . *sericeocaudatus*,  
*b'*. Tail less than 5 inches in length.  
*a''*. Top of the head distinctly spotted with rufous; abdomen barred.  
*a'''*. Tail without white markings . . . . . *binotatus*, p. 576.  
*b'''*. Large white tips to the rectrices, increasing in size to the middle . . . . . *saturatus*, p. 572.

\* *C. pulchellus* (see p. 579) seems to be somewhat similar to *C. concretus*, but has a white patch on the primaries. I have not seen this species.

- b''*. Top of the head not distinctly spotted with rufous; abdomen with round white spots . . . . . *ocellatus*, p. 578.
- C. Inner webs of primaries not uniform in colour.
- c*. Inner webs of primaries largely toothed with pure white . . . . . *egyptius*, p. 562.
- f*. Inner webs of primaries with one white spot in the middle, rectrices with more or less white.
- c'*. Outer pair of rectrices white on both webs (mostly with exception of the basal portion).
- c''*. Distinct round spots of buff on the breast . . . . . *natalensis* ♂, p. 564.
- d''*. Spots on the breast indistinct or irregularly shaped.
- c'''*. Upper surface with very distinct and obvious longitudinal black streaks . . . . . *poliocephalus*, p. 546.
- d'''*. Upper surface without obvious longitudinal black streaks, mottlings fine and irregular.
- a<sup>4</sup>*. Wing more than 7 inches in length. *monticola* ♂, p. 547.
- b<sup>4</sup>*. Wing less than 7 inches.
- a<sup>5</sup>*. Lowest part of abdomen and under tail-coverts uniform in colour . . . . . *affinis* ♂, p. 549.
- b<sup>5</sup>*. Lower abdomen and lower tail-coverts barred . . . . . *griseatus* ♂, p. 550.  
[pp. 551, 552.]
- d'*. Outer pair of rectrices with the outer web white . . . . . *fossii* ♂ and *clarus* ♂,
- e'*. Distinct white spots on some of the rectrices.
- e''*. Without white on the throat . . . . . *inornatus* ♂, p. 556.
- f''*. With more or less white on the throat.
- e'''*. Outermost pair of rectrices without white.
- c<sup>4</sup>*. White on the following pairs confined to the inner webs . . . . . *whitelyi* ♂, p. 573.
- d<sup>4</sup>*. White on the following pairs not confined to the inner webs . . . . . *nigrescens* ♂, p. 572.
- f'''*. Outermost pair of rectrices also with white.
- e<sup>4</sup>*. Spots to outer rectrices distinctly less than one inch in extent, and more or less distinctly subterminal. [pp. 552, 555.]
- c<sup>5</sup>*. Tarsus feathered in front . . . . . *jotaka* ♂ and allies,
- d<sup>5</sup>*. Tarsus bare on lower half . . . . . *phalena* ♂, p. 545.
- f<sup>4</sup>*. Spots to outer rectrices terminal but narrow, less than half an inch in extent.
- e<sup>5</sup>*. Inner webs of lateral rectrices with round white spots . . . . . [p. 575.]  
*maculicaudus* ♂,
- f<sup>5</sup>*. No white spots to the inner webs of the lateral rectrices . . . . . *parvulus* ♂, p. 574.
- g<sup>4</sup>*. Spots terminal and more than half an inch in extent.

- g*<sup>5</sup>. Scapulars obviously different from the back and rump by their dark centres and broad buff or rufous margins.
- a*<sup>6</sup>. Obvious and broad collar round the hind neck.
- a*<sup>7</sup>. Wing more than 7 inches in length . . . . . *ruficollis*, p. 531.
- b*<sup>7</sup>. Wing less than 7 inches in length.
- a*<sup>8</sup>. Of a desert-like sandy-buff colour.
- a*<sup>9</sup>. White patch on first primary larger, reaching the shaft. . . . . *nubicus*, p. 560.
- b*<sup>9</sup>. White patch on first primary smaller, not extending to the shaft. *asiaticus*, p. 558.
- b*<sup>8</sup>. Blackish above; collar obvious on the upper surface only . . . . . *pectoralis*, p. 534.
- c*<sup>8</sup>. Brown above; collar distinct on the lower neck also . . . . . *fervidus*, p. 534.
- b*<sup>6</sup>. No broad and obvious collar round the hind neck.
- c*<sup>7</sup>. Three outer primaries with white spots . . . . . [allies, pp. 526-530. *europæus* ♂ and
- d*<sup>7</sup>. Four outer primaries with white spots.
- d*<sup>8</sup>. Wing more than 6·5 in. in length.
- c*<sup>9</sup>. Outer primaries with rufous spots near the base or on the outer webs . . . . . [allies, pp. 537-540. *macrurus* ♂ and
- d*<sup>9</sup>. Outer primaries without distinct rufous spots near the base or on the outer webs.
- a*<sup>10</sup>. Median streak of black spots along the top of the head. *atripennis* ♂, p. 542.
- b*<sup>10</sup>. Longitudinal black spots over the whole of the top of the head . . . . . [p. 543. *andamanicus* ♂,
- c*<sup>8</sup>. Wing not more than 6·5 inches in length.
- e*<sup>9</sup>. Spot on first primary extending to the shaft.
- c*<sup>10</sup>. White tips to outer rectrices less than 1·5 inches in extent. *rufigena* ♂, p. 532.
- d*<sup>10</sup>. White tips of outer rectrices more than 1·5 inches in extent. *frænatus*, p. 533.

- f*<sup>9</sup>. Spot on first primary not approaching the shaft.  
*e*<sup>10</sup>. Tail narrowly and regularly barred . . . . . [p. 535. *madagascariensis* ♂,  
*f*<sup>10</sup>. Tail heavier and irregularly barred . . . . . *maulensis*, p. 544.  
*h*<sup>5</sup>. Scapulars not obviously different in colour from the back and rump.  
*e*<sup>6</sup>. Of a beautiful golden-buff colour; feathers adorned with bars or spots of snowy white, which are speckled with black . . . . . *eximius*, p. 563.  
*d*<sup>6</sup>. Of a pale sandy desert-like colour; much smaller. . . . . [p. 561. *mahrattensis* ♂,  
*e*<sup>6</sup>. Of dark blackish colour; much larger. . . . . *lentiginosus*, p. 536.  
*g*. A larger rufous-buff or whitish-buff spot in or near the middle of the first primary; no pure white in the tail.  
*f*<sup>7</sup>. Well defined round spots of clear buff on the breast . . . . . *natalensis* ♀, p. 564.  
*g*<sup>7</sup>. Spots on the breast indistinct or irregularly shaped.  
*g*<sup>7</sup>. Outer pair of rectrices with outer web uniform buff. . . . . [pp. 551, 552. *fossii* ♀ and *clarus* ♀,  
*h*<sup>7</sup>. Outer pair of rectrices barred or spotted.  
*g*<sup>7</sup>. Tarsus feathered in front almost to the toes.  
*h*<sup>4</sup>. Abdomen distinctly barred.  
*i*<sup>5</sup>. Wing more than 6·5 inches in length . . . . . *macrurus* ♀, *albonotatus* ♀,  
 [ *atripennis* ♀, and *andamanicus* ♀, pp. 537-543.  
*k*<sup>5</sup>. Wing less than 6·5 inches in length . . . . . [p. 535. *madagascariensis* ♀,  
*i*<sup>4</sup>. Abdomen spotted, not distinctly barred . . . . . [pp. 552, 555. *jotaka* ♀ and allies,  
*h*<sup>7</sup>. Tarsus bare for about its lower half or more.  
*k*<sup>4</sup>. With large bold and obvious longitudinal spots along the top of the head.  
*l*<sup>5</sup>. Outer web of first primary with ten or more distinct rufous spots on the outer edge. . . . . *phalœna* ♀, p. 545.  
*m*<sup>5</sup>. No distinct rufous spots on outer web of first primary. . . . . *rufigena* ♀, p. 532.  
*l*<sup>4</sup>. No obvious longitudinal spots along the top of the head.  
*n*<sup>5</sup>. Coloration pale sandy buff, or a real desert colour. . . . . [p. 561. *mahrattensis* ♀,  
*o*<sup>5</sup>. Darker colours prevalent.  
*f*<sup>6</sup>. Wing 7 inches or more. . . . . *monticola* ♀, p. 547.

- g*<sup>6</sup>. Wing less than 7 inches.
- e*<sup>7</sup>. Blackish markings on the crown occupying greater parts of the feathers. . . . . *affinis* ♀, p. 549.
- f*<sup>7</sup>. Blackish markings on the crown narrow . . . . . *inornatus* ♀, p. 556.
- h*. First three primaries only traversed by one narrow bar of rufous; fourth uniform blackish. . . . . *whitelyi* ♀, p. 573.
- i*. No distinctly larger spot obvious on the primaries, all of them traversed by mostly interrupted bars of rufous; rectrices tipped white in male (buff in female).
- h'*. Rictal bristles with lateral filaments . . . *carolinensis* ♂, p. 565.
- i'*. Rictal bristles without lateral filaments.
- i''*. Rectrices tipped with white for less than half an inch; wing less than 5 inches. . . . . *yucatanicus*, p. 575.
- k''*. Inner webs of lateral rectrices from above silky white for about half their length, tipped with rufous, rufous-buff from below; wing about 7 inches. . . . *rufus* ♂, p. 566.
- l''*. Lateral rectrices largely tipped with white in male (buff in female); wing more than 5 inches.
- i'''*. White spots on lateral rectrices decreasing in extent to the outer pair.
- m*<sup>4</sup>. Four outer rectrices tipped with white. . . . . *cubanensis*, p. 571.
- n*<sup>4</sup>. Three outer rectrices tipped with white.
- p*<sup>5</sup>. White spots on rectrices larger; top of head longitudinally spotted along the middle . . . . . *rociferus*, p. 568.
- q*<sup>5</sup>. White spots on rectrices smaller; top of head spotted all over . . . *macromystax*, p. 570.
- k'''*. White spots on lateral rectrices increasing in extent to the outer pair.
- salvini*, p. 568.
- k*. No white or large buff spots on any of the rectrices.
- k'*. Rictal bristles with lateral filaments . . . *carolinensis* ♀, p. 565.
- l'*. Rictal bristles without lateral filaments.
- n''*. General colour deep rufous. . . . . *rufus* ♀, p. 566.
- o''*. General colour more or less pale brown. [allies, pp. 526-530.
- l'''*. Wing more than 6·5 inches in length *europæus* juv. and
- m'''*. Wing less than 6·5 inches in length.
- o*<sup>4</sup>. Rictal bristles short, not reaching beyond the tip of the bill . . . . . *inornatus* juv., p. 557.
- p*<sup>4</sup>. Rictal bristles long, reaching beyond the tip of the bill.
- r*<sup>5</sup>. First primary shorter than the second . . . . . *parvulus* ♀, p. 574.
- s*<sup>5</sup>. First primary as long as the second . . . . . [p. 575. *maculicaudus* ♀,

1. *Caprimulgus europæus*.

- Caprimulgus europæus*, *Linn. Syst. Nat.* ed. x. p. 193 (1758), ed. 12, i. p. 346 (1766); *Gm. Syst. Nat.* ii. p. 1027 (1788); *Bechst. Gem. Naturg. Deutschl.* iv. p. 786 (1795); *id. Orn. Taschenb.* p. 227 (1802); *Meyer, Vög. Liv- und Esthl.* p. 144 (1815); *Vieill. Nouv. Dict.* x. p. 235 (1817); *id. Enc. Méth.* p. 535 (1823); *Cuv. Règne Anim.* ed. 1817, p. 376; *Forst. Cat. Brit. B.* p. 18 (1817); *Nilss. Orn. Suec.* i. p. 288 (1817); *Temm. Man. d'Orn.* i. p. 436 (1820); *Thiencm. Fortpflanz. Vög. Eur.* p. 84 (1829); *id. Fortpfl. ges. Vög.* pl. xlii. fig. 19 (eggs) (1854); *Naum. Vög. Deutschl.* p. 141, pl. 148 (1833); *Gould, B. Eur.* ii. pl. 51 (1837); *Zander, Vög. Mecklenb.* p. 185 (1838); *Nitzsch, Pterylogr.* p. 124 (1840); *Keys. & Blas. Wirb. Eur.* pp. xxxiii & 146 (1840); *Mühle, Orn. Griech.* p. 28 (1844); *Smith, Ill. Zool. S. Afr. B.* pl. 102 (1845); *Bp. Consp.* i. p. 59 (1850); *A. E. Brehm, J. f. O.* 1853, p. 452 (N.O.-Afr.); *Heugl. Ibis*, 1859, p. 339 (Red Sea); *Powys, Ibis*, 1860, p. 236 (Ionian Is.); *Linderm. Vög. Griech.* p. 28 (1860); *Cab. & Heine, Mus. Hein.* iii. p. 88 (1860); *Tristr. Ibis*, 1862, p. 278 (Palestine); *id. P. Z. S.* 1864, p. 430 (Palest.); *Wright, Ibis*, 1864, p. 58 (Malta); *Sperling, tom. cit.* p. 283; *Drake, Ibis*, 1867, p. 425 (Tangier); *A. C. Smith, Ibis*, 1868, p. 449 (Portugal); *Koenig-Warth, J. f. O.* 1868, p. 362 (eggs); *Droste, J. f. O.* 1869, p. 117 (Faeroer); *Gray, Hand-l.* i. p. 56 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 125 (1869); *Finsch & Hartl. Vög. O.-Afr.* p. 117 (1870); *Fritsch, Vög. Eur.* p. 81 (1870); *Elves & Buckl. Ibis*, 1870, p. 200; *Layard, Ibis*, 1870, p. 282 (Cape); *Salvad. Faun. d'Ital., Ucc.* p. 48 (1871); *Shelley, B. Egypt*, p. 174 (1872); *id. Ibis*, 1875, p. 67; *Saunders, Ibis*, 1871, p. 67 (S. Spain); *Tacz. J. f. O.* 1872, p. 350 (E. Siberia); *id. Orn.* 1888, p. 452 (Poland); *Alst. & H. Brown, Ibis*, 1873, p. 59 (Archangel); *Gould, B. Great Brit.* ii. pl. i. (1873); *A. B. Brooke, Ibis*, 1873, p. 236 (Sardin.); *Wright, Ibis*, 1874, p. 233; *Danf. & H. Brown, Ibis*, 1875, p. 300; *Irby, B. Gibraltar*, p. 62 (1875); *Severtz. J. f. O.* 1875, p. 198; *id. Zeitschr. ges. Orn.* 1887, p. 129 (Turkestan); *Krüger, J. f. O.* 1875, p. 277 (Asia Minor); *Sharpe, ed. Layard's B. S. Afr.* p. 83 (1875); *Blanf. East. Persia*, ii. p. 127 (1876); *Barratt, Ibis*, 1876, p. 197 (part.); *Ayres, tom. cit.* p. 423; *id. Ibis*, 1884, p. 222 (Transvaal), 1886, p. 285; *Danf. Ibis*, 1878, p. 8 (Asia Minor); *Seeb. Ibis*, 1880, p. 193 (Siberia), 1882, p. 210 (Astrakhan), 1883, p. 22; *id. Hist. Brit. B.* ii. p. 309 (1884); *Dresser, B. Europe*, iv. p. 621, pl. 271 (1881); *Newt. ed. Yarr. Brit. B.* ii. p. 377 (1882); *Irby, Ibis*, 1883, p. 179 (Santander); *Radde, Orn. Caucas.* p. 295 (1884); *Whitehead, Ibis*, 1885, p. 27 (Corsica); *Sharpe, Ibis*, 1886, p. 487 (Fao); *Csató, Zeitschr. ges. Orn.* 1886, p. 423 (Hungary); *Tait, Ibis*, 1887, p. 303 (Portugal); *Koenig, J. f. O.* 1888, p. 164 (Tunis); *Lilford, Ibis*, 1889, p. 330 (Cyprus); *Eagle Clarke, Ibis*, 1889, p. 548; *Saunders, Man. Brit. B.* p. 257 (1889); *Hartiwig, J. f. O.* 1889, p. 138 (Norway); *Gügl. Avif. Ital.* i. p. 327 (1889); *Gütke, Helgoland*, p. 442 (1891).
- La tête de Chèvre ou Crapaud volant, *Briss. Orn.* ii. p. 470, pl. 44 (1760).
- L'Engoulevent, *Buff. Hist. Nat. Ois.* vi. p. 512 (1779).
- Crapaud volant, *Daubent. Pl. Enl.* 193 (1783).
- Hirundo caprimulgus*, *Tunst. Orn. Brit.* p. 2 (1771); *Pall. Zoogr. Rosso-Asiat.* i. p. 542 (1811).
- Caprimulgus punctatus*, *Meyer & Wolf, Taschenb.* p. 284 (1810); *Brehm, Vög. Deutschl.* p. 130 (1831); *id. Vogelf.* p. 44 (1855).



- Caprimulgus vulgaris*, *Vieill. Faune Franç.* i. p. 140, pl. 61. fig. 2 (1828); *Roux, Orn. Provenç.* p. 240, pl. 147 (1825).
- Caprimulgus maculatus*, *Brehm, Vög. Deutschl.* p. 131 (1831); *id. Vogelf.* p. 44 (1855).
- Nyctichelidon europæus*, *Rennie, Mont. Orn. Dict.* p. 335 (1831).
- Caprimulgus europæus maculatus, punctatus, punctorum, foliorum, and peregrinus*, *A. E. Brehm, Verz. Samml. C. L. Brehm*, p. 3 (1866), *teste Dresser. l. c.*
- Caprimulgus smithii*, *Bp. Consp.* i. p. 59 (1850) (S. Africa); *Cass. Cat. Capr. Ac. Phil.* p. 2 (1851); *Hartl. Ibis*, 1862, p. 143 (Cape); *Gurney, Ibis*, 1868, p. 151; *Gray, Hand-l. i.* p. 56 (1869); *Cab. J. J. f. O.* 1878, p. 236 (E. Afr.); *Reichen. J. f. O.* 1887, p. 61 (Nyanza).
- Caprimulgus capensis*, *Ferr. MS.*, *teste Cass. Cat. Capr. Ac. Phil.* p. 2 (1851).

*Adult male.* Upper parts dark ashy grey, richly vermiculated with blackish brown; centre of the crown with broad longitudinal brownish-black streaks; some dull ochraceous-buff streaks on the nape; scapulars longitudinally streaked with blackish and ochraceous buff; back and rump with blackish shaft-stripes: most of the upper wing-coverts with ochraceous-buff spots; primaries blackish brown with rufous-buff spots on both webs, the first three with a large rounded white spot towards the terminal half of the inner web; two outer rectrices on each side white for more than one inch of their terminal portion; throat blackish brown, with many narrow rufous-buff bars and very large whitish spots; breast resembling the upper parts; abdomen ochraceous buff barred with blackish brown; under wing-coverts and under tail-coverts like the abdomen, but rather more rusty and the bars less numerous. Total length about 10·5 inches, wing 7·8, tail 5·5, tarsus 0·75, feathered in front except on the lowest part.

*Adult female.* Similar to the male, except that the white spots on the primaries are replaced by smaller ochraceous-buff spots slightly speckled with dark brown.

*Young in the first year* are duller: the males are then much like the old females in wanting the white spots on the outer rectrices, and the white spots on the primaries being replaced by pale ochraceous-buff ones. The female in this plumage is more rusty than the male.

*Young when hatched* covered with grey down, darker above and a little paler below.

*Hab.* Europe generally to about lat. 63° and south-western parts of Siberia, Asia Minor, and Caucasus, becoming paler in the south-eastern parts, and meeting in Eastern Persia with a different paler and smaller form. It probably does not breed south of the Mediterranean, as the statement that it breeds in Morocco requires confirmation. It passes through North Africa in great numbers, and is common in South Africa during the winter.

The South-African so-called *C. smithi*, which was for a long time thought to be a distinct species, is nothing but *C. europæus*.

There is a specimen in the Gould Collection said to be from Fokien in China. It belongs to the dark form.

<i>a.</i> ♂ ad. sk.	England.	Hume Coll.
<i>b, c.</i> ♂ ♀ ad. st.	Cambridge.	Mr. Baker [C.].
<i>d.</i> ♂ imm. sk.	Cookham, Berks.	Sharpe Coll.
<i>e.</i> ♀ ad. sk.	Colgate, Sussex, July.	Sharpe Coll.
<i>f.</i> Imm. sk.	Romney, Kent.	Sharpe Coll.
<i>g.</i> Pull. sk.	Hampshire, Aug. 15.	Salvin-Godman Coll.
<i>h, i.</i> ♂ ♀ ad. sk.	Avington, Hants, May 17.	Shelley Coll.
<i>k, l.</i> ♂ ad. et imm. sk.	Devonshire.	Montagu Coll.
<i>m.</i> ♀ ad. sk.	Cork, Aug. 21.	J. E. Harting, Esq. [P.].
<i>n.</i> ♂ ad. sk.	Wernland, Sweden, June 6.	W. Meves [C.].
<i>o.</i> ♂ ad. sk.	Valencia, Spain ( <i>H. Saunders</i> ).	Tweeddale Coll.
<i>p.</i> ♀ ad. sk.	Seville, Spain, May ( <i>H. Saunders</i> ).	Tweeddale Coll.
<i>q, r.</i> ♂ ♀ imm. sk.	Constantinople, Oct. 20.	Sharpe Coll.
<i>s.</i> ♀ ad. sk.	North Africa.	Purchased.
<i>t.</i> ♂ ad. sk.	Morocco ( <i>Olcese</i> ).	Tweeddale Coll.
<i>u.</i> Imm. sk.	Ben Moussar, Algeria ( <i>Loche</i> ).	Shelley Coll.
<i>v, w.</i> ♂ ad. sk.	Dongola, Sept.	F. Bohndorff [C.].
<i>x.</i> ♂ ad. sk.	Bogos-land.	T. Esler [C.].
<i>y.</i> ♂ ad. sk.	Mamboio, East Africa ( <i>Sir J. Kirk</i> ).	Shelley Coll.
<i>z, a', b'.</i> ♀ ad. et imm. sk.	Cape Colony.	Sharpe Coll.
<i>c', d'.</i> ♂ imm. sk.	Knysna, Feb. ( <i>C. J. Anderson</i> ).	Sharpe Coll.
<i>e', f'.</i> ♂ ad. sk.	Kingwilliamstown.	Major Trevelyan [P.].
<i>g'.</i> ♂ ad. sk.	Grahamstown ( <i>T. C. Atmore</i> ).	Sharpe Coll.
<i>h'-l'.</i> Ad. et imm. sk.	S.E. Africa.	J. Rocke, Esq. [P.].
<i>m'.</i> Imm. sk.	Durban, Natal ( <i>G. E. S.</i> ).	Shelley Coll.
<i>n'.</i> ♂ imm. sk.	Pinetown, Natal, Nov. 21 ( <i>T. L. Ayres</i> ).	Shelley Coll.
<i>o'.</i> ♂ ad. sk.	Potchefstroom, Transvaal, Jan. 16 ( <i>T. Ayres</i> ).	Shelley Coll.
<i>p'.</i> ♂ ad. sk.	Rustenberg District, Nov. 11 ( <i>T. Ayres</i> ).	Gurney Coll.
<i>q'.</i> ♀ imm. sk.	Macamac, Jan. 10 ( <i>T. Ayres</i> ).	Gurney Coll.
<i>r'.</i> ♂ ad. sk.	Palestine.	Dr. Selah Merrill [P.].
<i>s'.</i> Pull. sk.	Syria.	Purchased.
<i>t'.</i> ♂ ad. sk.	Syr Daria, May 12.	Dr. Severtzoff [C.].
<i>u'.</i> ♀ ad. sk.	Petroalexandrowsk, Sept. 16.	Dr. Severtzoff [C.].
<i>v'.</i> ♀ ad. sk.	[Fokien, China.]	Gould Coll.

Subsp. *a.* **Caprimulgus unwini.**

*Caprimulgus unwini*, *Hume, Ibis*, 1871, p. 406 (Hazara Distr.); *id. Stray Feath.* iii. p. 407 (1875), vii. p. 175 (1878; Sindh); *Cock & Marsh. Stray Feath.* i. p. 350 (1873); *Blanf. Ibis*, 1877, p. 249;

*Barnes, Stray Feath.* ix. pp. 215, 453 (1880; Afghanistan); *Bid-dulph, Ibis*, 1881, p. 48 (Gilgit); *Scully, t. c.* p. 428; *C. Swinh. Ibis*, 1882, p. 101; *Bidd. Ibis*, 1882, p. 270; *St. John, Ibis*, 1889, p. 156; *Sharpe, Trans. Linn. Soc. (2) Zool.* v. pt. 3. p. 83 (1889; Khusan); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 47 (1890).

*Caprimulgus pallidus*, *Severtz. J. f. O.* 1875, pp. 179, 198 (Turkestan).

*Caprimulgus pallens*, *Dresser, Ibis*, 1876, p. 189.

*Caprimulgus europæus*, *Scully (nec L.), J. A. S. Beng.* lvi. p. 77 (1887).

This is a paler and somewhat smaller form of *C. europæus*, apparently adapted to drier countries. It is of a beautiful sandy and silvery pale tint, and the wings are only 6·8 to 7 inches in length. The specimens are quite distinct in appearance from Scandinavian, English, or German specimens of *C. europæus*; but they are somewhat variable in colour and also in size. Those from the Northern Punjab, from whence Hume's type came, have generally longer wings and are less sandy in colour than those that appear in Sindh during the winter. They agree entirely with typical specimens of Severtzoff's *C. pallidus* from Turkestan, and also with some specimens from Eastern Persia and Afghanistan. They often closely approach the European *C. europæus*, which is more constant in its coloration. The shape of the white spots on the primaries is variable and does not give a constant differential character. As it is impossible to draw an exact line between the two forms, I think it best to treat them as subspecific forms only, though the extremes differ considerably.

*Hab.* Persia, Afghanistan, the Northern Punjab and Turkestan to the River Oxus, and further east into Central Asia. (Exact limits in the East unknown.)

a. ♂ ad. sk.	Fao, Persian Gulf.	W. D. Cumming, Esq. [P.]
b. ♀ ad. sk.	Oak-forest near Shiraz, June.	Sir O. St. John [C.]
c. ♂ ad. sk.	Bam, S.E. Persia.	W. T. Blanford, Esq. [C.]
d. ♀ ad. sk.	R. Borotala, Turkestan, Aug. 18.	Dr. Severtzoff [C.]
e. ♂ ad. sk.	Khusan, Hari-rud, May 12.	Dr. Aitchison [C.]
f, g. ♂ ♀ ad. sk.	Chaman, S. Afghanistan, June 7 ( <i>H. Barnes</i> ).	Hume Coll.
h-n. ♂ ♀ ad. sk.	Gilgit, June, July ( <i>J. Bid-dulph</i> ).	Hume Coll.
o. ♀ ad. sk.	Murree, May 10.	Hume Coll.
p, q. ♂ ad. sk.	Agrore Valley, June 13.	Hume Coll. (Types of the species.)
r. ♀ juv. sk.	Sirza district.	Hume Coll.
s. ♂ imm. sk.	Meepur, Sind, May 10.	Hume Coll.
t. ♀ ad. sk.	Karachi, Sind ( <i>Dr. H. Gould</i> ).	India Museum.
u-a'. ♂ ad. et ♀ imm. sk.	Hydrabad, Sind, Sept., Oct. ( <i>E. A. Butler</i> ).	Hume Coll.
b'. ♂ imm. sk.	Etawah.	Hume Coll.

Subsp.  $\beta$ . *Caprimulgus plumipes*.

*Caprimulgus ægyptius*, *Scully (nec Licht.)*, *Stray F.* iv. p. 133 (1876; Turkestan); *Sharpe, Sci. Results Yark. Miss., Aves*, p. 113 (part.) (1891).

*Caprimulgus plumipes*, *Pjjevalski in Rowley's Orn. Misc.* ii. p. 158 (1877; Hoang-ho R., S. Mongolia); *id. Ibis*, 1877, p. 243.

Above rufous-isabelline, finely vermiculated with deep brown and streaked with brownish black; an indistinct buff nuchal collar; scapulars darker and more rufous, broadly pale buff on the outer webs; on the wing a rufous-brown transverse bar and some series of large buff terminal spots to the wing-coverts; primaries deep brown; inner webs traversed by broad pale rufous bars, quite or almost extending to the shafts, outer webs with pale rufous, a broad white band across the first three; central tail-feathers same colour as the upper parts, crossed by irregular narrow blackish bars varying in number; lateral tail-feathers rufous-buff, variegated and barred with deep blackish brown, and with broad white tips, about 1.5 inch in length, to the two outer ones; lower parts pale rufous-buff, sandy buff, or almost isabelline, with a large patch of white on the throat, dark mottled and barred, being much darker and varied with pale terminal spots on the breast, becoming more or less uniform on the lower abdomen and lower tail-coverts; under wing-coverts like the abdomen. Total length about 10.5 inches, wing 7.4 to 7.5, tail 5.5, tarsus 0.62.

*Female*. Has the patch on the throat, the patch on the primaries, and the tips to the outer rectrices not white, but rufous-buff or buff.

The very broad and distinct rufous bands on the primaries, the rufous-buff to sandy-rufous colour, and the somewhat narrower streaks on the head are characteristic of this rare form.

The description is taken from one of the typical specimens collected by Pjjevalski, and two similar ones from Turkestan in the St. Petersburg Museum. If these specimens be compared only with typical ones of *C. europæus* and *C. univini*, they seem to be conspicuously different from either; but on an examination of a large series of those allied forms, some specimens were found that are almost intermediate between *C. univini* and *C. plumipes*, while certain specimens of *C. europæus* incline somewhat to *C. plumipes* in colour. A skin of *C. europæus* from South Africa indeed closely resembles *C. plumipes*, and one of Severtzoff's specimens from Turkestan also approaches the latter species. This Central-Asiatic form must therefore also be considered a subspecies of *C. europæus*. The specimens from Yarkand and Kandahar are exactly similar to the typical ones from Mongolia.

*Hab.* Central Asia, from Mongolia throughout Turkestan to Afghanistan.

- |              |   |            |
|--------------|---|------------|
| a. ♀ ad. sk. | Ijtku, Dolan Distr., 30 miles from Yarkand, July 28 ( <i>J. Scully</i> ). | Hume Coll. |
| b. ♀ ad. sk. | Kandahar, May 8 ( <i>Sir O. St. John</i> ).                               | Hume Coll. |

2. *Caprimulgus ruficollis*.

*Caprimulgus ruficollis*, *Temm. Man. d'Orn.* i. p. 438 (1820); *Meyer, Zusätze z. Taschenb.* p. 111 (1822); *Thiènem. Fortpfl. Vög. Eur.* p. 85 (1829); *Gould, B. Eur.* ii. pl. 52 (1837); *Webb & Berth. Orn. Canav.* p. 24 (1836-44); *Keys & Blas. W'rb. Eur.* p. 33 (1840); *Schleg. Rev. Crit.* p. 20 (1844); *Gray, List Spec. Fissirostr. Brit. Mus.* p. 6 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 83 (1849); *Bp. Consp.* i. p. 59 (1850); *Cass. Cat. Caprim. Mus. Phil.* p. 2 (1851); *Brehm, Vogelf.* p. 44 (1855); *Müll. J. f. O.* 1856, p. 226 (Marseilles); *Thiènem. Fortpflanz. ges. Vög.* pl. xlii. fig. 16 (eggs) (1854); *Bolle, J. f. O.* 1854, p. 461, 1867, p. 323; *Tristr. Ibis*, 1860, p. 374 (Algeria); *Cub. & Heine, Mus. Hein.* iii. p. 89 (1860); *Hancock, Ibis*, 1862, p. 39 (England); *Wright, Ibis*, 1864, p. 58, 1865, p. 464, (Malta); *Lilford, Ibis*, 1866, p. 180; *Drake, Ibis*, 1867, p. 425 (Tangier-); *Loche, Expl. Sci. Algér., Ois.* ii. p. 104 (1867); *A. C. Smith, Ibis*, 1868, p. 449; *Koenig-Warth J. f. O.* 1868, p. 365 (egg); *Gray, Hand-l.* i. p. 56 (1869); *Fritsch, Vög. Eur.* p. 82, tab. 13, fig. 2 (1870); *Salvad. Faun. Ital., Ucc.* p. 48 (1871); *Saunders, Ibis*, 1871, p. 67 (Spain); *id. Man. Brit. B.* p. 259 (1889); *J. H. Gurney, Ibis*, 1871, p. 73 (Algeria); *Godm. Ibis*, 1872, p. 169; *Gould, B. Great Brit.* ii. pl. 2 (1873); *Irby, Gibraltar*, p. 62 (1875); *Dresser, B. Europe*, iv. p. 633, pl. 273 (1881); *B.O.U. List Br. B.* p. 75 (1883); *Newton, ed. Yarr. Br. B.* ii. p. 386; *Seeb. Hist. Brit. B.* ii. p. 317 (1884); *Tait, Ibis*, 1887, p. 303 (Portugal); *Gigl. Avif. Ital.* i. p. 330 (1889).

*Caprimulgus rufitorquis*, *Vieill. Enc. Méth., Orn.* p. 546 (1823).

*Caprimulgus rufitorquatus*, *Vieill. Faun. Franç.* p. 142, pl. 62 (1828); *Rouc. Orn. Prov.* p. 242, pl. 147 (1825).

*Caprimulgus torquatus*, *Brehm, Naumannia*, 1855, p. 270.

*Caprimulgus ruficollis*, *latirostris*, *brachyurus*, and *macrourus*, *A. E. Brehm, Verz. Samml. C. L. Brehm*, p. 3 (1866) (*teste Dresser*).

*Adult male.* Above sandy grey, along the crown longitudinal black spots bordered with rufous-buff; a chestnut-buff sometimes nearly golden collar round the neck, varied with longitudinal black streaks on the hind neck, with dark bars on the fore neck, and deep black spots on the sides of the neck, the collar more pronounced above; black and buff longitudinal spots on the scapulars, some blackish ones along the back and rump; quills deep brown, with chestnut spots and bars: large white spots on the inner webs of the first three and often an indication of it on the fourth; upper wing-coverts with beautiful buff spots; two or three outer rectrices white on the tips for an inch to an inch and a half; below two large white spots on the throat, often connected with each other; abdomen buff, barred with brown; under wing-coverts the same; under tail-coverts nearly or quite uniform. Total length about 12 inches, wing 8 to 8·3, tail 6·7, tarsus 0·7, feathered in front for about the upper third, culmen 0·5.

*Female.* The female, unlike most of the other species of *Caprimulgus*, does not differ from the male, but has also the white tips to the rectrices and primaries.

*Young.* Altogether much paler, the blackish markings less pure, white spots on the tail and wings not so well marked.

In Tunis and Algeria beautiful pale, very isabelline and rufous-shaded varieties occur, while darker-coloured specimens also come from the same countries. Probably these paler birds inhabit more desert-like localities, but similarly pale varieties seem to occur in all countries where the species is found.

*Hab.* Western parts of North Africa, Tunis, Algeria, Morocco, South-west Europe, Southern Spain and Portugal. Several times observed in Malta, is a rare straggler in Southern France, and has once been recorded as being shot in England. It has also been recorded from the Canaries, although recent ornithologists have not found it there. It is also stated by Canon Tristram that he saw a skin in Palestine, but its occurrence in that country requires confirmation. It is said to be a migrant, its winter-quarters being unknown.

a. Pull. sk.	Tunis.	L. Fraser [C.].
b, c. ♂ ♀ ad. sk.	Ben Moussar, Algeria (Loche).	Shelley Coll.
d. ♀ ad. sk.	Tangiers (Favier).	Tweeddale Coll.
e. Ad. sk.	Tangiers (Olcse).	Shelley Coll.
f. ♀ imm. sk.	Granada, Spain, Aug. (H. Saunders).	Tweeddale Coll.
g, h. ♂ ♀ ad. sk.	Seville, May 8 (H. Saunders).	Tweeddale Coll.
i. ♂ ad. sk.	Pinares de Corin, May 10 (H. Saunders).	Tweeddale Coll.

### 3. *Caprimulgus rufigena*.

*Caprimulgus rufigena*, *Smith, Ill. Zool. S. Afr., Birds*, pl. 100 (1845); *Bp. Consp.* i. p. 60 (1850); *Cass. Cat. Caprim. Ac. Philad.* p. 3 (1851); *Hartl. J. f. O.* 1853, p. 396; *id. Orn. W.-Afr.* p. 22 (1857); *Gray, Hand-l.* i. p. 56 (1869); *Ayres, Ibis*, 1869, p. 289; *Gurney in Anderss. B. Damara-Ld.* p. 44 (1872); *Buckley, Ibis*, 1874, p. 362 (Matabele); *Sharpe, ed. Layard's B. S. Afr.* p. 85 (1875); *Bocage, J. f. O.* 1876, p. 408; *Ayres, Ibis*, 1876, p. 424; *Gurney, Ibis*, 1877, p. 341 (Transvaal); *Bocage, Journ. Lish.* 1878, p. 266; *id. Orn. Angola*, p. 154 (1881); *Salvin, Cat. Strickl. Coll.* p. 377 (1882); *Symonds, Ibis*, 1887, p. 327 (Orange Free State).

*Caprimulgus damarensis*, *Strickl. Contr. Orn.* 1852, p. 143 (Damara); *Chapm. Trav. S. Afr., App.* p. 410 (1868); *Salvin, Cat. Strickl. Coll.* p. 377, note (1882).

*Caprimulgus europæus*, *Barratt, Ibis*, 1876, p. 197 (part.; Marico).

*Adult male.* Much smaller than *C. europæus*; primaries deep blackish brown; the first four (not three only, as in *C. europæus*) with very large white spots, on the inner web of the first and on both webs of the following three; the smaller under wing-coverts are less, the greater not at all, barred with dark brown; a rather narrow orange-buff collar on the hind neck; the wing-coverts are adorned with orange-buff spots, two outer rectrices on each side with very broad white tips. Total length about 9.5 inches, wing 6.4, tail 4.7, tarsus 0.7, feathered for nearly the upper half, culmen 0.4.

*Adult female.* In general appearance similar to the male, but without white tips to the tail-feathers, and the spots on the primaries not white but orange-buff. Size similar to that of the male.

*Young birds* are paler; the collar on the hind neck is not so well defined. Young males resemble the females in wanting the white spots on the primaries and rectrices.

*Hab.* South Africa south of the Zambesi and Ondonga.

<i>a, b, c.</i> ♂ ad. sk.	Elephant Vley, Damara-land, Nov. ( <i>C. J. Andersson</i> ).	Sharpe Coll.
<i>d.</i> ♀ ad. sk.	Okamaia, Damara-land, June ( <i>C. J. A.</i> ).	Sharpe Coll.
<i>e.</i> Imm. sk.	Otjoro, Nov. 29 ( <i>C. J. A.</i> ).	Sharpe Coll.
<i>f, g.</i> ♂ ad. sk.	Ondonga, Oct. ( <i>C. J. A.</i> ).	Shelley Coll.
<i>h.</i> ♂; <i>i, k.</i> ♀ ad. sk.	Otjimbingue, Jan. ( <i>C. J. A.</i> ).	Sharpe Coll.
<i>l.</i> ♀ ad. sk.	Damara-land ( <i>C. J. A.</i> ).	Sharpe Coll.
<i>m.</i> ♀ ad. sk.	Musilikatze's Country ( <i>E. L. Layard</i> ).	Sharpe Coll.
<i>n.</i> ♂; <i>o.</i> ♀ ad. sk.	Semokwe River, Sept., Oct. ( <i>P. Oates</i> ).	W. E. & C. G. Oates, Esqrs. [ <i>P.</i> ].
<i>p.</i> ♂ ad. sk.	Bamangwato, Oct. 13 ( <i>T. E. Buckley</i> ).	Shelley Coll.
<i>q.</i> ♂; <i>r, s.</i> ♀ ad. sk.	Rustenburg, Sept., Nov. ( <i>T. Ayres</i> ).	Shelley Coll.
<i>t.</i> ♀ ad. sk.	Lydenburg, Jan. 18.	T. Ayres, Esq. [ <i>C.</i> ].
<i>u, v.</i> ♂; <i>w, x.</i> ♀ ad. st.	Potchefstroom, Nov.-Jan. ( <i>T. Ayres</i> ).	Gurney & Shelley Colls.
<i>y.</i> ♂ imm. sk.	Marico.	F. A. Barratt, Esq. [ <i>C.</i> ].
<i>z, a'.</i> ♂ ad. sk.	Cape of Good Hope.	Sir A. Smith [ <i>C.</i> ].

#### 4. *Caprimulgus frænatus*.

*Caprimulgus frænatus*, *Salvad. Ann. Mus. Civ. Gen.* 1884, p. 118 (Shoa); *id. op. cit.* xxix. p. 226 (1888).

Closely allied to *C. rufigena*, but distinguishable by the great extent of the white tips to the outer rectrices, these being 1·8 inches in length, whereas in *C. rufigena* they are only about 1 inch long. Besides this the black spots on the crown are larger, the back has a more barred appearance, and the scapulars have larger buff spots. The female differs from the male as in *C. rufigena*, viz., in the outer rectrices not being tipped with white and the spots on the primaries being orange-buff instead of white. Total length about 9·5 inches, wing 6·3 to 6·8, tail 4·6 to 4·9. (Described from the types.)

A specimen collected by Mr. F. J. Jackson at Máchakós is a little smaller.

*Hab.* Shoa, south to Ukambani.

5. *Caprimulgus fervidus*.

*Caprimulgus pectoralis*, *Strickl. & Sch. (nec Cur.) Contr. Orn.* 1852, p. 143; *Gurney in Anders. B. Damara-Ld.* p. 45 (1872); *Bocage, Journ. Lisb.* 1878, p. 152.

*Caprimulgus fervidus*, *Sharpe, ed. Layard's B. S. Afr.* p. 86 (1875); *Salvin, Cat. Strickl. Coll.* p. 378 (1882).

*Caprimulgus shelleyi*, *Bocage, Journ. Ac. Lisboa*, 1878, p. 266 (Angola); *id. Orn. Angola*, p. 543 (1881).

*Adult.* Allied to *C. rufigena*, but distinguishable by its uniform clear golden-buff checks, which in *C. rufigena* are streaked black and rufous, by the white spots on the primaries being much smaller, and the collar on the neck more golden buff and broader and extending over the sides of the neck and the fore neck. In one specimen the golden-buff colour pervades the greater part of the head and is spread over the whole of the breast. Size similar to that of *C. rufigena*.

Unless the specimens are wrongly sexed, the white spots on the primaries and outer rectrices are present in both sexes. Total length about 9.5 inches, wing 6.6, tail 4.8, tarsus 0.7, upper part feathered in front.

The four specimens before me from Damara-land vary considerably. *Caprimulgus shelleyi* of Bocage agrees with typical *C. fervidus* in the broad golden-buff collar and small spots to the primaries. In one of the specimens of *C. shelleyi* the ear-coverts are much darker, and in all the collar on the neck is darker. They somewhat approach the dark *C. pectoralis*, and may be a northern form of *C. fervidus*. More information concerning this species is required, but at present I think it best to unite it with *C. fervidus*, believing that larger series will confirm my views.

*Hab.* Damara-land to Angola.

a. Ad. sk.	Damara-land ( <i>C. J. Andersson</i> ).	Sharpe Coll.
b. ♀ ad. sk.	Elephant Vley, Oct. 28 ( <i>Andersson</i> ).	Sharpe Coll.
c. ♀ ad. sk.	Otjoro, Nov. 30 ( <i>Andersson</i> ).	Sharpe Coll.
d. Imm. sk.	Ovampo, Feb. 2 ( <i>C. J. A.</i> ).	Sharpe Coll.
		(Types of the species.)
e. ♂ ad. sk.	Caconda, Angola ( <i>Anchieta</i> ).	Prof. Bocage [P.].
f. Ad. sk.	Upper Umlaas, Natal ( <i>Gordge</i> ).	Shelley Coll.

6. *Caprimulgus pectoralis*.

L'Engoulevent à collier, *Levaill. Ois. d'Afr.* i. pl. 49 (1806).

*Caprimulgus pectoralis*, *Cur. Règne Anim.* i. p. 376 (1817); *Vieill. Nouv. Dict.* x. p. 233 (1817); *Gray, List Fissirostr. Brit. Mus.* p. 7 (1848); *id. Hand-l.* i. p. 56 (1869); *Ip. Consp.* i. p. 60 (1850); *Cass. Cat. Caprim. Ac. Phil.* no. 4 (1851); *Cab. & Hein. Mus. Hein.* iii. p. 89 (1860); *Koenig-Warth. J. f. O.* 1868, p. 387 (nidif.); *Sharpe, ed. Layard's B. S. Afr.* p. 84 (1875); *Salvin, Cat. Strickl. Coll.* p. 377 (1882).

*Caprimulgus asiaticus*, *Vieill. (nec Lath.) Nouv. Dict.* x. p. 233 (1817).

*Caprimulgus africanus*, *Steph. Gen. Zool.* x. p. 157 (1817).



*Caprimulgus atrovarius*, *Sunder. Œfvers. Kongl. Vetensk.-Ak. Förhandl.* 1851, p. 128; *Hartl. Ibis*, 1862, p. 143 (Cape); *Pelz. Reis. Novara, Vög.* p. 34 (Cape; 1865).

*Antrostomus dominicus*, *Bonap. Consp. i.* p. 61\*.

This species also resembles somewhat *C. rufigena* in colour, but is as large as *C. europæus*. It is, however, at once distinguishable by its very dark coloration, especially by the very black spots on the upper surface, and by the white markings on the throat, which are not divided into two spots, one on each side, but form a broad and distinct white band. A golden-buff collar with paler tips across the hind neck. Both male and female have white spots on the first four primaries, the one on the first being rather small. The two outer rectrices on each side have a very large white termination in both sexes, but a little smaller in the female; the central rectrices are very boldly barred with blackish. The pale spots on the upper wing-coverts are much mottled with greyish brown. Total length about 9·5 inches, wing 6·6, tail 5·2, tarsus 0·75, feathered only on the uppermost part.

*Hab.* South Africa.

<i>a.</i> Ad. st.	S. Africa.	Purchased.
<i>b, c.</i> ♀ ad. et imm. sk.	S. Africa.	Jardine Coll.
<i>d.</i> Imm. sk.	S. Africa ( <i>E. L. Layard</i> ).	Tweeddale Coll.
<i>e.</i> ♀? ad. sk.	S. Africa.	Sharpe Coll.
<i>f.</i> Ad. sk.	Cape Colony ( <i>E. L. Layard</i> ).	Sharpe Coll.
<i>g.</i> ♂ ad. sk.	Cape Colony ( <i>Butler</i> ).	Shelley Coll.
<i>h.</i> ♂ ad. sk.	Kuysna, Feb. 25 ( <i>Andersson</i> ).	Sharpe Coll.
<i>i, k.</i> Ad. sk.	George ( <i>H. Atmore</i> ).	Sharpe Coll.
<i>l.</i> ♂ ad. sk.	Eland's Post, May ( <i>Atmore</i> ).	Sharpe Coll.
<i>m.</i> ♂ ad. sk.	Kingwilliamstown.	Major Trevelyan [P.].

### 7. *Caprimulgus madagascariensis*.

*Caprimulgus madagascariensis*, *Syazzin, Mém. Soc. d'hist. nat. Strasb.* 1840, p. 28; *Bp. Consp. i.* p. 60; *Cass. Cat. Capr. Mus. Philad.* p. 3 (1851); *F. W. v. Müll. J. f. O.* 1855, p. 2; *Hartl. J. f. O.* 1860, p. 81; *id. Vög. Madagasc.* p. 53 (1877); *Reich & Newt. Ibis*, 1862, p. 270; *Pollen, Nederl. Tijdschr. Dierk.* p. 302 (1863); *E. Newt. Ibis*, 1863, pp. 340, 461, pl. xiii. fig. 8 (egg); *A. Newt. P. Z. S.* 1865, p. 834; *Grandid. Rev. et Mag. Zool.* 1867, p. 353; *Schleg. & Pollen, Faun. Madag.* ii. p. 64 (1868); *Koenig-Warth. J. f. O.* 1868, p. 368 (egg); *Gray, Hand-l. i.* p. 57 (1869); *Sharpe, P. Z. S.* 1870, p. 397; *Milne-Edw. & Grandid. Madagasc., Ois.* p. 206, pls lxxvii. & lxxviii. (1879).

*Adult male.* Above rather dark; scapulars banded black and buff; upper wing-coverts with pale rufous spots; from behind the ear-coverts across the throat an indistinct golden-buff collar, which does not extend to the upper part of the neck; two white spots on the throat; abdomen barred like that of *C. rufigena* and *C. pectoralis*; anal region and lower tail-coverts sometimes quite uniform, sometimes with some cross bars (the latter are probably less adult

\* I have examined the types of this supposed species in the Leyden Museum; they are said to be from Haiti, but, in my opinion, are *C. pectoralis* with wrong locality.

individuals); first primary with a white spot on the inner web, not extending to the shaft, the following three quills with white spots on both webs: two outer rectrices on both sides largely tipped with white, outer web generally spotted with brownish grey; spots on the throat not pure white. Total length about 9 inches, wing 6·2 to 6·4, tail 4·4, tarsus 0·6, feathered in front.

*Adult female.* Differs from the male in having rufous-buff spots to the primaries and buffish ones to the rectrices.

*Young.* Young birds are in both sexes similar to the old female, lower tail-coverts barred.

This species is allied to *C. rufigena* and *C. pectoralis* from South Africa. From the former it may be distinguished at a glance by the much smaller white spots on the primaries, and from the latter by the absence of the golden-buff collar on the hind neck. From both species it differs in the tarsus being feathered in front, whereas in the two species from South Africa it is feathered only on the uppermost part.

*Hab.* All over Madagascar.

<i>a, b, c.</i> ♂ ♀ ad.;	Mohambo, Madagascar.	Purchased.
♂ imm. sk.		
<i>d.</i> ♀ sk.	Madagascar.	Rev. W. Deans Cowan [C.].
<i>e, f.</i> ♂ ♀ ad. sk.	Ankafana Forest, March.	Rev. W. Deans Cowan [C.].
<i>g.</i> ♂ ad.; <i>h.</i> ♂ imm. sk.	Madagascar.	Shelley Coll.
<i>i, k.</i> ♂ ad. sk.	Madagascar ( <i>Deans Cowan</i> ).	Tweeddale Coll.
<i>l.</i> ♂ ad.; <i>m.</i> ♂ imm. sk.	Madagascar.	Sharpe Coll.
<i>n</i> Skeleton.	Madagascar.	Purchased.

### 8. *Caprimulgus lentiginosus*.

*Caprimulgus lentiginosus*, *Smith, Ill. Zool. S. Afr.* p. 41, pl. 101 (1845); *Bp. Consp.* i. p. 60 (1850); *Strickl. & Schl. Contr. Orn.* (1852), p. 143 (Damara-land); *Hartl. Ibis*, 1862, p. 143 (Cape); *Layard, B. S. Afr.* p. 47 (1867); *Gray, Hand-l.* i. p. 56 (1869); *Sharpe, ed. Layard's B. S. Afr.* p. 87 (1875); *Gurney in Anderss. B. Damara-Ld.* p. 45 (1872); *Ayres, Ibis*, 1879, p. 288 (Transvaal); *Salvin, Cat. Strickl. Coll.* p. 378 (1882).

*Caprimulgus tristigma*, *Rüpp. Neue Wirbelth. Fög.* p. 105 (1835; Abyssinia); *id. Syst. Uebers.* p. 14, pl. 3 (1845); *Bp. Consp.* i. p. 59 (1850); *Cuss. Cat. Caprim. Ac. Phil.* p. 3 (1851); *Brehm, Habesch*, no. 21 (1863); *Gray, Hand-l.* i. p. 56 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 126 (1869); *Blanf. Geol. & Zool. Abyss.* p. 337 (1870); *Hartert, Kat. Vogels. Mus. Senckenb.* p. 120 (1891). *Scotornis trimaculatus*, *Suains. B. W. Afr.* ii. p. 70 (1837); *Hartl. Orn. W.-Afr.* p. 23 (1857).

*Adult.* Very dark above, blackish with very minute vermiculations and spots of a pale brownish colour and some larger ones of more orange-buff colour on the scapulars and hind neck, these often being rather concealed; quills very deep brown with deep ferruginous spots and bands, visible on the basal part only on the longest,

spread nearly over the whole feather on the smaller; the first primary only with some very pale spots, these also visible on the tips of all the quills; the first 3 or 4 primaries with rounded white spots to the inner webs; shorter primaries totally barred, longer ones on the basal part only, longest only with obsolete bars near the base; tail very dark, the two outer rectrices with large subterminal white spots, chiefly on the inner webs; two lateral white spots on the throat; breast blackish grey with isabelline spots; abdomen ochraceous buff or nearly ferruginous with blackish bars; under wing-coverts ferruginous, the smaller barred, the longer uniform. Total length about 11 inches, wing 7·8, tail 5·7, tarsus 0·7.

The specimens without white spots to the rectrices are probably females.

The heavier rufous bars to the primaries, want of distinct white spots to the outer rectrices, indistinct white throat-spots, and paler colour are signs of immaturity.

The white spots on the primaries vary in size, and sometimes disappear on the fourth primary.

*Hab.* South Africa and Abyssinia.

- a. ♂ ad. sk. Rustenburg, E. Transvaal, May 27. Gurney Coll.
- b. Imm. sk. Cunene River, Damara-land, June Sharpe Coll.  
25 (*Andersson*).
- c. ♀ ad. sk. S. Africa. Sir A. Smith [C.]  
(Type of the species.)

### 9. *Caprimulgus macrurus*.

Javan Goatsucker, *Lath. Gen. Hist. B.* vii. p. 336 (1823).

*Caprimulgus macrurus*, *Horsf. Trans. Linn. Soc.* xiii. p. 142 (1821; Java); *Jerd. Ill. Ind. Orn.* no. 24, note (1847); *Blyth, Cat. B. Mus. As. Soc.* p. 83 (1849); *id. Ibis*, 1866, p. 341; *Ep. Consp.* i. p. 60 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 112 (1854); *Gray, P. Z. S.* 1859, p. 154 (Dorey); *Cab. & Heine, Mus. Hein.* iii. p. 89 (1860); *Jerd. B. Ind.* p. 195 (1862); *Wall. P. Z. S.* 1863, pp. 22 (Malay Archipel.), 484; *Finsch, Neu-Guinea*. p. 162 (1865); *Gould, B. Austral.* ii. pl. ix.; *id. Handb. B. Austral.* i. p. 100 (1865); *Koenig-Warth. J. f. O.* 1868, p. 378 (nidif.); *Gray, Hand-l.* i. p. 57 (1869); *Beavan, Ibis*, 1869, p. 406; *Walden, Ibis*, 1874, p. 131 (Andamans); *Hume, Stray F.* ii. p. 469 (Tenasserim) (1874); *id. Stray F.* iii. p. 46 (1875), viii. p. 43 (1879; Malay Penins.), xi. p. 39 (1888; Manipur); *Salvad. Ucc. Borneo*, p. 117 (1874); *id. Orn. Papuas.* i. p. 528 (1880); *A. B. Meyer, Sitzb. k. Ak. Wissensch. Wien*, 1874, pp. 9, 210 (New Guinea); *Ramsay, P. Z. S.* 1875, pp. 113 (eggs), 581 (N.E. Queensland); *Hume & Davison, Stray F.* vi. p. 58 (1878; Tenasserim); *Cripps, Stray F.* vii. p. 258 (1878; Furreedpore); *Sharpe, Journ. Linn. Soc.* xiii. p. 493 (1878; New Guinea); *id. Ibis*. 1879, p. 250 (Borneo); *id. P. Z. S.* 1879, p. 332 (Labuan); *id. Ibis*, 1888, p. 198 (Palawan), 1890, p. 22; *Bingh. Stray F.* ix. p. 150 (1880; Tenasserim); *Layard, Ibis*, 1880, p. 298 (Duke of York I.); *Kelham, Ibis*, 1881, p. 376; *Aug. Müll. J. f. O.* 1882, p. 403 (Salanga); *Forderm. Nat. Tijdschr. Nederl. Ind.*e. 1883, p. 57; *Oates, B. Burm.* ii. p. 20 (1883); *id. ed. Hume's Nests & Eggs Ind. B.* iii. p. 45 (1890); *A. B. Meyer, Zeitschr. ges. Orn.* 1884, p. 197 (Timorlaut);

*Hartert, J. f. O.* 1889, p. 424 (N.W. Sumatra); *Whiteh. Ibis*, 1890, p. 46 (Borneo); *Steere, List B. & Mamm. Exp. Philippines*, p. 12 (1890; Paragua).

*Caprimulgus schlegelii*, *Gray, Hand-l.* i. p. 57 (1869; Aru, New Guinea).

*Caprimulgus salvadorii*, *Sharpe, P. Z. S.* 1875, p. 99, pl. xxii. fig. 1; *i. l. Ibis*, 1877, p. 4 (Borneo).

*Adult male.* Upper surface pale brown, finely vermiculated with greyish, especially on the top of the head; centre of crown longitudinally streaked with brownish black; an indistinct fulvous band across the hind neck; back and rump marked with deep brown; scapulars and wing-coverts with more or less bright buff patches, the former mostly velvety brownish black; first primary deep brown, a large white spot on the inner web and a broad white patch across both webs of the next three primaries, often an indication of a white spot on the fifth quill; secondaries deep brown, with narrow interrupted rufous bars; the two outer pairs of rectrices largely tipped with white, these white tips varying in extent, generally being about 2 inches in length; chin and sides of the throat rufous-brown, finely barred with blackish brown; throat with a very large white spot, bordered at the lower part with deep black; abdomen rufous-buff, barred with brown. Total length about 11·5 inches, wing 7·1 to 7·8 (about 7·5 on an average), tail 5·6 to 6·3, tarsus 0·7, feathered in front for almost its whole length.

*Adult female.* Differs from the adult male in having the outer web of the first primary spotted with rufous, in having pale rufous marks on the primaries instead of white ones, in the tips to the outer rectrices being less in extent and tinged with buff or rufous, speckled with brown on the tip of the outer web.

*Young.* The markings are less developed in younger individuals; the young male has the white patches on the primaries and rectrices tinged with rufous and less in extent. The nestling is covered with buffy down.

This Goatsucker varies in colour to a certain extent like most of its congeners. While the specimens which occur from the Malay Peninsula to Australia may be regarded as typical forms, those from Burmah and Assam are generally larger and paler and may be considered to be intermediate between *C. macrurus* and *C. albonotatus*. Some specimens from the latter countries are nearer to typical specimens of *C. macrurus*, while others approach the Western form. The white tips to the outer rectrices are generally longer in *C. albonotatus*, but in two examples from New Britain they are longer than in any specimens of *C. albonotatus* from India, being 2·6 inches in length. Australian specimens are very small, and those from the Malay Archipelago are almost equally small.

*Hab.* The typical form is found in Queensland and Northern Australia, many of the Papuan Islands, throughout the Malay Archipelago, in Cochin China, Siam, the Malay Peninsula, and Tenasserim. Specimens from Tenasserim, Burmah, Assam, and Manipur are more or less allied to *C. albonotatus*, which, in fact, is merely a Western subspecies of *C. macrurus*.

At a time when very meagre materials were available for comparison, Dr. Sharpe separated the small dark form from Northern Borneo under the name of *C. salvadori*. Now, however, since large series from almost all localities are in the British Museum, it becomes obvious that it is impossible to separate the birds inhabiting North Borneo as a species. They belong to the well-pronounced dark insular forms. Some specimens are exactly similar to those from Waigiu and other islands. The wing measures from 7 to 7.4 inches.

a. ♂ ad. sk.	Quail Island, N.W. Australia,	J. R. Eelsey, Esq. [P.].
	Sept.	
b, c. ♂ ad.; d. ♀ ad.; e. Imm. sk.	Queensland ( <i>J. T. Cockerell</i> ).	Salvin-Godman Coll.
f, g. ♀ ad. sk.	Australia.	Sharpe Coll.
h. ♂ ad. sk.	New Britain, July 2.	Dr. Kubary [C.].
i. ♀ ad. sk.	New Britain, Aug.	Rev. G. Brown [C.].
k. ♂ ad. sk.	New Britain, July.	Hr. Kleinschmidt [C.].
l. ♂ ad. sk.	S.E. New Guinea ( <i>A. Goldie</i> ).	Tweeddale Coll.
m. ♂ ad. sk.	Port Moresby.	Kendal Broadbent [C.].
n. ♂ ad. sk.	Bourou.	Wallace Coll.
o, p. ♂ ad. sk.	Waigiu.	Wallace Coll.
q. ♂ ad.; r. Imm. sk.	Aru Islands.	Wallace Coll.
s. Ad. sk.	Java ( <i>Dr. Horsfield</i> ).	India Museum [P.].
t, u. ♂ ad. et imm. sk.	Java.	Gould Coll.
v, w. ♂ ad. et imm. sk.	Java.	Tweeddale Coll.
x. ♂ ad. sk.	East Java ( <i>A. R. Wallace</i> ).	Tweeddale Coll.
y, z. ♂ ad. sk.	Singapore ( <i>W. Davison</i> ).	Hume Coll.
a', b'. ♂ ad. et imm. sk.	Malacca.	India Museum [P.].
c', d', e'. ♂; f', g'. ♀ ad. sk.	Malacca.	Tweeddale Coll.
h', i'. Imm. sk.	Malacca.	Pinwill Coll.
k'. ♂ imm. sk.	Malacca.	Sharpe Coll.
l', m'. ♀ ad. sk.	Malacca ( <i>Dr. Cantor</i> ).	India Museum [P.].
n'-r'. ♂ ad.; s'-e'. ♀ ad. sk.	Malacca ( <i>W. Davison</i> ).	Hume Coll.
w', x', y'. ♂ ad.; z', a'. ♀ ad. sk.	Pulo Seban, Nov. ( <i>W. D.</i> ).	Hume Coll.
b''. ♂ ad. sk.	Kuroo, Nov. ( <i>W. D.</i> ).	Hume Coll.
c''. ♂ ad.; d''. ♀ ad.; e''. Imm. sk.	Salangore, May, Aug. ( <i>W. D.</i> ).	Hume Coll.
f''-i''. ♂ ad. sk.	Penang ( <i>Dr. Cantor</i> ).	India Museum [P.].
k''. ♀ ad. sk.	Penang.	Wallace Coll.
l'', m''. ♂ ad. sk.	Girbee, Tonka ( <i>J. Darling</i> ).	Hume Coll.
n'', o''. ♂ ♀ ad. sk.	Kossoum ( <i>J. Darling</i> ).	Hume Coll.
p''. Imm. sk.	Tapraw ( <i>J. D.</i> ).	Hume Coll.
q'', r''. ♂ ♀ ad. et imm. sk.	Poungyah ( <i>J. D.</i> ).	Hume Coll.

<i>s</i> <sup>1</sup> . ♂ ad. sk.	Tenasserim ( <i>W. D.</i> ).	Hume Coll.
<i>t</i> <sup>1</sup> , <i>u</i> <sup>1</sup> . ♂ ♀ ad. sk.	Tenasserim ( <i>W. Limborg</i> ).	Tweeddale Coll.
<i>v</i> <sup>1</sup> , <i>w</i> <sup>1</sup> . ♂ ♀ ad. et imm.; <i>x</i> <sup>1</sup> . ♂ ad. sk.	Malawoon, Feb., April ( <i>W. D.</i> ).	Hume Coll.
<i>y</i> <sup>1</sup> - <i>a</i> <sup>3</sup> . ♀ ad. sk.	Mergui, Feb., Nov. ( <i>W. D.</i> ).	Hume Coll.
<i>b</i> <sup>3</sup> , <i>c</i> <sup>3</sup> . ♂ ♀ ad. sk.	Moulmein, March, Nov. ( <i>W. D.</i> ).	Hume Coll.
<i>d</i> <sup>3</sup> . ♂ ad. sk.	Attaran River, Dec. 9 ( <i>W. D.</i> ).	Hume Coll.
<i>e</i> <sup>3</sup> - <i>k</i> <sup>3</sup> . ♂ ad.; <i>l</i> <sup>3</sup> . ♀ ad. sk.	Palphoon, Jan., Feb. ( <i>W. D.</i> ).	Hume Coll.
<i>m</i> <sup>3</sup> , <i>n</i> <sup>3</sup> . ♂ imm. sk.	Amherst, Jan., March ( <i>W. D.</i> ).	Hume Coll.
<i>o</i> <sup>3</sup> , <i>p</i> <sup>3</sup> . ♂ ♀ ad. sk.	Thatone, Dec. 2 ( <i>W. D.</i> ).	Hume Coll.
<i>q</i> <sup>3</sup> . ♀ ad. sk.	Myawadee, Jan. 25 ( <i>W. D.</i> ).	Hume Coll.
<i>r</i> <sup>3</sup> . ♀ ad. sk.	Tavoy, March 14 ( <i>J. Dartling</i> ).	Hume Coll.
<i>s</i> <sup>3</sup> . ♂ ad.; <i>t</i> <sup>3</sup> - <i>y</i> <sup>3</sup> . ♀ ad. sk.	Pegu, April, May, Nov., Dec.	Oates Coll.
<i>z</i> <sup>3</sup> - <i>c</i> <sup>1</sup> . ♂ ad.; <i>d</i> <sup>1</sup> , <i>e</i> <sup>1</sup> . ♀ ad.; <i>f</i> <sup>1</sup> . Imm. sk.	Tonghoo, Feb., April, May ( <i>Wardlaw Ramsay</i> ).	Tweeddale Coll.
<i>g</i> <sup>1</sup> , <i>h</i> <sup>1</sup> . ♂ ad.; <i>i</i> <sup>1</sup> , <i>k</i> <sup>1</sup> , <i>l</i> <sup>1</sup> . ♀ ad. et imm. sk.	Dibrughur, Assam, Sept. ( <i>J. R. Cripps</i> ).	Hume Coll.
<i>m</i> <sup>1</sup> , <i>n</i> <sup>1</sup> . ♂ ♀ ad. sk.	Manipur, April ( <i>A. O. H.</i> ).	Hume Coll.
<i>o</i> <sup>1</sup> , <i>p</i> <sup>1</sup> . ♂ ad. et imm. sk.	Cochin China.	M. E. Pierre [P.].
<i>q</i> <sup>1</sup> . ♂ ad. sk.	Cambodia.	M. Monhot [C.].
<i>r</i> <sup>1</sup> . Sternum.	Burma.	Oates Coll.

(Specimens from North Borneo = *C. salvadorii*, Sharpe.)

<i>a, b.</i> ♂ ♀ sk.	Labuan.	Sir Hugh Low [C.]. (Types of <i>C. salvadorii</i> , Sharpe.)
<i>c.</i> ♂ ad. sk.	Abai, Feb. 11.	J. Whitehead, Esq.
<i>d-g.</i> Imm.; <i>h.</i> Full. sk.	Labuan.	Ussher Coll.
<i>i.</i> ♂ sk.	Campa Campa, 14 Aug.	J. Whitehead, Esq.
<i>k, l.</i> ♂ ad. sk.	Sarawak ( <i>H. A. Everett</i> ).	Tweeddale Coll.
<i>m.</i> ♂ ad. sk.	Brunei R. ( <i>Bassett Smith</i> ).	Lords of the Admiralty [P.].
<i>n, o.</i> ♂ ♀ ad. sk.	Bintulu.	Everett Coll.

#### Subsp. *α*. *Caprimulgus albonotatus*.

*Caprimulgus albonotatus*, *Tick. Journ. As. Soc. Beng.* xi. p. 580 (1842); *Blyth, Cat. B. Mus. As. Soc.* p. 83 (1849); *id. Ibis*, 1866, p. 341; *Ip. Consp.* i. p. 60 (1850); *Jerd. B. Ind.* i. p. 194 (1862); *Beavan, Ibis*, 1865, p. 406; *id. Ibis*, 1869, p. 405; *Bulger, Ibis*, 1869, p. 155; *Gray, Hand-l.* i. p. 57 (1869); *Ball, Stray F.* ii. p. 385 (1874), vii. p. 203 (1878; Godavery); *Hume, Stray F.* iii. p. 45 (1875), vi. p. 57 (1878); *Cripps, Stray F.* vii. p. 257 (1878; Furr-edjore); *Reid, Stray F.* x. p. 19 (1880; Lucknow); *Oates, B. Burm.* ii. p. 19 (1883); *id. ed. Hume's Nests & Eggs Ind. B.* iii. p. 43 (1890); *C. H. T. Marsh. Ibis*, 1884, p. 409 (Chamba).  
*Caprimulgus nipalensis*, *Hodys. Icon. ined. in Mus. Brit.*

This is a large and pale form of *C. macrurus*. Specimens from the plains of North-western India, especially from the Punjab, are very light coloured, and no doubt greatly adapted to the pale sands and drier soil: the markings are paler brown, the scapulars less brilliantly marked, the dark spots on the crown less numerous, narrower, and more confined to the middle of the crown; the wings are very long, and the lower parts very strongly tinged with pale sandy rufous. The specimens from the foot of the Himalayas and especially from Nepal, where the forest-region prevails, are, as a rule, very pronounced in colour; the dark markings are bold and distinct, the head greyish, the lower parts very strongly marked, but they have not such a rufous aspect as true *C. macrurus*. The mountain form has been named *C. nipalensis* by Hodgson; and if one compares a full-plumaged individual of it with a typical specimen of *C. macrurus* from the Malay Islands, or a pale *C. albonotatus* from the Indian plains, one might be persuaded that they belong to three distinct forms. The differences, however, are too slight and inconstant to warrant the separation of the Nepalese bird. The wing of typical *C. albonotatus* measures from 8 to 8.6 inches, the tail from 6.5 to 7 inches.

The nestling is covered with rufous-buff down, and the sprouting feathers are almost entirely cinnamon-rufous in colour.

*Hab.* From the Southern Punjab along the foot of the Himalayas, throughout the North-West and Central Provinces of India to Bengal, occasionally occurring further to the southward in the Indian peninsula. Specimens from Assam and Burmah are intermediate and approach the true *C. macrurus*, especially those from the Burmese provinces.

There is a young female in the Hume Collection, obtained by Dr. Scully in the Nepal valley, and mentioned and described by him as a doubtful species of *Caprimulgus* in 'Stray Feathers' for 1879, p. 236. It is a pale-coloured bird like *C. albonotatus*, but is extremely small, the wing measuring 7.2 inches only, like small typical *C. macrurus*. There are, however, other specimens from Nepal that are nearly equally small, also younger specimens. I think that they also belong to *C. albonotatus*.

a. ♂ ad. sk.	N.W. Himalayas.	Piwill Coll.
b. ♂ ad. sk.	Sinula, March 5 ( <i>C. H. T. Marshall</i> ).	Tweeddale Coll.
c, d. ♂ ♀ ad. sk.	Masuri.	Hume Coll.
e. ♀ ad. sk.	Naini Tal ( <i>S. Piwill</i> ).	Tweeddale Coll.
f. Ad. st.	Gangaotri.	Old Coll.
g, h, i. ♂ ad.; k. ♀ ad. sk.	Kumaon ( <i>Gen. Strachey</i> ).	India Museum [P.].
l. ♂ ad. sk.	Kumaon, March 4.	Hume Coll.
m-q. ♂ ad.; r-u. ♀ ad.; v, w. Juv. sk.	Nepal.	Hodgson Coll.
		(Types of <i>C. nipalensis</i> .)
x. ♀ imm. sk.	Nepal Valley ( <i>J. Scully</i> ).	Hume Coll.
y. ♀ ad. sk.	Siwalik Hills, March ( <i>Dr. Scott</i> ).	Tweeddale Coll.
z, a'. ♂ ♀ ad. sk.	Allahabad.	Hume Coll.

<i>b'</i> . ♀ ad. sk.	Futtehpur Sikri, Jan. ( <i>A. O. H.</i> )	Hume Coll.
<i>c'</i> . ♀ ad. sk.	Cawnpore, Oct. ( <i>A. O. H.</i> )	Hume Coll.
<i>d'</i> , <i>e'</i> . ♂ ad.; <i>f'</i> , <i>g'</i> . ♀ ad. sk.	Etawah, Jan., Oct.	Hume Coll.
<i>h'</i> , <i>i'</i> . ♂ ♀ ad. sk.	Saharanpur, March, Dec.	Hume Coll.
<i>k'</i> , <i>l'</i> . ♀ ad. sk.	Oudh, Dec., Jan.	Hume Coll.
<i>m'</i> , <i>n'</i> . ♂ ad. sk.	Behar.	Hodgson Coll.
<i>o'</i> . ♀ ad. sk.	Native Sikkim, April ( <i>L. Mandelli</i> ).	Hume Coll.
<i>p'</i> . ♂ ad. sk.	Darjiling Terai, Feb. ( <i>L. Mandelli</i> ).	Hume Coll.
<i>q'</i> . ♂ ad.; <i>r'</i> , <i>s'</i> . ♀ ad. et imm. sk.	Buxa Dooars ( <i>L. M.</i> ).	Hume Coll.
<i>t'</i> , <i>u'</i> , <i>v'</i> . ♂ ad.; <i>w'</i> - <i>z'</i> . ♀ ad. sk.	Bhootan Dooars, Feb., April, Dec. ( <i>L. M.</i> ).	Hume Coll.
<i>a''</i> . ♂ ad. sk.	Assam.	Tweeddale Coll.
<i>b''</i> , <i>c''</i> . ♂ ♀ ad. sk.	Assam ( <i>McClelland</i> ).	India Museum [P.].
<i>d''</i> . ♂ ad.; <i>e''</i> , <i>f''</i> . ♀ ad. sk.	N. Khas'a Hills, Jan., March ( <i>A.</i> <i>W. Chennell</i> ).	Tweeddale Coll.
<i>g''</i> . ♂ ad. sk.	Tippura.	Hume Coll.
<i>h''</i> , <i>i''</i> . ♂ ad. sk.	Dacca, March.	Hume Coll.
<i>k''</i> , <i>l''</i> . ♂ ad. sk.	Fardpur, March, April ( <i>J. R.</i> <i>Cripps</i> ).	Hume Coll.
<i>m''</i> , <i>n''</i> , <i>o''</i> . ♂ ad. sk.	Maunbhoom ( <i>R. C. Beavan</i> ).	Tweeddale Coll.
<i>p''</i> . ♀ ad. sk.	Raipur Distr., Dec. 14.	Hume Coll.
<i>q''</i> . Imm. sk.	Madras.	T. C. Jerdon, Esq. [P.].
<i>r''</i> . Bones of trunk.	Nepal.	Hodgson Coll.

### 10. *Caprimulgus atripennis*.

*Caprimulgus atripennis*, *Jerd. Ill. Ind. Orn.* pl. 24 (letterpress) (1847); *id. B. Ind.* i. p. 196 (1862); *Holdsw. P. Z. S.* 1872, p. 421 (Ceylon); *Legge, Ibis*, 1874, p. 12; *id. B. Ceylon*, i. p. 340 (1878); *Ball, Stray F.* vii. p. 203 (1878; Godavery); *Butl. Stray F.* ix. p. 380 (1880; Mahratta); *Parker, Stray F.* ix. p. 477 (1880); *Davison, Stray F.* x. p. 349 (Mysore); *Macgregor, t. c.* p. 436 (Mahratta); *Salvin, Cat. Strickl. Coll.* p. 377 (1882); *Barnes, J. Bombay N. H. Soc.* iv. pl. i. (1889; egg fig.); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 47 (1890).

*Caprimulgus spilocercus*, *Gray, List Fissir. Brit. Mus.* p. 7 (1848); *Hume, Stray F.* 1873, p. 432.

*Caprimulgus maharattensis*, *Kelaart (nec Sykes), Prodrromus Cat.* p. 117 (1852); *Layard, Ann. & Mag. Nat. Hist.* 1853, xii. p. 166.

*Adult male.* Top of the head cinereous brown, finely stippled with paler greyish brown, centre of the crown and upper part of the hind neck with black mesial streaks; hind neck with a deep ferruginous hue forming a kind of indistinct collar; back and rump darker than the head, with distinct blackish shaft-stripes; scapulars brilliantly marked with large velvety blackish-brown spots and rich buff bars and margins; first primary with a white spot on the inner web, not extending to the shaft; second quill with an interrupted white bar on both shafts, sometimes obsolete on the outer web; third



quill with a generally interrupted bar, fourth with a continuous white bar extending over the shaft as a rule; wing-coverts with many pale buff and rufous-buff spots and bars; chin and sides of the head mottled blackish brown and fulvous; ear-coverts more or less golden rufous-buff: a narrow whitish-buff stripe under the eye, a very large white spot on the throat, its lower edge with deep velvety-black terminal and isabelline-buff subterminal spots or bars; chest and upper breast rufous-grey with fine darker vermiculations, the former often much rufous, the latter mostly with large pale buff spots on its lower edge; beneath this the lower surface is fulvous, barred with blackish brown; rectrices deep brown with interrupted fulvous bars, central pair coloured like the back, outer pair white on the tips, outer web of this white space more or less tinged with isabelline or spotted with greyish brown. Total length about 10·8 inches, wing 7 to 7·2, tail 5·1, tarsus 0·7, covered with feathers in front except on the lowest part.

*Adult female.* In general appearance entirely similar to the male, but the spots to the primaries buff and on the fourth quill obsolete; two lateral rectrices with more or less pure buff tips.

*Young.* Paler, and the dark markings less pure and less distinct; the white spots in the young male well developed on the outer rectrices, but shaded with buff and smaller on the quills, first quill only with an indication of it.

The depth of coloration differs somewhat, as it does in almost all the species of *Caprimulgus*, but I have not seen any remarkable variations.

*Hab.* Ceylon and Southern India, somewhat locally distributed.

<i>a, b.</i> ♂ ad. sk.	Ceylon.	Hume Coll.
<i>c.</i> ♂ ad. sk.	Ceylon.	Purchased.
<i>d.</i> ♂ imm. sk.	Ceylon.	Tweeddale Coll.
<i>e, f, g.</i> ♂ ad. et juv.; <i>h.</i> Pull. sk.	Ceylon ( <i>H. Nevill</i> ).	Tweeddale Coll.
<i>i.</i> ♂ ad. sk.	Ceylon ( <i>E. W. Holdsworth</i> ).	Tweeddale Coll.
<i>k.</i> ♀ ad. sk.	Ceylon.	T. Thwaites, Esq. [C.]
<i>l, m.</i> ♂ ad.; <i>n.</i> ♀ ad. sk.	Ceylon, June, Oct.	Col. Vincent Legge [P.]
<i>o, p, q.</i> ♂ ad. et imm. sk.	Central Province, Ceylon.	A. Whyte, Esq. [C.]
<i>r.</i> ♂ ad. sk.	South India.	Tweeddale Coll.
<i>s, t.</i> ♀ ad. sk.	Wynaad, April, Oct. ( <i>W. Davison</i> ).	Hume Coll.
<i>u.</i> ♂ ad. sk.	Kotagherry, Nilghiris, April 15 ( <i>Miss Cockburn</i> ).	Hume Coll.

## 11. *Caprimulgus andamanicus*.

? *Caprimulgus asiaticus*, *Tytl. & Beavan, Ibis*, 1867, p. 318; *Ball, Stray F.* 1873, p. 56.

*Caprimulgus andamanicus*, *Hume, Str. F.* 1873, p. 470, 1874, pp. 162, 493.

*Adult male.* In general appearance similar to *C. atripennis*, but the top of the head finely but distinctly barred, its ground-colour more greyish and the black streaks bolder, more numerous, and not confined to the centre of the crown; lower parts darker; spots on the primaries often not pure white, being shaded with rufous from above, the spots smaller and well developed on the first three or sometimes four primaries; the white tips to the outer rectrices a little smaller; upper wing-coverts very conspicuously spotted with rufous-buff. In size similar to *C. atripennis*.

*Adult female.* Similar to the male, but with only narrow rufous bands and spots to the primaries, without the larger pale patches, whereas in the female of *C. atripennis* buff patches are well-developed on the first three primaries. The patch on the throat is buff instead of white, the pale tips of the outer rectrices smaller and buff instead of white.

*Hab.* Confined to the Andaman Islands.

- a. ♂ ad. sk. Jolly Boys' Island, S. Andamans, Hume Coll.  
March 8 (*A. O. H.*). (Type of the species.)  
b, c. ♀ ad. sk. Sound Island, S. Andamans, April Hume Coll.  
(*W. Davison*).  
d, e. ♂ ♀ ad. sk. Port Blair, May (*W. Davison*). Hume Coll.  
f, g, h. ♀ ad. sk. S. Andaman, Feb., June, July (*R. J. Wimberley*). Tweeddale Coll.  
i. ♀ ad. sk. S. Andaman, April (*R. G. W. R.*). Tweeddale Coll.  
k. ♀ ad. sk. Andamans, March 10 (*R. G. W. R.*). Tweeddale Coll.  
l. ♂ ad. sk. Stewart's Sound, Middle Andaman, Tweeddale Coll.  
April 3 (*R. G. W. R.*).

## 12. *Caprimulgus manillensis*.

*Caprimulgus manillensis*, *G. R. Gray, List Fissirostres Brit. Mus.* p. 7, no. 11, "Manilla," descr. nulla! (1848); *id. Hand-l.* p. 57, no. 637 (1869).

? *Caprimulgus macrurus*, *Martens, J. f. O.* 1866, p. 19 (Philippines).

*Caprimulgus manillensis*, *Walden, Trans. Zool. Soc.* ix, pp. 160, 410 (1875); *Tweedd. P. Z. S.* 1878, p. 635 (Mindanao); *id. P. Z. S.* 1879, p. 69 (Basilan); *Whiteh. Isis*, 1890, p. 46; *Steele, List B. & Mamm. Exped. Philipp.* p. 12 (1890).

*Adult male.* Above dark greyish brown, with bold blackish streaks along the crown, becoming broader to the tips of the feathers; smaller secondaries and scapulars more or less greyish, the latter with large blackish spots and pale rufous bars or spots; wing-coverts spotted with buff; primaries deep blackish brown, the first with a small buffish-white spot on the inner border of the inner web, the second with a larger white spot on the same place and an indication of it on the outer web, the third with distinct but separated spots on both webs, the fourth with a connected spot across both webs; behind the ear-coverts a rufous-buff patch; a large white spot on the throat, the tips of these white feathers velvety black; abdomen brownish buff, barred with dark brown, but not so regularly as in *C. macrurus*, the broader buff tips of the feathers

producing a more spotted appearance; outermost pair of rectrices blackish brown, with short rufous bars on the outer web, sometimes speckled with white at the tip, the inner web white at the tip for about one inch; second pair white at the tips for about one inch on both webs. Total length about 10 inches, wing 6·7 to 6·9, tail 5, tarsus 0·7, feathered in front for about its upper half.

The *female* seems not to differ from the male, except in the spots to the primaries and outer rectrices being smaller.

The *young* bird is similar to the adult.

This species differs from *C. macrurus* chiefly in the smaller extent of the white spots on the primaries and rectrices, especially those of the latter. The terminal spots to the feathers of the abdomen are more obvious. The rictal bristles, which are always distinctly whitish at the bases in *C. macrurus*, are mostly brown at the bases, but on rare occasions also whitish, in the present species.

The single specimen from Celebes (collected by Dr. A. B. Meyer) is not in very good condition on account of the moult, but it seems to be identical with specimens from the Philippines.

*Hab.* Philippines, from Luzon to Mindanao, and apparently Celebes.

<i>a, b.</i> Ad. sk.	Manila.	H. Cuming, Esq. [C.] (Types of the species.)
<i>c.</i> ♀ ad.; <i>d.</i> Pull. sk.	Zamboanga, Mindanao, April ( <i>A. Everett</i> ).	Tweeddale Coll.
<i>e, f.</i> ♂ ♀ ad. sk.	Basilan, May, June ( <i>A. Everett</i> ).	Tweeddale Coll.
<i>g.</i> Ad. sk.	Celebes ( <i>A. B. Meyer</i> ).	Tweeddale Coll.

### 13. *Caprimulgus phalæna*.

*Caprimulgus phalæna*, *Hartl. & Finsch, P. Z. S.* 1872, p. 91;  
*Finsch, Journ. Mus. Godeffr.* 1875, p. 13, pl. ii. figs. 1, 2.

*Adult male.* Above greyish brown, very finely vermiculated, more rufous on the back, with large longitudinal streaks and a few cross markings; scapulars partly with pale buff bands, mostly pale grey at the basal portion; primaries deep brown, with a white spot to the inner web of the first primary not extending to the shaft, second and third primary with white spots to the inner web extending to the shaft and obsolete white spots to the outer web, fourth primary with a smaller and less pure white spot; chin and throat blackish brown, barred with rufous, with two white spots on the throat; breast brownish grey, vermiculated and spotted with brown and blackish; abdomen dirty ochraceous buff barred with brown, the bars wider on the lower tail-coverts; rectrices rufous-brown with blackish bars, outer ones with broad white terminal spots. Total length about 9 inches, wing 6·3, tail 4·5, tarsus 0·55, feathered in front for the upper half.

*Adult female.* Similar to the male, but with small, more or less obsolete, rufous-buff spots to the primaries instead of white ones; rectrices without white spots.

*Young.* The young male (according to Finsch) has the white spots to the primaries as in the adult male and is very similar to adult specimens, but somewhat paler and less distinctly marked.

*Hab.* Pelew Islands.

a. ♀ ad. sk.

Pelew Islands.

W. Cohen [C.].

#### 14. *Caprimulgus poliocephalus.*

*Caprimulgus poliocephalus*, Rüpp. *Neue Wirbelth.*, *Vög.* p. 106 (1835); *id. Syst. Uebers.* p. 15, pl. iv.\* (1845); *Bp. Consp.* i. p. 59 (1850); *Cuss. Cat. Caprim. Mus. Ac. Phil.* no. 7 (1851); *Heugl. Ibis*, 1859, p. 339; *id. J. f. O.* 1864, p. 245; *id. Orn. N.O.-Afr.* i. p. 131 (1869); *Finsch & Hartl. Vög. O.-Afr.* p. 127 (1870); *Hartert, Kat. Vogels Mus. Senckenb.* p. 120 (1891).  
*Caprimulgus*, sp., *Heugl. J. f. O.* 1862, pp. 288 (♂), 297 (♀).

*Adult male.* Top of the head brownish grey, streaked with brownish black along the middle; a rusty collar round the neck, very conspicuous above, slightly indicated below; back and rump greyish brown with dark longitudinal streaks; scapulars with large brownish-black patches and others of a pure rusty-buff colour; wing-coverts with smaller and paler buff spots; primaries deep brown, washed with greyish near the tip; first primary with some small fulvous spots near the tip of the outer web and a small rusty spot on the inner web; second, third, and fourth with a white band across both webs, the band interrupted on the second; all the other quills brown banded with rufous; two outermost rectrices white for their whole length, with a long brown streak and a buffy shade on the outer web, a narrow space at the base brown; two white spots on the throat; abdomen buff, barred with brown. Total length about 9 inches, wing 6, tail 4.7, tarsus 0.65.

The *female* is said by Heuglin to be smaller.

A quite *young male* shot by Mr. F. J. Jackson on Mt. Elgon undoubtedly belongs to this species, as the white marks on the primaries and rectrices clearly indicate. The outer rectrices are much mixed with brown on the outer webs, the feathers of the upper surface have bright rufous terminal spots, and the abdomen is indistinctly barred.

This species may be distinguished from all other African Goatsuckers by having the two outer pairs of tail-feathers almost entirely white; they are only white to a considerable extent in the very different *C. natalensis* from South Africa.

The description is taken from the type in the museum at Frankfort.

*Hab.* Eastern and Central Abyssinia and Galla district from the valley up to about 12,000 feet above the sea-level south to Mt. Elgon.

\* The name on the plate is erroneously given as *Caprimulgus tetrastigma*.

15. *Caprimulgus monticola* \*.

- Caprimulgus monticolus*, *Frankl. P. Z. S.* 1831, p. 116; *id. Journ. As. Soc. Beng.* 1832, p. 263; *Sykes, P. Z. S.* 1832, p. 83; *Blyth, Journ. As. Soc. Beng.* 1845, p. 203; *id. Cat. B. Mus. As. Soc.* p. 84 (1849); *Bp. Consp.* i. p. 60 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 114 (1854); *Swinh. Ibis*, 1861, p. 263; *id. P. Z. S.* 1871, p. 345; *Jerd. B. Ind.* p. 198 (1862); *Beavan, Ibis*, 1865, p. 406; *id. Ibis*, 1869, p. 406; *Blyth, Ibis*, 1866, p. 342; *Tytler, Ibis*, 1868, p. 194; *Gray, Cat. Fissirostr. Brit. Mus.* p. 8; *id. Hand-l.* i. p. 57 (1869); *Adam, Stray Feath.* i. p. 371 (1873; Sambhur); *H. Lloyd, Ibis*, 1873, p. 406 (Kathiawar); *Bull. Stray Feath.* ii. p. 385 (1874); *Hume, Stray Feath.* ii. p. 469 (1874; Tenasserim), iii. p. 46 (1875), v. p. 17 (1877; Cachar), xi. p. 40 (1888; Manipur); *Bull. Stray Feath.* iii. p. 455 (1875); *Fairb. Stray Feath.* iv. p. 254 (1876); *David & Oust. Ois. Chine*, p. 67 (1877); *Hume & Davison, Stray Feath.* 1878, p. 59 (Tenasserim); *Bull. t. c.* p. 203 (Godaveri); *Vidal, Stray Feath.* ix. p. 48 (1880; S. Konkan); *Bingham, t. c.* p. 151 (1880); *Bull. t. c.* p. 381 (1880; Mahratta); *Oates, Stray Feath.* x. p. 185 (1882; Pegu); *Macgregor, t. c.* p. 436 (1882); *Oates, B. Burmah*, ii. p. 18 (1883); *id. ed. Hume's Nests & Eggs Ind. B.* iii. p. 51 (1890); *Davison, Stray Feath.* v. p. 453 (1877; Burmah), x. p. 349 (1882; Mysore); *Davidson, Stray Feath.* x. p. 295 (1882; Khandeish); *C. H. T. Marsh, Ibis*, 1884, p. 403 (Chamba valley).
- Caprimulgus stictomus*, *Swinh.* (type examined), *Ibis*, 1863, p. 250, 1866, p. 315; *id. P. Z. S.* 1863, p. 263 (China), 1871, p. 345 (Formosa); *David & Oust. Ois. Chine*, p. 68 (1877).

*Adult male.* Rather dark above, the markings not very large and remarkable, generally rather subdued; blackish spots along the crown; a more or less distinct indication of a rufous band across the neck; rufous-buff spots to the upper wing-coverts; on the inner webs of the scapulars more or less rufous-buff, sometimes hardly visible, sometimes very obvious; first primary with a streak of rufous-white or buff on the outer web and a large patch of white on the inner; second, third, and fourth primaries with white patches on both webs extending across the shaft, no white spots on the other quills; two outer rectrices all white, more or less broadly tipped with brown, especially on the outer webs, the other rectrices without any white upon them; chin buff; throat and upper breast like the upper parts, spotted with rufous-buff; two large, sometimes connected, white spots on the throat; abdomen isabelline-buff, narrowly barred with brown, becoming more and more uniform to the tail; lower tail-coverts quite uniform. Total length about 10 inches, wing 7.5 to 7.8, tail 4.8, tarsus 0.8, almost totally unfeathered.

*Adult female.* In general appearance like the male, but the patches on the first four primaries rufous-buff instead of white, of the same extent as in the male; the tail without any white whatever.

*Young.* Very pale, the markings less distinct than in adult

\* The name is ill-chosen, since the species is by no means an inhabitant of hilly country only, nor does it particularly affect mountainous tracts.

individuals, the patches on the primaries rufous-buff or shaded with rufous; the tail-feathers with no white, as in the adult female.

Some specimens are very rufous, while others are darker and others again more greyish, but these modifications of colour occur in the same localities and no local form is distinguishable.

*Hab.* India, from the Punjab and the N.W. Himalayas through the Indian Peninsula, Assam, Burma, and Tenasserim, eastwards as far as Southern China.

a. ♂ ad. sk.	N.W. India ( <i>Griffith</i> ).	India Museum [P.]
b. ♂ ad. sk.	N.W. India ( <i>F. W. Hope</i> ).	India Museum [P.]
c. d. ♂ ♀ ad. sk.	Deesa, Jan., Aug. ( <i>E. A. Butler</i> ).	Hume Coll.
e, f. ♂ ad. sk.	Mt. Aboo, May 22 ( <i>G. King</i> ).	Hume Coll.
g, h. ♀ ad. et imm. sk.	Sambhur Lake, March, July ( <i>R. M. Adam</i> ).	Hume Coll.
i. ♂ ad. sk.	Jhansie, Aug.	Tweeddale Coll.
k, l. ♀ ad. et imm. sk.	Delhi.	Hume Coll.
m, n. ♂ ♀ ad. sk.	Gurgaon District ( <i>W. N. Chhill</i> ).	Hume Coll.
o, p, q. ♀ ad. et imm. : r. ♂ imm. sk.	Sirza.	Hume Coll.
s. ♀ ad. sk.	Simla, March.	Hume Coll.
t. ♂ ad. sk.	Simla, April 15 ( <i>C. H. T. Marshall</i> ).	Hume Coll.
u. ♀ ad. sk.	Dehra Dhoon.	Tweeddale Coll.
v. ♂ ad. sk.	Eastern Dhoon ( <i>Col. Thebwall</i> ).	Tweeddale Coll.
w. ♂ ad. sk.	Siwalik Hills, March ( <i>Dr. Scott</i> ).	Tweeddale Coll.
x, y, z. ♀ ad. sk.	Futtehpur Sikri, Jan.	Hume Coll.
a', b'. ♂ ad. sk.	Etawah, Oct. 28.	Hume Coll.
c'. ♀ ad. sk.	Oudh, Feb.	Hume Coll.
d'. ♂ ad. sk.	Sikkim, March ( <i>L. Mandelli</i> ).	Hume Coll.
e'. ♀ ad. sk.	Bhootan Dooars, April ( <i>L. M.</i> ).	Hume Coll.
f', g'. ♂ ad. st.	Nepal.	Hodgson Coll.
h'. ♂ ad. sk.	Cachar ( <i>J. Inglis</i> ).	Hume Coll.
i'. ♀ ad. sk.	Tipperah.	Hume Coll.
k'. ♂ ad. sk.	Manipur, April 11 ( <i>A. O. H.</i> ).	Hume Coll.
l'. ♀ ad. sk.	Bengal ( <i>Dr. Falconer</i> ).	India Museum [P.]
m'. ♂ ad. sk.	Chandra, Central Provinces.	Hume Coll.
n'. ♂ ad. sk.	Sambalpur, Jan. 25.	Hume Coll.
o'. ♂ imm. sk.	Bandir, July 20.	Hume Coll.
p'. ♀ ad. sk.	Phaulgur, Dec. 12 ( <i>F. R. Blewitt</i> ).	Hume Coll.
q'. ♂ ad. ; r'-u'. ♀ ad. et imm. sk.	Raipur.	Hume Coll.
v'. ♂ ad. sk.	Seoni District, May.	Hume Coll.
w', x'. ♂ ♀ ad. sk.	Saugor.	Hume Coll.
y', z', a', ♂ ; b', ♀ ad. sk.	Maunbhoom, Feb., March, Dec. ( <i>R. C. Beavan</i> ).	Tweeddale Coll.
c'. ♀ ad. sk.	N. of Godavery River.	W. T. Blanford, Esq. [P.]
d'. ♀ ad. sk.	Deccan ( <i>Col. Sykes</i> ).	India Museum [P.]

<i>e''</i> , <i>f''</i> . ♂ imm. sk.	Khandeish, July, Dec. ( <i>J. Davidson</i> ).	Hume Coll.
<i>g''</i> . ♂ ad. sk.	N. of Ahmednuggur, Jan. 6 ( <i>S. B. Fairbank</i> ).	Hume Coll.
<i>h''</i> . ♂ ad. sk.	Madras ( <i>Wight</i> ).	India Museum [P.].
<i>i''</i> , <i>k''</i> . ♂ ♀ ad. sk.	Madras.	T. C. Jerdon, Esq. [P.].
<i>l''</i> . ♂ ad. sk.	Burma.	Tweeddale Coll.
<i>m''</i> , <i>n''</i> . ♂ ad.; <i>o''</i> , <i>p''</i> . ♀ ad. sk.	Tonghoo ( <i>R. G. W. R.</i> ).	Tweeddale Coll.
<i>q''</i> . ♀ imm. sk.	Amherst, Tenasserim, Nov. ( <i>W. Davison</i> ).	Hume Coll.
<i>r''</i> . ♂ ad. sk.	Thamban ( <i>W. D.</i> ).	Hume Coll.
<i>s''</i> . ♀ ad. sk.	Attaran River, March 10 ( <i>W. D.</i> ).	Hume Coll.
<i>t''</i> . ♂ ad. sk.	Pahpoon, Dec. ( <i>W. D.</i> ).	Hume Coll.
<i>u''</i> . ♂ imm. sk.	Canton, China ( <i>Tuckett</i> ).	Tweeddale Coll.

16. *Caprimulgus affinis*.

*Caprimulgus affinis*, *Horsf. Trans. Linn. Soc.* xiii. p. 142 (1821; Java); *G. R. Gray, Gen. B.* i. p. 48 (1847); *Blyth, Cat. B. Mus. As. Soc.* p. 84 (1849); *Bp. Consp.* i. p. 60 (1850); *Cass. Cat. Caprim. Mus. Philad.* sp. 17 (1851); *Horsf. & Moore, Cat. B. Mus. F. I. Comp.* i. p. 114 (1854); *Scl. P. Z. S.* 1863, p. 212 (Banjermassing); *Gray, Hand-l.* i. p. 57 (1869); *Walden, Trans. Zool. Soc.* viii. p. 114 (1872; Celebes); *Salvad. Ucc. Borneo*, p. 115 (1874); *Vorderm. Nat. Tijdschr. Nederl. Ind.* 1883, p. 54; *Hartert, Ibis*, 1892, p. 280.

*Caprimulgus europæus*, *Raffl. (nec Linn.) Trans. Linn. Soc.* xiii. p. 315 (1822; Sumatra).

Chuppa Goatsucker, *Lath. Gen. Hist. B.* vii. p. 339 (1823; Java). Engoulevant des Roseaux, *Hombr. & Jacq. Voy. Pôle Sud*, pl. 21. fig. 2 (♀) (1846).

*Caprimulgus bisignatus*, *Boie, Mus. Lugd., teste Cass. Cat. Capr. Mus. Philad.* (1851); *Koenig-Warth. J. f. O.* 1868, p. 373.

*Caprimulgus arundinaceus*, *Bp. Consp.* i. p. 60 (1850); *Jacq. & Puch. Voy. au Pôle Sud, Ois.* p. 93 (1853; Borneo); *Hartl. J. f. O.* 1854, p. 164; *Walden, Trans. Zool. Soc.* viii. p. 115, note (1872); *Salvad. Ucc. Borneo*, p. 116 (1874).

? *Caprimulgus assimilis*, *Gray, Hand-l.* i. p. 57 (Borneo; deser. nulla).

*Caprimulgus faberi*, *Meyer, Sitzungsber. Ges. Isis*, 1884, i. p. 20 (W. Sumatra).

*Adult male.* Upper surface rather dark, somewhat reminding one of the upper coloration of *C. monticola*; centre of the crown blackish, hind neck with distinct fulvous spots; some of the secondaries with bright fulvous outer margins or with their margins spotted with the same colour, sometimes unusually large and less visible in abraded plumage; wing-coverts with smaller fulvous spots; primaries deep brown; inner margin of first primary with a large white spot, sometimes, but rarely, extending to the shaft; second primary with a large white spot on the inner margin, the outer margin mostly with a fulvous spot, but sometimes without it, sometimes with a white-centred fulvous spot, the latter apparently denoting older individuals; third and fourth primaries with white

spots on both margins; outermost tail-feather white, shaded with brown towards the tip of the outer web, and sometimes on the tip of the inner web (the purer white being a sign of old age); second tail-feather white, with a shade of brown on the tip of the outer web, and spotted deep brown and fulvous near the base of the inner web, this colour being more restricted in older individuals; lower surface pale fulvous, narrowly banded with brown; two white spots on the throat, large buff spots on the breast; lower abdomen and lower tail-coverts uniform pale fulvous buff. Total length about 9 inches, wing 6·3 to 6·4, tail 3·8, tarsus 0·7, unfeathered.

*Adult female.* Differs from the male in having no white whatever on the tail, the rectrices being banded with pale rufous grey and dark brown, paler on the tips.

The spots on the throat vary in size in both sexes and are sometimes almost confluent, often not pure white but buff, this latter colour being apparently a sign of immaturity, as also is the buff colour of the white patches on the primaries.

*Hab.* Sumatra, Java, Lombok, Sumbawa, Timor, Celebes, and Borneo.

a. ♀ ad. sk.	Java ( <i>Dr. Horsfield</i> ).	India Museum. (Type of species.)
b, c. ♂ ♀ ad. sk.	Java.	Gould Coll.
d. Ad. st.	Sumatra.	Purchased.
e. ♀ sk.	Sumatra ( <i>Sir S. Raffles</i> ).	India Museum.
f-l. ♂ ; m-p. ♀ ad. sk.	Lombok.	Wallace Coll.
q. ♂ sk.	E. Timor ( <i>A. R. Wallace</i> ).	Tweeddale Coll.
r. Imm. sk.	Celebes ( <i>A. B. Meyer</i> ).	Tweeddale Coll.
s. ♂ ad. sk.	Banjermassing, Borneo ( <i>Motley</i> ).	Tweeddale Coll.
t. Skeleton.	Java.	Purchased.

### 17. *Caprimulgus griseatus*. (Plate XI.)

*Caprimulgus griseatus*, *G. R. Gray, Hand-l. i. p. 57*, no. 629 (1869; Philippines) (deser. nulla); *Walden, Trans. Zool. Soc. ix. p. 159* (1875); *Tweedl. P. Z. S. 1877*, p. 691 (Luzon; deser. princeps); *Kutter, J. f. O. 1882*, p. 175 (egg).

*Adult male.* General colour above almost similar to that of the allied *C. affinis*, but a little more greyish. The lower parts are somewhat more finely barred and the bars are spread over the whole of the lower abdomen and thighs. The white patches on the primaries are larger and occupy about half an inch of the outer web of the second primary: the outermost rectrices have the basal part of the inner web pale ferruginous, banded with dark brown. Wing 6·4 inches, tail 4.

*Female.* Unknown.

*Hab.* Island of Luzon, N. Philippines.

a. ♂ ad. sk.	Philippines.	Purchased. (Type of the species.)
b, c. ♂ ad. sk.	San Mateo, Luzon, Feb. ( <i>Everett</i> ).	Tweeddale Coll.



18. *Caprimulgus fossii*.

*Caprimulgus mozambiquus*, *Licht. Nomencl.* p. 62 (1854) (descr. nulla).

*Caprimulgus fossii*, *Hartl. Orn. W.-Afr.* p. 23 (ex *Ferr. MS.*) (1857; Gaboon); *id. Abh. naturw. Ver. Bremen*, xii. p. 32 (1891); *Gray, Hand-l. i.* p. 57 (1869); *Finsch & Hartl. Vög. O.-Afr.* p. 123, pl. i. (1870); *Sharpe, Ibis*, 1872, p. 66; *Reichen. J. f. O.* 1875, pp. 20, 49 (W. Afr.); *id. J. f. O.* 1877, p. 21 (Loango); *id. J. f. O.* 1889, p. 277 (E. Afr.); *Cab. J. f. O.* 1878, p. 236 (E. Afr.); *Bocage, Journ. Lisb.* 1878, p. 266 (Angola), 1880, p. 101; *id. Orn. Angola*, p. 152 (1881); *Fisch. & Reichen. J. f. O.* 1879, p. 256 (Zanzibar); *Holub & Pelz. Beitr. Orn. Südafr.* p. 53 (1882); *Fischer, Zeitschr. ges. Orn.* 1884, p. 359 (Masai).

*Caprimulgus* sp., *Monteiro, Ibis*, 1862, p. 336.

*Caprimulgus welwitschii*, *Bocage, Journ. Lisb.* p. 133 (1867).

*Caprimulgus mossambicus*, *Peters, J. f. O.* 1868, p. 134; *Gray, Hand-l. i.* p. 57 (1869); *Sharpe, ed. Layard's B. S. Afr.* p. 88 (1875); *Shelley, P. Z. S.* 1881, p. 564 (E. Afr.); *id. Ibis*, 1882, p. 240; *id. Ibis*, 1888, p. 298; *Gurney, Ibis*, 1882, p. 71; *Böhm, J. f. O.* 1883, p. 176 (Int. E. Afr.); *Schalow, J. f. O.* 1883, p. 352; *Symonds, Ibis*, 1887, p. 327 (Orange Free State).

*Adult male.* Head above mottled greyish brown, with bold black longitudinal stripes; a broad, deep, golden-buff semi-collar with black streaks and spots across the hind neck: back and rump mottled with pale brownish and blackish: scapulars with large triangular black spots and ochraceous-buff longitudinal stripes; primaries deep brown with large white spots; secondaries spotted with ferruginous and broadly tipped with white; rectrices dark brown, with pale brown inner margins and mottled with pale brown; central rectrices tinged with grey, lateral rectrices with white outer webs and broad white tips; a large white spot on each side of the throat; breast mottled and spotted brown and isabelline; abdomen orange-buff, barred with brown, lower abdomen uniform orange-buff; under wing-coverts deep orange-buff. Total length about 10 inches, wing 5.8 to 6.4, tail 4.7 to 5.2.

*Adult female.* Similar to the male, but the spots on the primaries not pure white, clear rusty on the outer webs above and tinted with rusty below; lateral tail-feathers with the outer webs and tips not white, but isabelline-buff like the tips of the secondaries.

*Young birds* are more of a greyish colour above.

There is no difference between Western and Eastern specimens, but the bird varies a great deal in the same localities.

*Hab.* Western and Eastern Africa: from the Gold Coast to Benguela and on the East coast down as far as the Zambesi.

a. ♂ ad. sk.	Cape Lopez, Gaboon.	P. B. Du Chaillu [C.]
b. ♂; c. ♀ ad. sk.	Gaboon, June ( <i>Skertchly</i> ).	Sharpe Coll.
d. Imm. sk.	Ogowe River ( <i>A. Marche</i> ).	M. A. Bouvier [P.].
e, f. ♀ ad. sk.	Landana, Congo ( <i>Petit</i> ).	Shelley Coll.
g. ♂ ad. sk.	Lower Congo.	Commander Sperl [P.].
h. ♂ ad. sk.	Quilombo, Angola ( <i>A. Heath</i> ).	Sharpe Coll.

i. ♂ ad. sk.	Angola.	Monteiro Coll.
k. ♂ ad. sk.	Croonstad, Jan. ( <i>Symonds</i> ).	Gurney Coll.
l-o. ♀ ad. sk.	Tati, Matabele-land, March, Oct. ( <i>F. Oates</i> ).	W. E. & C. G. Oates, Esqrs. [P.].
p, q. ♂ ; r. ♀ ad. sk.	Makalaka Country ( <i>Bradshaw</i> ).	Shelley Coll.
s. ♂ ad. ; t. Imm. sk.	Tete, Zambesi ( <i>Sir J. Kirk</i> ).	Livingstone Exped.
u. ♀ ad. sk.	Pangani River ( <i>Sir J. Kirk</i> ).	Shelley Coll.
v. ♀ ad. sk.	Dar es Salaam ( <i>Sir J. Kirk</i> ).	Shelley Coll.
w. ♂ ad. sk.	Melinda ( <i>Sir J. Kirk</i> ).	Shelley Coll.
x. ♀ ad. ? sk.	Ugogo ( <i>Sir J. Kirk</i> ).	Shelley Coll.
y. ♂ ad. sk.	Zanzibar, Sept.	Dr. Hildebrandt [C.].
z. ♀ ad. sk.	Zanzibar, April 28 ( <i>Dr.</i> <i>Fischer</i> ).	Shelley Coll.
a'. ♂ ad. sk.	Witu, Oct. 1 ( <i>Dr. Fischer</i> ).	Shelley Coll.

### Subsp. a. *Caprimulgus clarus*.

*Caprimulgus clarus*, *Reichen. Ber. Januar-Sitz. D. Orn. Ges.* p. 1  
(Uganda: January 1892).

This is merely a smaller and paler form of *C. fossii*, but must be distinguished as a subspecies. There are, however, many intermediate specimens, and therefore it cannot be regarded as a good species. All the markings of the upper surface are less bold and less brilliant. In the somewhat sandy colour of the upper parts this form reminds one somewhat of *C. nubicus*, Licht.

*Hab.* Dry districts of Eastern Equatorial Africa.

a. ♀ ad. sk.	Lamu, E. Africa, Sept. 9.	F. J. Jackson, Esq. [P.].
b, c. ♀ ad. et ♂ imm. sk.	Manda Island.	F. J. Jackson, Esq. [C.].
d. ♂ imm. sk.	Lamoo ( <i>Sir J. Kirk</i> ).	Shelley Coll.

### 19. *Caprimulgus jotaka* \*.

*Caprimulgus jotaka*, *Temm. & Schleg. Faun. Jap., Aves*, p. 37, pl. 12  
(1847); *Bp. Consp.* i. p. 60 (1850); *Schreuck, Vög. Amurland*, ii.  
p. 253 (1860); *Swinh. Ibis*, 1861, p. 327 (Peking); *id. P. Z. S.*  
1863, p. 263; *id. Ibis*, 1870, p. 89 (Hainan); *id. P. Z. S.* 1871,  
p. 344; *id. Ibis*, 1874, p. 434 (Chefoo); *id. Ibis*, 1876, p. 331;  
*Radde, Reis. Sibir., Vög.* p. 133 (1863); *Whately, Ibis*, 1867,  
p. 195 (Japan); *Cray, Hand-l.* i. p. 57 (1869); *Swinh. P. Z. S.*  
1871, p. 344; *Tacz. J. f. O.* 1872, p. 351; *id. Bull. Soc. Zool. Fr.*  
1876, p. 132; *Przevalski, Rowl. Orn. Misc.* ii. p. 157 (1877; Mon-  
golia); *Dar. & Oust. Ois. Chine*, p. 67 (1877); *Blak. & Pryer,*  
*Ibis*, 1878, p. 231; *Hume & Davison, Stray F.* vi. p. 56 (1878;  
Tenasserim); *Scully, Stray F.* viii. p. 236 (Nepal; 1879); *Jouy,*  
*Proc. U. S. Nat. Mus.* vi. p. 310 (1883); *Oates, B. Eurm.* ii. p. 21  
(1883); *id. ed. Hume's Nests & Eggs Ind. B.* iii. p. 45 (1890);  
*Tristr. Ibis*, 1885, p. 194 (Corea); *Styan, Ibis*, 1887, p. 228

\* *Caprimulgus icteopterus*, Vieill. Nouv. Dict. x. p. 232, and Enc. Méth. p. 536, from China, is possibly *Caprimulgus jotaka*, but more probably, as I think, a species of *Lyncornis* with wrong locality.

- (Foochow); *Hume, Stray F.* xi. p. 38 (1888; Manipur); *Seeb. B. Japan. Emp.* p. 178 (1890); *Hartert, Ibis*, 1892, p. 283.  
*Caprimulgus indicus*, *Pelz. Reis. Nov., Vög.* p. 34 (1865; Malacca); *Blyth, B. Burma*, p. 83 (1875); *Hume, Stray F.* v. p. 17 (1877; Cachar), p. 318 (Tenasserim); *Hume & Davis. Stray F.* vi. p. 56 (1878).  
*Caprimulgus dytiscivorus*, *Swinh. Ibis*, 1860, p. 130 (Amoy).  
*Caprimulgus melanopogon*, *Salvad. Ann. Mus. Civ. Gen.* vii. p. 918 (1875), x. p. 311 (1877); *id. Orn. Papuas.* i. p. 530 (1880; W. New Guinea).  
*Caprimulgus innominatus*, *Hume, Stray F.* 1875, p. 318, note (Tenasserim).

*Adult male.* Above grey, finely pencilled with brown, with broad black stripes along the top of the head, back, and rump; scapulars with velvety black centres or spots and buff or rufous-buff spots or bar-like markings; wing-coverts with roundish buff spots speckled with brown; some longitudinal buff spots on the hind neck; a golden-buff spot on the sides of the neck, just behind the ear-coverts; primaries deep blackish brown, outer webs with some minute rufous spots, inner web of the first primary with a round white spot, not reaching the shaft, a white band across both webs of the next three; central pair of rectrices deep blackish brown, with broad pale greyish-brown dark speckled bars, the others with narrower bands, becoming more rufous on the outer ones, and all, except the central pair, with a broad subterminal white bar; a white band across the throat, interrupted in the centre and variegated on the lower edge with ferruginous-buff and blackish spots; throat pale rufous buff with brown cross markings; chest and upper breast pale greyish brown, with dark markings and some more or less developed larger buff spots; abdomen buff, barred with dark brown, the bars becoming broader and less numerous on the lower tail-coverts, which are sometimes nearly uniform; rictal bristles dark towards the base, not whitish as in *C. macrurus*. Total length about 11 to 12 inches, wing 8 to 8.7, tail 5.5 to 5.8, tarsus 0.65, feathered in front.

*Adult female.* Similar to the male, but a little smaller on an average; spots on the primaries buff and speckled, the band on the second primary always interrupted, the spots on the throat buff, the tail-feathers without a distinct white band.

*Young.* Young individuals are paler above and below, the dark marking less developed, and pervaded with a sandy-rufous tinge. The young male shows already the white spots of the adult male, but they are shaded with buff and that on the second quill is a little interrupted.

*Hab.* This species ranges from the valley of the Amoor through Manchuria, China, Japan, to Cochin-China and Burmah, and along the Himalayas and Eastern Bengal hill-tracts. In India it is replaced by a smaller and paler form (*C. kelaarti*), which is most developed and typical in Southern India and Ceylon, while intermediate forms are common more to the north. Northern specimens no doubt migrate south in the cold season, and often occur far to the southward in Malacca, Java, Borneo, and even in New Guinea.

<i>a, b.</i> ♂ ♀ ad. sk.	Amoor-land, May, June.	Purchased.
<i>c.</i> ♂ ad. sk.	S. Manchuria.	H. E. M. James, Esq. [P.].
<i>d.</i> ♂ ad. sk.	Peking, Aug. ( <i>R. Swinhoe</i> ).	Hume Coll.
<i>e.</i> ♀ ad. sk.	Hong Kong.	Sharpe Coll.
<i>f.</i> ♂ ad. sk.	Ningpo, April ( <i>Capt. Ince</i> ).	Mrs. Ince [P.].
<i>g.</i> ♀ ad. sk.	Fokien.	Gould Coll.
<i>h, i.</i> Ad. st.	China.	J. R. Reeves, Esq. [P.].
<i>k, l.</i> ♂ ♀ ad. sk.	Japan, Oct.	H. Whately [C.].
<i>m.</i> Ad. st.	Japan.	Gould Coll.
<i>n.</i> ♂ ad. sk.	Japan, Feb.	Hume Coll.
<i>o, p.</i> ♂ ♀ ad. sk.	Yokohama.	H. Pryer [C.].
<i>q.</i> ♂ imm. sk.	Nagasaki.	Tweeddale Coll.
<i>r.</i> ♂ ad. sk.	Nagasaki, Oct. 24.	F. Ringer, Esq. [P.].
<i>s.</i> ♀ ad. sk.	Cochin China.	
<i>t, u.</i> ♂ ad. sk.	Off Natuna Islands, Nov. 13 ( <i>Capt. Conrad</i> ).	Sharpe Coll.
<i>v.</i> ♂ ad. sk.	Labuan ( <i>J. Motley</i> ).	Tweeddale Coll.
<i>w.</i> ♀ ad. sk.	Coast of Borneo, Nov.	Gould Coll.
<i>x.</i> ♂ ad. sk.	Borneo.	
<i>y.</i> ♀ ad. sk.	Paku, Sarawak, Dec.	A. H. Everett, Esq. [P.].
<i>z.</i> ♂ ad. sk.	Banjermassing ( <i>J. Motley</i> ).	Tweeddale Coll.
<i>a'.</i> ♂ ad. sk.	Java ( <i>Dr. Horsfield</i> ).	India Museum.
<i>b'.</i> ♀ ad. sk.	Malacca ( <i>Dr. Cantor</i> ).	India Museum.
<i>c'.</i> ♀ ad. sk.	Penang.	Purchased.
<i>d'.</i> ♂ ad. sk.	Bankasoon, S. Tenasserim, Dec. ( <i>W. Davison</i> ).	Hume Coll.
<i>e'.</i> ♂ ad. sk.	Choungthanoung, Decr. ( <i>W. Davison</i> ).	Hume Coll.
<i>f'.</i> ♀ ad. sk.	Tonghoo.	Tweeddale Coll.
<i>g', h'.</i> ♂ ♀ ad. sk.	Manipur, April, May ( <i>A. O. II.</i> )	Hume Coll.
<i>i'.</i> ♀ ad. sk.	Cachar ( <i>J. Inglis</i> ).	Hume Coll.
<i>k'-p'.</i> ♂ ad. et imm.: <i>q'-t'.</i> ♀ ad. sk.	Sikhim ( <i>L. Mandelli</i> ).	Hume Coll.
<i>u', v'.</i> ♀ ad.; <i>w'.</i> <i>x'.</i> ♂ ad. et imm. sk.	Nepal.	Hodgson Coll.
<i>y'.</i> ♂ ad. sk.	Nepal Valley, Dec. 6 ( <i>J. Scully</i> ).	Hume Coll.
<i>z'.</i> ♀ ad. sk.	Masuri.	Hume Coll.
<i>u'.</i> ♂ ad.; <i>b''.</i> ♀ imm. sk.	Landour, Aug.	Hume Coll.
<i>c'.</i> ♂; <i>d''.</i> ♀ ad. sk.	Kotegurh.	Hume Coll.
<i>f'', g''.</i> ♂ ♀ ad. sk.	Abbotabad, May ( <i>A. O. II.</i> )	Hume Coll.
<i>h''.</i> ♂ ad. sk.	Agrore Valley, May 11.	Hume Coll.
<i>i''.</i> Bones of trunk.	Nepal.	Hodgson Coll.

Subsp. *a.* *Caprimulgus kelaarti* \*.

- (?) Indian Goatsucker, *Lath. Gen. Syn. Suppl.* p. 196 (1787).  
 (?) *Caprimulgus indicus*, *Lath. Ind. Orn.* ii. p. 588 (1790); *Gray & Hardec. Ill. Ind. Zool.* i. pl. 34 (1832); *Blyth, Journ. As. Soc. Beng.* xiv. p. 208 (1845); *Jerd. Ill. Ind. Orn.* pl. 24 (1847); *Gray, Cat. Fissirostr. Brit. Mus.* p. 7 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 82 (1849); *Ep. Consp.* i. p. 60 (1850); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 113 (1854); *Jerd. B. Ind.* i. p. 192 (1862); *Gray, Hand-l.* i. p. 57 (1869); *Ball, Stray F.* ii. p. 385 (1874); *id. Stray F.* vii. p. 202 (1878; Godaveri); *Morgan, Ibis*, 1875, p. 313 (midif.); *Hume, Stray F.* iii. p. 318 (1875); *Bull. Stray F.* iii. p. 454 (1875), ix. p. 380 (1880; Mahratta); *Davidson & Wenden, Stray F.* vi. p. 77 (1878; Deccan); *Vidal, Stray F.* ix. p. 48 (1880; S. Konkan); *Davidson, Stray F.* x. p. 294 (1882; Khandeish); *Taylor, Stray F.* x. p. 456 (1882; Mysore); *Macgregor, Stray F.* x. p. 436 (1882; Mahratta); *Barnes, J. Bombay N. II. Soc.* iv. pl. i. (1889); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 40 (1890).  
*Caprimulgus cinerascens*, *Vieill. Enc. Méth.* p. 545 (1823).  
*Caprimulgus kelaarti*, *Blyth, J. A. S. B.* 1851, p. 175; *Kelaart, Prodr. Cat.* p. 117 (1852); *Layard, Ann. & Mag. Nat. Hist.* 1853, p. 167; *Jerd. B. Ind.* i. p. 193 (1862); *Gray, Hand-l.* i. p. 57 (1869); *Holdsw. P. Z. S.* 1872, p. 421; *Hume, Nests & Eggs Ind. B.* i. p. 97 (1873); *id. Stray F.* iv. p. 381 (1876); *Morgan, Ibis*, 1875, p. 314; *Ball, Stray F.* vii. p. 203 (Godaveri); *Legge, B. Ceylon*, i. p. 337 (1878); *Bull. Stray F.* ix. p. 380 (1880; Mahratta); *Salv. Cat. Strickl. Coll.* p. 376 (1882); *Davidson, Stray F.* x. p. 348 (Mysore); *Taylor, t. c.* p. 456 (1882); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 41 (1890).

This subspecies differs from *C. jotaka* in its smaller size and paler, more greyish coloration: the black markings on the upper surface are narrower, the buff and rufous markings paler; the dark tips to the rectrices are narrower and often indistinct, but never totally absent. The most typical forms occur in Southern India and Ceylon, but in Northern and N.W. India most of the birds are somewhat intermediate. Ceylon specimens measure about 10.5 inches in length, wing 6.9 to 7.6, tail 4.8 to 5.5.

*Hab.* From Ceylon throughout British India, as far west as Rajputana and the Punjab. While most of the specimens of the larger form seem to migrate in winter, the small form is apparently mostly resident. In Ceylon and South India it is nearly entirely confined to the mountains.

<i>a.</i> ♀ ad. sk.	Sirza district, Punjab, Nov.	Hume Coll.
<i>b, c, d.</i> ♂; <i>e.</i> ♀ ad. sk.	Mount Aboo, April, June.	Hume Coll.
<i>f.</i> ♀ imm. sk.	Sambhur Lake, Aug. 9 ( <i>R. M. Adam</i> ).	Hume Coll.
<i>g.</i> ♂ ad.; <i>h-l.</i> ♀ ad. et imm. sk.	Etawah.	Hume Coll.

\* It is rather uncertain to which form the name of *C. indicus* refers, and therefore I have not accepted it. See my remarks in the 'Ibis,' April 1892.

<i>m.</i> ♂ ; <i>n.</i> , <i>o.</i> ♀ ad. et imm. sk.	Oudli.	Pinwill Coll.
<i>p.</i> ♀ ad. sk.	Saugor, Dec.	Hume Coll.
<i>q.</i> ♂ imm. sk.	Seoni, July.	Hume Coll.
<i>r.</i> ♂ ad.; <i>s-u.</i> Imm. sk.	Raipur, July.	Hume Coll.
<i>v.</i> ♂ ad. sk.	Khandeish, April ( <i>J. David- son</i> ).	Hume Coll.
<i>w.</i> , <i>x.</i> ♂ ; <i>y.</i> , <i>z.</i> ♀ ad. sk.	Ahmednuggur, April, May ( <i>S. B. Fairbank</i> ).	Hume Coll.
<i>a'</i> . ♀ ad. sk.	Ahmednuggur, Dec. 15 ( <i>S. B. F.</i> ).	Tweeddale Coll.
<i>b'</i> , <i>c'</i> . ♂ ad. sk.	Mahabaleshur, Dec. ( <i>S. B. F.</i> ).	Hume Coll.
<i>d'</i> . Imm. sk.	Belgaum, June ( <i>E. A. Butler</i> ).	Hume Coll.
<i>e'</i> . ♂ ad. sk.	Nellacotta, Wynaad, March 29 ( <i>W. Davison</i> ).	Hume Coll.
<i>f'</i> , <i>g'</i> . ♂ ad. sk.	Nagargali, Feb. 2 ( <i>W. D.</i> ).	Hume Coll.
<i>h'</i> , <i>i'</i> . ♂ ♀ ad. sk.	Nilghiris.	Hume Coll.
<i>k'</i> . ♂ ad. sk.	Kotagherry, Nov. 12 ( <i>Miss Cockburn</i> ).	Hume Coll.
<i>l'</i> . ♂ ; <i>m'</i> , <i>n'</i> . ♀ ad. sk.	Ootacamund, Jan., Feb., June ( <i>W. D.</i> ).	Hume Coll.
<i>o'</i> . ♂ ad. sk.	Coonoor, April 10 ( <i>W. D.</i> ).	Hume Coll.
<i>p'</i> , <i>q'</i> . ♂ ♀ ad. sk.	Neddivuttum, March ( <i>W. D.</i> ).	Hume Coll.
<i>r'</i> . ♂ ad. sk.	Mysore.	W. Davison, Esq. [P.].
<i>s'</i> . ♀ ad. sk.	Malabar.	Tweeddale Coll.
<i>t'</i> , <i>u'</i> . Imm. sk.	Madras.	T. C. Jerdon, Esq. [P.].
<i>v'</i> , <i>w'</i> . ♂ ♀ ad. sk.	Madras.	Rev. H. H. Baber [P.].
<i>x'</i> . ♂ ad. sk.	Palani Hills, April ( <i>H. Terry</i> ).	Hume Coll.
<i>y'-a''</i> . ♀ ad. sk.	Mynall, Travancore, Feb., March ( <i>F. Bourdillon</i> ).	Hume Coll.
<i>b''-d''</i> . ♂ ; <i>e''</i> , <i>f''</i> . ♀ ad. sk.	Travancore, Feb. March ( <i>F. B.</i> ).	Hume Coll.
<i>g''</i> , <i>h''</i> . ♂ ; <i>i''</i> . ♀ ad. sk.	Ceylon, May, Oct.	Col. Vincent Legge [P.].

## 20. *Caprimulgus inornatus*.

*Caprimulgus*, sp., *Heugl. Peterm. Geogr. Mitth.* 1861, pp. 21, 30 (Fedjura).

*Caprimulgus inornatus*, *Heugl. Orn. N.O.-Afr.* i. p. 129 (1869; Bogos); *Finsch & Hartl. Vög. O.-Afr.* p. 120 (1870); *Blauf. Geol. & Zool. Abyss.* p. 337 (1870); *Finsch, Trans. Zool. Soc.* vii. p. 211 (1870; Abyssinia); *Antin. & Salvad. Ann. Mus. Civ. Gen.* 1873, p. 432 (Bogos); *Böhm, J. f. O.* 1883, p. 176; *Schalow, t. c.* p. 352 (Inter. E. Africa); *Salvad. Ann. Mus. Civ. Gen.* xxi. p. 264 (1884); *Radde, Orn. Caucas.* p. 295 (1884; Tiflis).

*Caprimulgus cinnamomeus*, *Sharpe, Ibis*, 1871, p. 414 (Lagos, W. Afr.); *Büttik. Not. Leyd. Mus.* vii. p. 156 (1885; Liberia).

? *Caprimulgus*, sp., *Blauf. East. Persia*, ii. p. 128 (1876).

*Adult male.* Upper surface greyish brown, very finely vermiculated with darker brown; some very small but distinct black spots or streaks on the top of the head, less distinct on the back, some-

what larger on the scapulars; primaries deep brown, first, second, and third with large white spots, that on the first not reaching the shaft, that on the second extending to the shaft and often to the outer web, that on the third always distinct on both webs, at least small indications of a white spot on the inner web of the fourth primary; wing-coverts with fulvous-isabelline spots; two outermost rectrices with their tips white for about two inches; chin, throat, and breast resembling the upper parts in coloration; no distinct white spots on the throat, but generally an obsolete whitish space in the middle of it; abdomen fulvous isabelline with blackish-brown bars; lower abdomen and under tail-coverts less frequently barred and often almost uniform. Total length about 9.5 inches, wing 6.2 to 6.5, tail 4.7; tarsus feathered in front, 0.6 inch in length.

*Adult female.* Similar to the male, but wants the white spots on the primaries and the white tips to the outer tail-feathers, the primaries being irregularly barred with brownish buff.

*Young.* Paler and less distinctly marked; the young male has no white on the primaries and rectrices.

There are great variations in colour, some specimens being very rufous in tint, others more brown, and others again very dark grey. Heuglin believed that the rufous tint is a sign of age, which is certainly not the case. Judging from the specimens which I have seen, this tint seems to be independent of age and sex and merely an individual character. Sharpe's *C. cinnamomeus* is an extremely rufous specimen, but others from North-eastern Africa are almost identical.

*Hab.* From the absence of specimens from so many countries it is difficult to define the distribution of this species, but it is certainly much larger than has hitherto been supposed. It ranges throughout Abyssinia from the Bogos Country to Shoa and the Adal Coast, and to Makarungu in Eastern Africa, and doubtless occurs from North-eastern Africa to the northern parts of Western Africa, at least from Liberia to Lagos.

A specimen procured by Mr. Blanford in E. Persia is probably referable to this species, and Radde records the occurrence of a single specimen in the Caucasus. These two localities, however, require confirmation.

a. ♀ ad. sk.	Koomaylee, Abyssinia, March 18 ( <i>W. Jesse</i> ).	Sharpe Coll.
b. ♀ ad. sk.	Kokai, Bogos-land, Aug. 9 ( <i>W. Jesse</i> ).	Salvin-Godman Coll.
c, d, e. ♂ ♀ ad. sk.	Kokai, Aug. 9 ( <i>W. Jesse</i> ).	Sharpe & Tweeddale Colls.
f-i. ♂ ad. sk.	Ain, Bogos, July 5 ( <i>W. Jesse</i> ).	Tweeddale, Sharpe, & Salvin-Godman Colls.
k, l. ♂ ad. et imm. sk.	Ain, 1200 ft., Aug. 16.	W. T. Blanford, Esq. [C.].
m, n, o. ♂ ad. et imm. sk.	Bogos-land.	Mr. Esler [C.].

*p. q.* Imm. sk.  
Imm. sk.

Bogos (*Esler*).  
Lagos, W. Africa.

Shelley Coll.  
Sharpe Coll.

(Type of *C. cinnamomeus*, Sharpe.)

## 21. *Caprimulgus asiaticus*.

Bombay Goatsucker, *Lath. Gen. Syn. Suppl.* i. p. 195 (1787).  
*Caprimulgus asiaticus*, *Lath. Ind. Orn.* ii. p. 588 (1790); *Steph. Gen. Zool.* x. p. 156 (1817); *Sykes, P. Z. S.* 1832, p. 83; *Gray & Hardw. Ill. Ind. Orn.* i. pl. 34 (1832); *Gray, Cat. Fissirostr. Brit. Mus.* p. 8 (1848); *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 83 (1849); *id. Ibis*, 1866, p. 342; *Bp. Consp.* i. p. 60 (1850); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* p. 115 (1854); *Jerd. B. Ind.* i. p. 197 (1862); *Beavan, Ibis*, 1865, p. 406 (Centr. Ind.); *id. Ibis*, 1869, p. 406; *Koenig-Warth. J. f. O.* 1868, p. 378 (nidific.); *Gray, Hand-l.* i. p. 57 (1869); *Holdsw. P. Z. S.* 1872, p. 421 (Ceylon); *H. Lloyd, Ibis*, 1873, p. 406; *Adam, Stray F.* i. p. 371 (1873; Sambhur); *Hume, Stray F.* i. p. 419 (1873); *id. ibid.* p. 432; *id. op. cit.* iii. p. 46 (1875), viii. p. 48 (1879); *Legge, Ibis*, 1874, p. 12, 1875, p. 381; *id. B. Ceylon*, p. 343 (1878); *Bull. Stray F.* iii. p. 455 (1875), ix. p. 380 (1880; Mahratta); *Wald. Ibis*, 1876, p. 355; *Fairbank, Stray F.* iv. p. 254 (1876), v. p. 393 (1877; Palani Hills); *Hume & Davison, Stray F.* vi. p. 59 (1878); *David's. & Wenden, Stray F.* vii. p. 77 (1878; Deccan); *Brooks, Stray F.* vii. p. 169 (1878); *Ball, Stray F.* vii. p. 203 (Godaveri); *Vidal, Stray F.* ix. p. 48 (1880; S. Konkan); *Reid, Stray F.* x. p. 20 (1880; Lucknow); *Bingham, Str. F.* ix. p. 150 (1880; Tenasserim); *Salvin, Cat. Strickl. Coll.* p. 377 (1882); *Oates, Stray F.* x. p. 185 (1882; Pegu); *id. B. Burmah*, ii. p. 17 (1883); *id. ed. Hume's Nests & Eggs Ind. B.* p. 48 (1890); *Davidson, Stray F.* x. p. 294 (1882; Khandeish); *Davison, Stray F.* x. p. 349 (1882; Mysore); *G. Swinh. Ibis*, 1885, p. 60; *H. Parker, Ibis*, 1886, p. 184; *Gigl. Avif. Ital.* i. p. 331 (1889); *Barnes, J. Bombay N. H. Soc.* iv. pl. i. (1889; eggs).

Allied to *C. nubicus*, but the chin buff, not white; the white spots on the primaries smaller, the scapulars much brighter coloured; head generally boldly streaked with brownish black, a distinct rusty-buff band across the hind neck; scapulars with large black triangular spots, bordered with bright buff; first four primaries with white spots, that of the first roundish and not extending to the shaft nor continued on the outer web; two outer rectrices on each side with a large terminal white patch, the next two pairs chiefly deep blackish brown, the central pair like the upper plumage; tarsi unfeathered except on the uppermost part. Total length about 9.5 inches, wing 5.8 to 6, tail 4.5, tarsus 0.78, culmen 0.35.

The female does not differ from the male.

*Young.* Young individuals are more sandy and nearly silvery grey; the buff band on the neck is hardly indicated; the scapulars and wings are more uniform; the abdomen not so distinctly barred; all colours less brilliant, but the white marks on the wings and tail like those of adult specimens.

This species, like most of its congeners, varies greatly in coloration. Generally specimens from the sandy districts of North-



western India are paler and more isabelline, while those from more wooded countries are somewhat darker as a rule. The white terminal patches on the outer rectrices vary in extent, and are often shaded with buff, the outer web speckled with greyish, but this is not a sign of immaturity nor is it peculiar to the female. Sometimes the outer web of the first primary shows an indication of a white spot on the outer margin, but the white spot on the inner web varies very little and never reaches the shaft.

*Hab.* From the Punjab, Rajputana, and Kutch, throughout the whole of India and Ceylon, Assam, Burmah, to the south of Tenasserim, but not found in the Malay peninsula.

a, b. ♂ ad. sk.	Kutch, Jan., Feb. ( <i>F. Stol-iczka</i> ).	Hume Coll.
c. ♀ ad. sk.	Gondul, Kathiwar, Dec. 31.	Col. Hayes Lloyd [P.]
d, e. ♂ ad. et imm. sk.	Deesa, May, July ( <i>E. A. Butler</i> ).	Hume Coll.
f. ♂ ; g, h. ♀ ad. sk.	Saumbhur Lake, Jan., May, June ( <i>R. M. Adam</i> ).	Hume Coll.
i, k. ♂ ad. sk.	Jodhpur, Nov.	Hume Coll.
l, m. ♂ ; n. ♀ ad. sk.	Gurgaon district, Dec., Feb. ( <i>W. N. Chill</i> ).	Hume Coll.
o. ♀ ad. sk.	Sirsa district, Dec. 14 ( <i>A. O. H.</i> ).	Hume Coll.
p, q. ♂ ♀ ad. sk.	Jhansi, Oct. ( <i>A. O. H.</i> ).	Hume Coll.
r. ♂ ; s, t. ♀ ad. et imm. sk.	Etawah, Jan.	Hume Coll.
u. ♂ ad. sk.	Ramnagar, April 6.	Hume Coll.
v. ♂ imm. sk.	Saharunpur.	Hume Coll.
w. Ad. sk.	Agra.	Hume Coll.
x. ♂ ad. sk.	Oudh, Jan.	Hume Coll.
y, z, a'. ♂ ad. sk.	Oudh.	Pinwill Coll.
b'. Ad. sk.	Bengal ( <i>Dr. Falconer</i> ).	India Museum [P.]
c'. Ad. sk.	Saugor ( <i>Hooper</i> ).	India Museum [P.]
d', e'. Ad. sk.	Kamptee.	Dr. R. B. Hinde [P.]
f'. ♂ ad. sk.	Malpukur, Jan. 22.	Hume Coll.
g', h'. ♂ ; i', k', l'. ♀ ad. sk.	Khandeish ( <i>J. Davidson</i> ).	Hume Coll.
m', n'. Ad. sk.	Deccan ( <i>Col. Sykes</i> ).	India Museum.
o'. Ad. sk.	Deccan ( <i>Burgess</i> ).	India Museum.
p'. ♂ ; q', r'. ♀ ad. sk.	Ahmednuggur, Jan., Feb. ( <i>S. B. Fairbank</i> ).	Tweeddale Coll.
s', t'. ♂ ♀ ad. sk.	Bangalore ( <i>R. G. W. R.</i> ).	Tweeddale Coll.
u', v'. ♂ ad. sk.	Mysore, May, July.	W. Davison, Esq. [P.]
w', x', y'. Ad. sk.	Malabar.	Tweeddale Coll.
z'. ♂ ad. sk.	Palani Hills, June 5 ( <i>S. B. F.</i> ).	Hume Coll.
a''. ♂ ad. sk.	Anjango, Travancore, Dec.	Hume Coll.
b''-e''. ♂ ; f''- i''. ♀ ad. sk.	Ceylon, Jan.	Tweeddale Coll.
k'', l''. ♂ ♀ ad. sk.	Ceylon, May ( <i>Hart</i> ).	Hume Coll.
m''. ♂ ♀ ad. sk.	Maunbhoom ( <i>R. C. Beavan</i> ).	Tweeddale Coll.
n''. Ad. sk.	Barrackpore, Nov. ( <i>R. C. B.</i> ).	Tweeddale Coll.

<i>o''</i> . ♀ ad. sk.	Calcutta, Jan. 2.	Hume Coll.
<i>p''</i> . Ad. sk.	Assam ( <i>McClelland</i> ).	India Museum.
<i>q''</i> . ♂ ad. sk.	Tippera.	Hume Coll.
<i>r''</i> . Ad. sk.	Karen Hills ( <i>R. G. W. R.</i> ).	Tweeddale Coll.
<i>s''</i> . Ad. sk.	Tonghoo.	Tweeddale Coll.
<i>t''</i> , <i>u''</i> . Ad. sk.	Thayetmyo ( <i>R. G. W. R.</i> ).	Tweeddale Coll.
<i>v''</i> , <i>w''</i> . ♂ ♀ ad. sk.	Pegu, Feb., Dec.	Oates Coll.
<i>a''</i> . ♀ ad. sk.	Thoungyeen River, Tenasserim, Nov. 4 ( <i>C. T. Bingham</i> ).	Hume Coll.
<i>y''</i> . ♂ ad. sk.	Moulmein, Jan. ( <i>J. Darling</i> ).	Hume Coll.
<i>z''</i> . ♀ ad. sk.	Amherst, Mareh ( <i>W. Davison</i> ).	Hume Coll.

## 22. *Caprimulgus nubicus*.

*Caprimulgus nubicus*, *Licht. Verz. Doubl.* p. 59 (1823); *Cass. Cat. Capr. Ac. Phal.* p. 3 (1851); *Cub. & Heine, Mus. Hein.* iii. p. 89 (1860); *Heugl. Orn. N.O.-Afr.* i. p. 127 (1869); *Blanford, Geol. & Zool. Abyss.* p. 336 (1870); *Salvin, Cat. Strickl. Coll.* p. 376 (1882); *Hartert, Kat. Vogels. Mus. Senck. Frankf.* p. 121 (1891); *id. Ibis*, 1892, p. 280.

*Caprimulgus infuscatus*, *Cretzschm., Rüpp. Atl.* p. 6, pl. vi. (1826); *Rüpp. Syst. Uebers.* p. 21 (1845); *Bp. Consp.* i. p. 59 (1850); *Heugl. Syst. Uebers.* p. 21 (1856); *id. J. f. O.* 1864, p. 244.

*Caprimulgus poliocephalus*, *Heugl. (nec Rüpp.)*, *Ibis*, 1859, p. 339.

*Caprimulgus tamaricis*, *Tristr. P. Z. S.* 1864, pp. 170, 430 (Palestine); *id. Ibis*, 1866, p. 73, pl. ii.; *id. Stray F.* viii. p. 417 (1879); *Gray, Hand-l.* i. p. 56 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 132 (1869); *Finsch & Hartl. Vög. O.-Afr.* p. 125 (1870); *Cub. J. f. O.* 1878, p. 236 (E. Afr.); *Gigl. Ibis*, 1881, p. 191 (Italy?); *Schalow, J. f. O.* 1883, p. 351 (E. Afr.); *Böhm, J. f. O.* 1883, p. 176.

Above brownish grey to greyish brown with longitudinal blackish streaks, especially visible on the top of the head: a pale orange-buff or yellowish-buff collar speckled with dark brown round the hind neck; some buff spots on the head, neck, scapulars, and wing-coverts; two outer rectrices with white tips for about one inch and more; chin and large spot on each side of the lower surface of the neck white; breast mixed brownish, greyish, and isabelline; abdomen distinctly barred; lower tail-coverts uniform; the first four primaries with large white spots, the next ones reddish with greyish-brown tips and deep brown spots. Total length about 9 inches, wing 5.7 to 5.9, tail 4.3, culmen 0.35, tarsus 0.8, not feathered except on the uppermost part.

The sexes are probably not different.

One of Rüppell's specimens (his *C. infuscatus*) is more uniform and more isabelline above, and is probably a younger individual; the white spots on the primaries and on the rectrices are less pure.

I have seen typical specimens of *C. nubicus*, Licht., in the Berlin Museum, and have had the opportunity of comparing the types of Rüppell's *C. infuscatus* as well as that of *C. tamaricis* of Tristram and all Heuglin's specimens in the Stuttgart Museum. I have come to the conclusion that they undoubtedly belong to one species. *C. nubicus*

very much resembles *C. asiaticus*, but can easily be distinguished by the larger size of the white spots on the primaries, the white chin, and the more subdued colour of the scapulars.

*Hab.* Shoa, Nubia, and Palestine (will probably be found in some parts of Arabia).

*a.* ♂ ad. sk. Palestine. Canon Tristram [C.]  
*b.* ♀ ad. sk. Zoulla, Abyssinia, Feb. 10. W. T. Blanford, Esq. [P.]

### 23. *Caprimulgus mahrattensis*.

*Caprimulgus mahrattensis*, *Sykes, P. Z. S.* 1832, p. 83 (Deccan); *id. Journ. As. Soc. Beag.* 1834, p. 422; *Blyth, Cat. B. Mus. As. Soc.* p. 83 (1849); *Gould, B. Asia*, i. pl. 19 (1850); *Bp. Consp.* i. p. 60 (1850); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 114 (1854); *Blyth, Ibis*, 1862, p. 304; *Jerd. B. India*, i. p. 197 (1862); *Gray, Hand-l.* i. p. 57 (1869); *Hayes Lloyd, Ibis*, 1873, p. 406; *Hume, Str. F.* i. p. 167 (1873), vii. p. 161 (1878; Sindh); *Bull. Stray F.* iii. p. 455 (1875); *id. op. cit.* ix. p. 381 (1880); *Fairb. Str. F.* iv. p. 254 (1876); *Blanf. E. Persia*, ii. p. 128 (1876); *Doig, Str. F.* viii. p. 372 (1879; E. Narra, breeding); *Davidson, Str. F.* x. p. 295 (1882); *St. John, Ibis*, 1889, p. 156; *Barnes, J. Bombay N. H. Soc.* iv. pl. i. (1889; eggs); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 49 (1890).

*Caprimulgus arenarius*, *Blyth, Ibis*, 1862, p. 386.

*Adult male.* In general coloration very similar to the larger *C. aegyptius*, from which it differs at a glance by the colour of the primaries. The colour of the upper parts is exactly like that of the ordinary dark specimens of *C. aegyptius*, and that of the under surface does not differ perceptibly. The wing is much shorter; the first three primaries deep brown, rufous isabelline near the base, and with large white spots in the middle of the feather; on the first primary the white spot is clearly defined on the inner web and a part of the shaft only, but always reaches the shaft; on the second and third it is spread over both webs; the other quills are deep brown, bordered and spotted with rufous-buff; the two outermost rectrices are white for at least one third of their length, these white spots more or less distinctly bordered with pale isabelline. Total length about 9.5 inches, wing 6.8, tail 4.1; tarsus not feathered in front except on the uppermost part, 0.7 inch in length.

*Adult female.* Similar to the male, but having the two outermost rectrices unbanded for about half an inch only, and pale sandy isabelline instead of white; the white spots on the primaries generally less pure.

*Young.* Young individuals are paler, the dark markings and the white spots on the throat less pure, the abdomen indistinctly banded. Young males have the white spots on the tail and primaries well developed, and differ from young females in the same way as the adult.

*Hab.* Afghanistan and the plains of N.W. India as far south as the Deccan.

*a. b.* ♀ ad. sk. Afghanistan (*Griffith*). India Museum [P.]  
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c-g. ♂ ; h. ♀ ad. sk.	Sindh, April to July ( <i>A. O. H.</i> ).	Hume Coll.
i. ♂ ad. sk.	Kummel Khan, Sindh, Jan. 24.	Hume Coll.
k. ♂ ad. sk.	Mittenkote, Sindh, Jan. 13 ( <i>A. O. H.</i> ).	Hume Coll.
l. ♀ ad. sk.	Cutch, Jan. ( <i>F. Stoliczka</i> ).	Hume Coll.
m. ♀ ad. sk.	Gondul, Kattiawar, Dec. 1.	Col. Hayes Lloyd [P.].
n. ♂ ad. sk.	Guzerat.	Hume Coll.
o. ♂ ad. sk.	Ahmedabad, Feb. 10.	Hume Coll.
p, q. ♂ ♀ ad. sk.	Delhi ( <i>C. T. Bingham</i> ).	Hume Coll.
r. ♂ ad. sk.	Bhawulpur, Feb. 14 ( <i>C. H. T. Marshall</i> ).	Hume Coll.
s, t. ♂ ♀ ad. sk.	Umballa, Feb. ( <i>Dr. Scott</i> ).	Tweeddale Coll.
u-z. ♂ ad. et imm.; a'. ♀ ad. sk.	Sirza District, Feb., July.	Hume Coll.
b'. ♂ ad. sk.	Peshawar.	Col. Wade [P.].
c'. ♀ ad. sk.	Khandeish, Dec. ( <i>J. Davidson</i> ).	Hume Coll.
d'. ♀ imm. sk.	Deccan ( <i>Col. Sykes</i> ).	India Museum.

(Type of species.)

24. *Caprimulgus ægyptius*\*.

*Caprimulgus ægyptius*, *Licht. Verz. Doubl.* p. 59 (1823); *Cass. Cat. Caprim. Coll. Ac. Philad.* p. 3 (1851); *Cab. & Heine, Mus. Hein.* iii. p. 89 (1860); *Gray, Hand-l.* i. p. 56 (1869); *Shelley, B. Egypt*, p. 175, pl. viii. (1872); *Heugl. Orn. N.O.-Afr.* i. p. 127 (1874); *Seeb. Ibis*, 1877, p. 163 (Heligoland); *id. Ibis*, 1882, p. 424; *id. Hist. Brit. B.* ii. p. 315 (1884); *Gigl. Ibis*, 1881, p. 191 (Malta); *Dresser, Hist. B. Eur.* iv. p. 629, pl. 272 (1881); *Whitaker, Zoologist*, 1883, p. 374 (England); *Gurney, Ibis*, 1884, p. 173 (England); *Koenig, J. f. O.* 1888, p. 165 (Tunis); *Gigl. Avif. Ital.* i. p. 330 (1889) *Gätke, Heligoland*, p. 443 (1891).

*Caprimulgus isabellinus*, *Temm. Pl. Col.* 379 (1825); *Less. Traité d'Ornith.* p. 266 (1831); *Rüpp. Syst. Uebers. Vög. N.O.-Afr.* p. 22 (1845); *Bp. Consp.* i. p. 60 (1850); *Malk. Faun. Ornith. Algér.* p. 9 (1855); *Loche, Cat. Mamm. et Ois. Algér.* p. 97 (1858); *id. Expl. Sci. Algér., Ois.* ii. p. 105 (1867); *Taylor, Ibis*, 1859, p. 46 (Egypt); *Adams, Ibis*, 1864, p. 13 (Egypt); *Koenig-Warth, J. f. O.* 1868, p. 366 (nidific.); *Shelley, Ibis*, 1871, p. 47; *Severtz, J. f. O.* 1875, p. 179.

*Caprimulgus arenicolor*, *Severtz. Ibis*, 1875, p. 491 (Turkestan) (type examined); *Dresser, Ibis*, 1876, p. 190; *Seeb. Ibis*, 1877, p. 163.

*Caprimulgus asiaticus* (*nec Lath.*), *Sharpe, Trans. Linn. Soc.* v. pt. 3, p. 83 (1889).

*Adult.* The colour of the upper surface is a beautiful mixture of greyish isabelline, sandy buff, and blackish brown, the general appearance being sandy isabelline; on the top of the head and on the scapulars larger blackish spots are developed, the tail is banded with the same colour, the outer rectrices are more or less uniform

\* *Koenig-Warth, J. f. O.* 1868, p. 367, mentions an egg of *Capr. fasciatus*, *Hempr. & Ehr. and Thienem. MS.*, as probably belonging to *C. ægyptius*. *Herr Matschie*, of the Berlin Museum, kindly informs me that the egg mentioned *l. c.* is not in the Museum, and that *Hempr. & Ehr.* did not collect any other species of Goatsucker but *C. infuscatus (nubicus)*. Therefore it is probable that *C. fasciatus* is merely a *lapsus calami* for *C. infuscatus*.

on the tips; primaries deep brown, the outer webs spotted or banded with brownish buff; inner webs white along the inner margin, this colour forming deep sinuations not quite reaching the shaft and leaving the tips dark for one or two inches; two white spots on the throat; abdomen pale sandy isabelline, narrowly barred with blackish, becoming more or less uniform on the lower abdomen and under tail-coverts, the longest of which generally again show distinct bars. Total length about 10·5 inches, wing 7·6 to 8·2, tail 5·1, tarsus 0·8, the latter not feathered in front except on the uppermost part.

The *female* does not differ from the male.

*Younger* birds are more rufous in colour, but otherwise do not differ from adult specimens.

Some specimens are more isabelline than others, but no local form is recognizable.

*Hab.* From Algiers and Tunis to Egypt and Nubia; from Krasnowodsk on the Caspian Sea throughout Turkestan, Afghanistan, and Baluchistan. It has occurred as a straggler on Malta and Sicily, and has been shot once in England and also on Heligoland.

a. Ad. sk.	Egypt.	Purchased.
b. ♂ imm. sk.	Egypt, April 6.	Shelley Coll.
c. ♂ ad. sk.	Fayoom, March 4.	Shelley Coll.
d, e. ♂ ad. sk.	Fifth Cataract of the Nile.	Sir F. Galton [P.].
f. Ad. sk.	Abyssinia.	Old Coll.
g, h. ♀ ad. sk.	Fao, Persian Gulf, Aug. 26.	W. D. Cumming, Esq. [P.].
i, k. ♂ ♀ ad. sk.	Tirphul, N. Afghanistan, April.	Dr. Aitchison [C.].
l, m. ♂ ♀ ad. sk.	Lower Oxus, Aug., Oct.	Dr. Severtzoff [C.].

## 25. *Caprimulgus eximius*.

*Caprimulgus eximius*, *Temm. Pl. Col.* 398 (*ex Rüpp. MS.*) (1826); *Rüpp. Syst. Uebers.* p. 22 (1845); *Bp. Consp.* i. p. 60 (1850); *Heugl. Journ. f. Orn.* 1864, p. 254; *id. Orn. N.O.-Afr.* i. p. 130 (1869); *Hartert, Katal. Vogels. Mus. Senck.* p. 121 (1891); *id. Ibis*, 1892, p. 279, pl. vi.

*Adult.* Above golden buff, almost chestnut-buff on the back and rump, all the feathers ornamented with white bars or spots, which are speckled with black; quills brown, with chestnut-buff bars and large white spots to the first three primaries; upper wing-coverts like the back, edged with whitish; rectrices pale chestnut-buff with whitish bars, which are speckled with black, outer ones with uniform blackish-brown bars, the two outermost on each side with large white terminal patches; throat and breast like the upper parts, the greater part of the throat occupied by a large, almost triangular spot of silky white; abdomen very pale isabelline buff, becoming whitish on the under tail-coverts; under wing-coverts buff; rectrices underneath pale buff with blackish bars; the bases of all the feathers blackish; bill and legs pale. Total length about 9·5 inches, wing 7, tail 4·5, tarsus about 0·7, culmen 0·4. (Described from a typical specimen in the Frankfort Museum.)

A second specimen, without white patches to the outer rectrices, is probably a female.

*Hab.* Only found in Sennaar by Dr. Rüppell, and never procured since. Specimens are in the Frankfort and Leyden Museums.

### 26. *Caprimulgus natalensis*.

*Caprimulgus natalensis*, *Smith, Ill. Zool. S. Afr., Birds*, pl. 99 (1845); *Bp. Consp.* i. p. 60 (1850); *Cass. Cat. Caprim. Ac. Nat. Sc. Philad.* p. 3 (1851); *Gurney, Ibis*, 1859, p. 243, 1860, p. 204 (Natal); *id. Ibis*, 1868, p. 151; *Gray, Hand-l.* i. p. 58 (1869); *Finsch & Hartl. Vög. O.-Afr.* p. 122 (1870); *Sharpe, ed. Layard's B. S. Afr.* p. 88 (1873).

*Adult male.* A narrow line on the forehead and supraloral streak isabelline; centre of the crown black, streaked with clear brown; the sides of the crown mixed with silvery grey; back and rump deep chocolate with reddish-brown spots; scapulars and wing-coverts lighter and darker brown mixed with blackish; central rectrices blackish brown, crossed by darker-speckled light bars; two outer rectrices on each side blackish at base, about the terminal half (a little more on the first and a little less on the second) of the inner web and often the whole of the outer white, shaded with isabelline on the external edges; primaries deep chocolate-brown, ochraceous buff near the base of the inner web, with large white spots tinged with sandy buff on the margins on the first four; a large white spot on the throat, lower throat blackish brown with deep sandy-buff spots; breast deep sandy buff, barred with brown; lower abdomen and under tail-coverts uniform. Total length about 9 inches, wing 6.4, bill 4.2, tarsus 0.8, unfeathered to almost the whole of its length.

*Adult female.* Similar to the male; but distinguishable by the back and rump being a little paler, by the spots on the primaries being smaller and sandy buff, and followed by another sandy-coloured spot nearer to the base. The spot on the throat is also not pure white; and the outer tail-feathers are brown, barred with dull or brownish sandy buff.

*Hab.* S.E. Africa, reoccurring on the Gold Coast.

<i>a, b.</i> ♂ ; <i>c, d.</i> ♀	Natal ( <i>Ayres</i> ).	Sharpe Coll.
ad. sk.		
<i>e.</i> ♂ ad. ; <i>f.</i> ♂	Natal ( <i>McKen</i> ).	Shelley Coll.
imm. sk.		
<i>g, h.</i> ♂ ad. sk.	Port Natal.	Sir A. Smith.
		(Types of the species.)
<i>i, k.</i> ♂ ♀ ad. sk.	Pinetown, Natal, May, June	Shelley Coll.
	( <i>Ayres</i> ).	
<i>l.</i> ♂ ad. sk.	Ninquah, Dec.	Shelley Coll.
<i>m.</i> ♂ ad. sk.	Christiansborg, Gold Coast, Jan.	Shelley Coll.

#### Subsp. *a.* *Caprimulgus fulviventris*.

*Caprimulgus fulviventris*, *Hartl. J. f. O.* p. 102 (Angola).

*Caprimulgus aceræ*, *Shelley, Ibis*, 1875, p. 379 (Accra).

This is merely a northern form of *C. natalensis*, but is less

brilliantly coloured and smaller. The type of *C. fulviventris* is a trifle smaller than *C. natalensis*, with the wing measuring 6 inches; it is somewhat more uniform on the back, neck, and breast. There are also two specimens from Gaboon, male and female, which are similar to the bird from Angola, but are still smaller, the wing measuring 5.5 inches only and the tail 3.6; and then there is a single specimen from Accra (the type of *C. accra*), a very pale bird in somewhat worn plumage, which in size closely resembles the type from Angola, the wing measuring 5.8 inches and the tail 3.9.

I recognize, therefore, a northern form of *C. natalensis*, which I think should bear the name of *C. fulviventris*, its oldest appellation.

More information is much wanted about this form to confirm its validity and to determine its limits. At present I prefer to keep it distinct from the southern *C. natalensis*, but the specimens from Gaboon lead me to unite *C. fulviventris* and *C. accra*.

a. ♂ ad. sk.	Bembe, Angola.	Monteiro Coll. (Type of <i>C. fulviventris</i> , Hartl.)
b. ♀ ad. sk.	Gaboon.	M. A. Bouvier [C.].
c. ♂ ad. sk.	Gaboon.	H. T. Ansell, Esq. [P.].
d. ♂ imm. sk.	Accra ( <i>Smith</i> ).	Sharpe Coll. (Type of <i>C. accra</i> , Shelley.)

## 27. *Caprimulgus carolinensis*.

Le Tette-chèvre de la Caroline, *Briss. Orn.* ii. p. 475 (1760).

*Caprimulgus carolinensis*, *Gm. Syst. Nat.* ii. p. 1028 (1788); *Steph. Gen. Zool.* x. p. 149 (1824); *Wilson, Amer. Orn.* p. 297, pl. 54 (1832); *Aud. Orn. Biog.* i. p. 273, pl. 52, v. p. 401 (1839); *Koenig-Warth. J. f. O.* 1868, p. 368 (nification).

*Caprimulgus lucifugus*, *Bartr. Trav. Florida*, p. 290 (1791).

*Caprimulgus brachypterus*, *Steph. Gen. Zool.* x. p. 150 (1824).

*Antrostomus carolinensis*, *Gould, Icon. Av.* (1838); *Ep. Consp.* i. p. 60 (1850); *Cass. Pr. Ac. Phil.* v. p. 183 (1851); *Cab. & Heine, Mus. Hein.* iii. p. 90 (1860); *Scl. Cat. Am. B.* p. 280 (1862); *Dresser, Ibis*, 1865, p. 470 (Texas); *Salvin, Ibis*, 1866, p. 195; *Scl. P. Z. S.* 1866, p. 136; *Gray, Hand-l.* i. p. 58 (1869); *Coues, Key N. Amer. B.* p. 180 (1872); *Scl. & Salv. Nomencl. Av. Neotr.* p. 96 (1873); *Baird, Brew. & Ridgw. N. Am. B.* ii. p. 410 (1874); *Gundl. J. f. O.* 1874, p. 120 (Cuba); *Merrill, Proc. U. S. Nat. Mus.* i. p. 146 (1878); *Scl. & Salv. P. Z. S.* 1879, p. 531; *Cory, B. Bahamas*, p. 104 (1880); *Nutting, Proc. U. S. Nat. Mus.* vi. p. 375 (1883; Costa Rica); *Cory, B. Ixiti & S. Domingo*, p. 84 (1885); *id. Auk*, 1886, p. 341; *id. B. W. Ind.* i. p. 136 (1889); *Fox, Auk*, 1886, p. 319; *Ridgw. Man. N. Am. B.* p. 298 (1887); *Chapman, Auk*, 1888, p. 272; *Scott, Auk*, 1889, p. 252.

*Adult male.* Bristles of the gape with lateral filaments. Upper parts dark brown much mottled with rufous-brown; black streaks along the top of the head and back, somewhat less longitudinal on the lower rump and upper tail-coverts; some pale ochraceous streaks on the hind neck, forming a kind of very indistinct collar; scapulars with black central spots and rufous-buff markings; upper wing-coverts with rufous-buff terminal spots; quills deep brown, spotted and irregularly barred on the outer and inner webs with ochraceous; rectrices ochraceous, mottled and indistinctly barred

with black, the three outer pairs more or less uniform ochraceous near the tips, about the terminal half or more of the inner webs silky white above, ochraceous-buff from below; lower parts pale fulvous, mottled and barred with blackish; throat with a transverse bar of buff; breast darker; vent and lower tail-coverts more uniform; under wing-coverts deep brown, barred with ochraceous buff. Total length about 11 to 12 inches, wing 8·3 to 8·8, tail 6·2, tarsus 0·8.

*Adult female.* The whole of the tail-feathers mottled, without any white, or uniform ochraceous; the white patches on the outer rectrices vary in extent, sometimes occupying nearly the whole length, the terminal half of the outer web and the tip being sometimes quite uniform, sometimes mottled—the former character denoting the older individuals.

*Hab.* Southern Atlantic and Gulf States of North America and lower Mississippi Valley, north to North Carolina and Southern Illinois, south to Guatemala, Costa Rica, and Colombia; islands of Cuba, Porto Rico, Jamaica, Haiti, and San Domingo, and the Bahamas.

a. ♂ ad. sk.	S. Carolina ( <i>Laurence</i> ).	Slater Coll.
b, c. ♂; d. ♀ ad. sk.	Tarpon Springs, Florida, May ( <i>Scott</i> ).	Salvin-Godman Coll.
e. ♀ ad. sk.	Miami, Florida, April 23 ( <i>Henshaw</i> ).	Salvin-Godman Coll.
f. ♂ ad. sk.	Ocklawaha R., Florida, April 17 ( <i>C. H. Merriam</i> ).	Salvin-Godman Coll.
g-k. ♂; l. ♀ ad. sk.	Da Soto County, Florida, April, June, & Nov. ( <i>Scott</i> ).	Salvin-Godman Coll.
m. ♂; n. ♀ ad. sk.	Corpus Christi, Texas, Oct., Nov. ( <i>F. B. Armstrong</i> ).	Salvin-Godman Coll.
o. ♂ ad. sk.	Hildago, Texas, April 10 ( <i>Armstrong</i> ).	Salvin-Godman Coll.
p. ♀ ad. sk.	San Francisco.	Purchased.
q. ♂ ad. sk.	N. Leon, Mexico, April ( <i>Armstrong</i> ).	Salvin-Godman Coll.
r. ♂ ad. sk.	Sierra S. Domingo, Tehuantepec, Mexico, April ( <i>Richardson</i> ).	Salvin-Godman Coll.
s. ♀ ad. sk.	Dueñas, Guatemala ( <i>O. Salvin</i> ).	Salvin-Godman Coll.
t. ♂ ad. sk.	Costa Rica ( <i>Endrés</i> ).	Salvin-Godman Coll.
u. ♂ ad. sk.	Volcano of Chiriqui ( <i>Arce</i> ).	Salvin-Godman Coll.
v. ♀ ad. sk.	Medellin, U.S. of Colombia ( <i>Salmon</i> ).	Salvin-Godman Coll.
w. ♀ ad. sk.	Samana, San Domingo, Feb. 22 ( <i>McGrigor</i> ).	Salvin-Godman Coll.

### 28. *Caprimulgus rufus*.

Engoulevent roux de Cayenne, *Buff. Hist. Nat. Ois.* vi. p. 545 (1779).

Crapaud volant ou Tette-chèvre de Cayenne, *Daubent. Pl. Enl.* 735 (1783).

The Rufous Goatsucker, *Lath. Gen. Syn.* ii. p. 597 (1783).

*Caprimulgus rufus*, *Bodd. Tabl. Pl. Enl.* p. 46 (1783); *Gen. Syst. Nat.*



- ii. p. 1030 (1788); *Vieill. Nouv. Dict.* x. p. 244; *id. Enc. Méth.* p. 541 (1823).  
*Antrostomus rufus*, *Cass. Proc. Ac. Phil.* v. p. 183 (1851); *Scl. P. Z. S.* 1866, pp. 136, 585; *Scl. & Salv. Nomencl. Av. Neotr.* p. 96 (1873); *Tacz. Orn. Pérou*, i. p. 219 (1884); *Cory, Auk*, 1885, p. 341; *id. B. W. Ind.* i. p. 136 (1889).  
*Antrostomus rutilus*, *Burm. Syst. Ueb. Th. Bras.* ii. p. 385 (1856); *Scl. P. Z. S.* 1872, p. 652 (S. Lucia).  
*Antrostomus ornatus*, *Scl. P. Z. S.* 1866, p. 586, pl. xlv.; *Gray, Hand-l.* i. p. 59 (1869).  
*Antrostomus cortapau*, *Pelz. Orn. Bras.* pp. 13, 53 (1867; *ex Nat. MS.*).

In general appearance similar to *A. carolinensis*, but easily distinguished by the rectal bristles having no lateral filaments, by its smaller size, shorter wings and tail, and generally darker coloration above and somewhat more rufous colour on the lower parts: the white or olivaceous-buff terminal patches on the rectrices are, as a rule, less extended, never occupying more than half the length. Total length about 10.5 to 11 inches, wing 6.8 to 7.4, tail 5.2, tarsus 0.7.

The *female* differs from the male in the same way as that of *C. carolinensis*.

*Young* birds are much lighter, the feathers being whitish buff with a brownish-black rhomboid or rounded spot near the tip and having dusky bases; the lower parts banded. In a more advanced age they are similar to the adult bird, but more rufous.

*Hab.* From Panama throughout the tropical parts of South America.

a. ♀ ad. sk.	Sta. Lucia, W. Ind. ( <i>Semper</i> ).	Sclater Coll.
b, c. ♂ ♀ ad. sk.	Sta. Lucia.	Salvin-Godman Coll.
d. ♂ ad. sk.	South slope of Volcano of Chiriqui, Panama ( <i>Arce</i> ).	Salvin-Godman Coll.
e. ♂ ad. sk.	San Cristobal, Venezuela ( <i>Goering</i> ).	Sclater Coll.
f. Imm. sk.	Caracas, Venezuela.	Tweeddale Coll.
g. ♀ ad. sk.	Pará, Brazil.	Sclater Coll.
h. ♀ imm. sk.	Pará ( <i>Natterer</i> ).	Sclater Coll.
i. ♂ ad. sk.	Pernambuco ( <i>Craven</i> ).	Sclater Coll.
k. Ad. st.	Bahia.	Purchased.
l, m, n. ♂ ad. et imm. sk.	Bahia, Brazil ( <i>Wucherer</i> ).	Sclater & Salvin-Godman Colls.
o, p. ♀ ad. sk.	Rio Janeiro.	Sclater Coll.
q, r. ♀ ad. sk.	Brazil.	(Types of <i>C. ornatus</i> , Scl.) Salvin-Godman Coll.
s. ♂ ad. sk.	S. America.	Salvin-Godman Coll.
t. ♀ ad. sk.	S. America.	Tweeddale Coll.

## 29. *Caprimulgus sericeocaudatus*.

*Antrostomus sericeocaudatus*, *Cass. Pr. Ac. Phil.* iv. p. 238, pl. xii. (1850); *Scl. Cat. Am. B.* p. 280 (1862); *id. P. Z. S.* 1866, pp. 137, 585; *Pelz. Orn. Bras.* p. 13 (1867); *Scl. & Salv. Nomencl. Av. Neotr.* p. 96 (1873).

*Adult male.* Deep brown above, the feathers blackish along the

shaft, laterally mottled and barred with pale rufous; top of the head and scapulars lighter, but the black spots much bolder; round the neck a not very obvious band of rufous; primaries deep brown, largely spotted with rufous on the outer webs, the secondaries spotted on both webs; rectrices deep brown mottled with rufous, the three outer pairs broadly tipped with silky white fringed with rusty, the white tips largest on the outer pair; lower parts deep brown, barred with pale rufous or buff, and with large buff terminal spots to the feathers. Total length about 12 inches, wing 7·3, tail 6, tarsus 0·8; longest rectal bristles nearly 1½ inches in length.

*Hab.* South America (Brazil). (? Venezuela.)

a. ♂ ad. sk.

S. America.

Sclater Coll.

### 30. *Caprimulgus salvini*.

*Antrostomus macromystax*, Baird, *Brew. & Ridgw. (nec Wagl.)*

*Amer. B.* ii. p. 409 (1874); *Ridgw. Man. N. Am. B.* p. 298 (1887).

*Caprimulgus salvini*, Hartert, *Ibis*, 1892, p. 287.

*Adult male.* Above deep brown, mottled with pale rufous-brown and with longitudinal black streaks; sides of the crown strongly mottled with whitish, feathers of the crown with large black terminal spots; a narrow rufous collar round the neck; scapulars very boldly marked; primaries deep brown, spotted with rufous on both webs; innermost secondaries whitish at the tips and margins; three outer tail-feathers largely tipped with white, these white spots being largest on the lateral rectrices; two central pairs blackish, irregularly barred and mottled with pale rufous; sides of the head blackish, spotted with rufous; a large black malar patch; lower parts deep brown, mottled with pale rufous and largely tipped with buffy white terminally; feathers above the rufous collar on the lower neck very large, tipped with buffy white and with a narrow terminal line of black; middle of the throat without whitish colour; lower under wing-coverts deep brown, largely tipped with rufous-buff. Total length about 10 to 10·5 inches, wing 6·7, tail 5·5, tarsus 0·78; longer rectal bristles 1·4 to 1·6.

*Adult female.* Differs from the male in having the three outer rectrices tipped with buff.

*Hab.* Mexico and Yucatan.

a. ♂ ad. sk. Nuevo Leon, Mexico (*F. B. Armstrong*). Salvin-Godman Coll.

b. ♂ ad. sk. Merida, Yucatan, Jan. 7 (*G. F. Gaumer*). Salvin-Godman Coll.

### 31. *Caprimulgus vociferus*.

*Caprimulgus vociferus*, Wilson, *Amer. Orn.* v. p. 71, pl. 41 (1812); *Thienem. Fortpfl. Vög.* pl. xlii. fig. 17 (1854; egg); *Ridgw. Proc. U. S. Nat. Mus.* iii. p. 5 (1880); *Laur. Auk*, 1885, p. 272; *Agersborg, Auk*, 1885, p. 283 (S.E. Dakota).

*Caprimulgus clamator*, Vieill. *Nouv. Dict.* x. p. 234 (1817) (pt.).

*Antrostomus vociferus*, *Bp. Comp. List.* p. 8 (1838); *id. Consp.* i. p. 60 (1850); *Cass. Cat. Caprim. Ac. Nat. Sc. Philad.* p. 13 (1852); *Baird*,

*B. N. Amer.* p. 148 (1860); *Scl. & Salv. Ibis*, 1860, p. 275 (Guatemala); *id. Nomencl. Av. Neotr.* p. 96 (1873); *Scl. Cat. Am. B.* p. 280 (1862); *id. P. Z. S.* 1866, p. 137; *Blakist. Ibis*, 1863, p. 55; *Baird, Brew. & Ridgw. N. Am. B.* ii. p. 413 (1874); *Merrill, Proc. U. S. Nat. Mus.* i. pp. 143, 146 (1878); *Salvin, Cat. Strickl. Coll.* p. 379 (1882); *Sumichr. Naturaleza*, v. p. 249 (1882; Mexico); *Ridgw. Proc. U. S. Nat. Mus.* ix. p. 158 (1886; Puebla); *id. Man. N. Amer. B.* p. 299 (1887); *Brewst. Auk*, iii. p. 104 (1886; North Carolina); *Rives, tom. cit.* p. 156; *Lloyd, Auk*, 1887, p. 191 (W. Texas); *Richmond, Auk*, 1888, p. 21; *Chapman, Auk*, 1888, p. 272 (Florida); *Evermann, Auk*, 1889, p. 22; *Cory, Auk*, 1889, p. 276 (Porto Rico).

Caprimulgus vociferans, *Koenig-Warth. J. f. O.* 1868, p. 369.

*Adult male.* Crown ashy, minutely sprinkled with dusky, very narrowly streaked with black on the sides and very broadly in the middle; mantle somewhat darker ashy, narrowly streaked with black; scapulars with very bold black spots and pale outer margins; quills deep blackish brown, spotted and irregularly banded with ochraceous on the outer and inner webs; about the terminal third or more of the inner web of the outermost tail-feather, a much smaller part of the outer web of the same tail-feather, a little more than the terminal third of the following two pairs of rectrices snowy white above, often margined with buff, pale buff below; two central pairs of rectrices grey, mottled and irregularly barred with black and buff; chin and upper throat black, narrowly barred with pale ochraceous; a broad band of white or buffy white across the lower part of the throat; breast mottled greyish, brownish, and whitish; abdomen similar but appearing almost buff from the broad terminal patches of the last-named colour: under wing-coverts almost pale ochraceous, bases of the feathers dusky like those of the feathers of the whole upper and lower plumage. Total length about 9.5 to 10 inches, wing 5.8 to 6.3, tail 5.1 to 5.5.

*Adult female.* Differs in having only broad buff edges to the three outer pairs of rectrices.

*Hab.* Eastern United States of North America, north to Nova Scotia, New Brunswick, west to Manitoba and the edge of the Great Plains; south in winter throughout Mexico to Guatemala.

a. ♂ ad. sk.	N. America ( <i>Henshaw</i> ).	Salvin-Godman Coll.
b. ♀ ad. sk.	Fort Dufferin.	N. A. Boundary Comm. [P.].
c. ♂ ad. sk.	Chicago, Ill. ( <i>Baird</i> ).	Slater Coll.
d. ♀ ad. sk.	Englewood, Ill. ( <i>Nelson</i> ).	Salvin-Godman Coll.
e. ♀ ad. sk.	Evanston, Ill., May 7 ( <i>Frank L. Rice</i> ).	Salvin-Godman Coll.
f. ♀ ad. sk.	Michigan.	Prof. Steers [P.].
g. ♀ ad. sk.	Grantville, Mass., July 12 ( <i>Henshaw</i> ).	Salvin-Godman Coll.
h-l. ♂ ♀ ad. sk.	New Haven, Conn., May, June ( <i>Hart Merriam</i> ).	Salvin-Godman Coll.
m. ♂ : n, o. ♀ ad. sk.	Washington, D. C., April, May ( <i>Henshaw</i> ).	Salvin-Godman Coll.
p. ♀ ad. sk.	Texas ( <i>Lawrence</i> ).	Slater Coll.

q. ♀ ad. sk.	Brownsville, Texas, April (F. B. A.).	Salvin-Godman Coll.
	<i>B. Armstrong</i> ).	
r. ♂ ; s. ♀ ad. sk.	Hidalgo, Texas, April (F. B. A.).	Salvin-Godman Coll.
t. ♂ ad. sk.	Corpus Christi, Texas (F. B. A.).	Salvin-Godman Coll.
u. ♂ ad. sk.	San Patricio, Texas, Dec. (F. B. A.).	Salvin-Godman Coll.
v. ♂ imm. sk.	Rio Fuerte, Sinaloa, Mexico (Lloyd).	Salvin-Godman Coll.
w. ♀ ad. sk.	Sierra de Tepic, Mexico, April.	Salvin-Godman Coll.
x. ♂ ad. sk.	Jalapa, Mexico ( <i>De Oca</i> ).	Selater Coll.
y, z. ♂ ; a'. ♀ ad. sk.	Coban, Vera Paz, Nov.-Feb. ( <i>O. Salvin</i> ).	Salvin-Godman Coll.
b'. ♂ ad. sk.	Sonteh, Guatemala ( <i>O. Salvin</i> ).	Salvin-Godman Coll.
c'. ♂ ad. sk.	San Geronimo, Vera Paz ( <i>O. Salvin</i> ).	Salvin-Godman Coll.
d', e', f'. ♂ ad. sk.	Guatemala.	
g'. ♀ ad. sk.	La Libertad, Salvador, Feb. ( <i>Richardson</i> ).	Salvin-Godman Coll.

Subsp.  $\alpha$ . **Caprimulgus macromystax.**

*Caprimulgus macromystax*, *Wagl. Isis*, 1831, p. 533.

*Antrostomus macromystax*, *Scl. P. Z. S.* 1858, p. 296, 1866, p. 137 ;

*Hartert, Ibis*, 1892, p. 286.

*Antrostomus vociferus arizonæ*, *Brewst. Bull. Nutt. Orn. Club*, vi. p. 69 (1881 ; Chichuahua) ; *Scott, Auk*, 1886, p. 429 ; *Ridgw. Man. N. Am. B.* p. 299 (1887).

In general appearance entirely similar to *C. vociferus* but larger, the white patch on the rectrices of the male less in extent ; ear-coverts somewhat more tawny, and the black markings on the top of the head less median, being rather scattered over the whole of the top of the head. Total length 9.7 to 10.2 inches, wing 6 to 6.6, tail 5.3 to 5.6 ; rictal bristles longer than in *C. vociferus*, the longest often 1.8 inches or more.

Intermediate forms between the two races seem to be by no means infrequent.

*Hab.* Tableland of Mexico, north to Southern Arizona, south to Vera Paz and Guatemala.

a. ♀ ad. sk.	Mexico.	Tweeddale Coll.
b, c, d. ♂ ♀ ad. sk.	Mexico.	Sharpe Coll.
e. ♂ imm. sk.	Mexico.	Gould Coll.
f. ♀ ad. sk.	Mexico ( <i>Eluces</i> ).	Selater Coll.
g. ♂ ad. sk.	Mexico ( <i>Sallé</i> ).	Selater Coll.
h. ♂ ad. sk.	Sierra de Valparaiso, Aug. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
i. ♂ ad. sk.	Sierra de Bolaños, Mexico, Feb. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
k. ♂ ad. sk.	Ajuseo, Valley of Mexico, Sept. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
l. ♂ ad. sk.	Tenango del Valle, Mexico, Oct. 11 ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
m. ♂ ad. sk.	Rio Frio, Iztaccihuatl, Mexico, Sep. 24 ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.

n. ♀ ad. sk.	Zapotlan, Jalisco, Mexico, May ( <i>Lloyd</i> ).	Salvin-Godman Coll.
o. ♂ ; p. ♀ ad. sk.	Volcan de Colima, Mexico, Feb. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
q. ♂ ad. sk.	Amula (6000 feet), Guerrero, Mexico, Aug. ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
r. ♂ ; s. ♀ ad. sk.	Oaxaca, Mexico.	Tweeddale & Salvin- Godman Colls.
t. ♂ ad. sk.	Coban, Vera Paz ( <i>O. Salvin</i> ).	Salvin-Godman Coll.
u. ♀ ad. sk.	Santa Barbara, Vera Paz ( <i>R. Owen</i> ).	Salvin-Godman Coll.
v, w. ♂ ad. sk.	Volcan de Fuego, Guatemala, 7-8000 feet, Sept. 4 ( <i>O. Sal- vin</i> ).	Salvin-Godman Coll.
x. ♂ ad. sk.	Guatemala.	Goold Coll.

### 32. *Caprimulgus cubanensis*.

*Caprimulgus vociferus*, *D'Orb. (nec Wils.) in La Sagra's Hist. Nat. Cuba, Ois.* p. 98 (1840); *Lemb. Aves Cuba*, p. 130 (1850).

*Antrostomus vociferus*, *Gundl. (nec Wils.) J. f. O.* 1856, p. 6; *Brewer, Pr. Bost. Soc. Nat. Hist.* vii. p. 306 (1860).

*Antrostomus cubanensis*, *Lawr. Ann. Lyc. Nat. Hist. N. Y.* 1862, p. 260; *Gundl. Repert. Fisico-Nat. Cuba*, i. p. 283 (1865); *id. J. f. O.* 1874, p. 120; *Sci. P. Z. S.* 1866, p. 585; *Gray, Handl. B. i.* p. 59 (1869); *Cory, B. W. Ind.* p. 137 (1889).

*Antrostomus macromystax*, var. *cubanensis*, *Baird, Brew. & Ridgw. Hist. N. Am. B.* ii. p. 409 (1874).

*Adult.* Upper plumage dark ashy, minutely mottled with dull rufous and grey, the feathers conspicuously marked with longitudinal stripes of black in their centres; a line from the bill over the eye and along the crown greyish white, tinged with pale rufous and intermixed with black; wing-coverts of the same colour as the back, some of them marked near their ends with ochraceous spots; primaries dark reddish brown, sprinkled with dull rufous and grey at their ends, and having bright rufous spots arranged regularly on their outer webs, with spots also on their inner webs, more obscure in colour and assuming a mottled form; secondaries dark brown, mottled with grey on the outer web and tinged with rufous on the inner one; tail deep brown, four outer tail-feathers tipped with white in the male, three outer ones tipped with buff in the female; throat dark brown, minutely freckled with rufous, the neck immediately below this colour crossed with a band of pale rufous; a line of pale rufous-white or ochraceous spots extending along below the under mandible, and down the side of the neck; a few spots of white in a line below the eye; on the side of the neck enclosed by these spots and the band across the throat is a triangular blackish-brown patch, speckled with rufous; sides of the head brown, freckled with minute rufous spots; feathers of the breast and abdomen ochraceous white, more or less tinged with rufous, and having their centres dark brown and their sides and ends

barred and mottled with the same colour, the exposed ends of the feathers being but little mottled, thus giving quite a light appearance to the under plumage; lower part of the abdomen and under tail-coverts dull pale rufous, the feathers of the latter with dark markings along their shafts; under wing-coverts brown mottled with rufous. Tarsi clothed in front with rufous-brown feathers; some of the rictal bristles nearly two inches in length, and furnished with lateral filaments; feet brown. Total length about  $10\frac{1}{2}$  to 11 inches, wing 7 to 7.25, tail 5.5 to 5.7, longer rictal bristles 1.8 to 2.

I have not been able to examine a specimen of this species.

*Hab.* Cuba.

### 33. *Caprimulgus saturatus*.

*Antrostomus saturatus*, *Salvin*, *P. Z. S.* 1870, p. 203.

*Antrostomus rufomaculatus*\*, *Ridgw. Proc. U. S. Nat. Mus.* xiv. p. 466 (1891; Costa Rica).

*Adult male.* General plumage brownish black spotted with rusty, the spots mostly somewhat transverse in form, broader and paler on the posterior underparts; primaries black, uniform on the inner webs, spotted with rusty on the outer webs; tail black, banded with light rusty, the three outer pairs of rectrices broadly tipped with white across both webs; no distinct pale patch on the throat. Total length about 8.7 inches, wing 6, tail 4.6.

*Hab.* Volcan de Irazu, Costa Rica, and Volcan de Chiriqui, Panama.

*a.* ♂ ad. sk. Volcano of Chiriqui (*Arce*). Salvin-Godman Coll.  
(Type of the species.)

### 34. *Caprimulgus nigrescens*.

*Caprimulgus nigrescens*, *Cab. in Schomb. Guiana*, iii. p. 710 (1848).

*Antrostomus nigrescens*, *Cab. & Heine, Mus. Hein.* iii. p. 91 (1860);

*Scl. P. Z. S.* 1866, p. 138; *Scl. & Salvin, P. Z. S.* 1867, p. 583

(Para); *id. Nomencl. Av. Neotrop.* p. 96 (1873); *Tacz. Orn. Pér.*

i. p. 218 (1884); *Salvin, Ibis*, 1885, p. 438 (B. Guiana).

*Stenopsis nigrescens*, *Scl. Cat. Am. B.* p. 280 (1862); *Pelz. Orn.*

*Bras.* p. 12 (1867); *Gray, Hand-l. i.* p. 59 (1869).

*Caprimulgus semitorquatus*, *Gray (nec Gm.!), Gen. B.* i. pl. xvii. (1845).

*Adult male.* Above brownish black, spotted with pale rufous or buff; a superciliary stripe of buff spots; wing-coverts with larger spots; scapulars with a greyish tint, some feathers with conspicuous broad rufous-buff margins to the outer webs; primaries brownish black, with a white spot in the middle of the second, third, and fourth, sometimes indistinct on the second quill; secondaries minutely spotted with rufous; rectrices brownish black, two cen-

\* Mr. Salvin has kindly shown me the type of *A. rufomaculatus*, lent to him by the U. S. Nat. Museum. It is absolutely identical with *C. saturatus* (Salvin).

tral pairs with broad irregular bars of greyish brown, three outer pairs with narrower rufous-brown bands, the second and third outer pair tipped with white for about half an inch; lower parts dark brown, barred with pale brown, somewhat broader and more whitish on the breast; a band of white, sometimes more or less interrupted in the middle, across the throat. Total length about 7.5 inches, wing 5.5, tail 3.9, tarsus 0.5.

*Adult female.* Similar to the male, but without white spots to the primaries, and without white tips to the rectrices.

*Hab.* The greater part of Tropical South America: Peru, Ecuador, Colombia, Guiana, Brazil.

<i>a, b, c.</i> ♂ ; <i>d, e.</i> ♀ ad. sk.	Bogotá, Colombia.	Selater & Salvin-Godman Colls.
<i>f, g.</i> ♂ ♀ ad. sk.	Sarayacu, Ecuador ( <i>C. Buckley</i> ).	Salvin-Godman Coll.
<i>h.</i> ♂ ad. sk.	Río Negro, Oct. 2 ( <i>Natterer</i> ).	Selater Coll.
<i>i.</i> ♂ ad. sk.	Retreat River, B. Guiana.	Salvin-Godman Coll.
<i>k, l.</i> ♂ ♀ ad. sk.	Bartica Grove, B. Guiana, Jan., Sept. ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
<i>m.</i> ♂ ad. sk.	Camacusa, B. Guiana, April 15 ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
<i>n.</i> ♀ ad. sk.	Pará, Brazil.	R. Graham, Esq. [P.].
<i>o.</i> ♂ ad. sk.	Pará, Brazil ( <i>A. R. Wallace</i> ).	Selater Coll.
<i>p.</i> ♀ ad. sk.	Pará, Brazil ( <i>Natterer</i> ).	Selater Coll.

### 35. *Caprimulgus whitelyi*. (Plate XII.)

*Antrostomus whitelyi*, *Salvin, Ibis*, 1885, p. 438.

*Adult male.* Above similar to *C. nigrescens*, but larger, with the superciliary stripe not visible; on the upper wing-coverts some larger white spots: scapulars not so brightly marked. Beneath, chin and breast black, with some pale fulvous terminal spots; throat white, somewhat interrupted in the middle by brown spotted with buff; entire abdomen brownish black, indistinctly barred with pale fulvous and buffy white: primaries deep blackish brown, with a band of white across the first three; secondaries spotted with buff on the inner webs; rectrices black, the central pair similar to the upper surface, being indistinctly barred on both webs, the outer pairs distinctly barred with buff on the inner webs only; second and third outer tail-feathers on each side subterminally white on the inner webs for about one inch. Total length about 8.5 inches, wing 6.3, tail 4, tarsus 0.51.

*Adult female.* Similar to the male, but the first primary with a narrow fulvous bar on the inner web only; second and third with a narrow fulvous bar on both webs; rectrices with little white only.

Easily distinguished from *C. nigrescens* by the white spots on the rectrices being confined to the inner webs, the abdomen being less distinctly barred, and the female having a fulvous bar across the first primaries.

In the male before me there is no first primary, but I do not

doubt that this also has a white bar, because there is a fulvous one on this same quill in the female.

*Hab.* Roraima Mountain, British Guiana.

*a, b.* ♂ ♀ ad. sk. Roraima, British Guiana, 3500 Salvin-Godman Coll.  
ft., Nov. (*H. Whitely*). (Types of the species.)

### 36. *Caprimulgus parvulus*.

*Caprimulgus parvulus*, *Gould, P. Z. S.* 1837, p. 22; *id. in Darwin's Voy. Beagle*, iii. p. 37 (1841); *Cass. in Gilliss's Expl. Exp.* ii. p. 186 (1856).

*Antrostomus parvulus*, *Bp. Consp.* i. p. 61 (1850); *Burm. La Plata-Reise*, ii. p. 451 (1861); *Scl. P. Z. S.* 1866, p. 138, pl. xiii.; *Scl. & Salv. P. Z. S.* 1867, p. 752 (Xeberos); *id. P. Z. S.* 1873, p. 290; *id. Nomencl. Ar. Neotrop.* p. 96 (1873); *Durnf. Ibis*, 1877, p. 184; *Salvin, Cat. Strickl. Coll.* p. 379 (1882); *Barrows, Auk*, 1884, p. 24 (Uruguay); *Tacz. Orn. Pérou*, i. p. 217 (1884); *Withington, Ibis*, 1888, p. 467; *Scl. & Hudson, Argent. Orn.* ii. p. 14 (1889).

*Stenopsis parvulus*, *Cass. U. S. Expl. Exp.* p. 188 (1858); *Scl. Cat. Am. B. p.* 281 (1862); *Petz. Orn. Bras.* p. 12 (1867).

*Adult male.* Above greyish mottled with brown, the centre of the crown with large longitudinal spots of black; back and rump narrowly streaked with blackish; a distinct pale rufous band, spotted with black, across the back and sides of the neck; greater scapulars with large, somewhat triangular spots of black and broad buff borders to the outer webs; wing-coverts with terminal spots of light buff; primaries deep brown, the first with a large white patch on the inner web, the next three with a large band of white across both webs; secondaries varied with pale rufous or buff; central pair of rectrices greyish, with blackish bars, four outer pairs with broad white markings to the inner webs, the white colour often reaching a little over the shaft into the outer web. Lower parts pale fulvous, barred with dark brown; throat and breast much darker, less thickly barred on the lower abdomen and lower tail-coverts; on the throat a large patch of white. Total length about 7.8 inches, wing 5.4, tail 4, tarsus 0.62.

*Adult female.* Patch on the throat buff; primaries dark brown, with several broad rufous bars and without any white spot; rectrices without white. Wing about 5.2 inches.

*Young males* are similar to the female, but an indication of pale spots is visible at the tips of the outer rectrices. Immature birds are always recognizable by the pale buff edges to the tips of the primaries and by the nuchal collar being hardly perceptible.

*Hab.* Seems to inhabit the greater part of South America, being known from Colombia to Peru, Brazil, and Argentina.

*a.* ♀ imm. sk. Bogota, Colombia. Selater Coll.  
*b.* ♀ ad. sk. Xeberos, E. Peru, Oct. 17 (*E. Salvin-Godman Coll.*  
*Bartlett*).  
*c, d.* ♂ ♀ ad. sk. Chapada, Matto Grosso, Brazil, Salvin-Godman Coll.  
Sept. (*H. H. Smith*).



e. ♂ imm. sk.	Villa Maria, Brazil, Sept. 4	Slater Coll.
	( <i>Natterer</i> ).	
f. ♂ imm. : g. ♀ ad. sk.	Pelotas, Rio Grande do Sul, Brazil ( <i>Joyner</i> ).	Salvin-Godman Coll.
h, i. ♂ ad. sk.	Brazil.	Slater Coll.
k. ♂ imm. sk.	Brazil.	Purchased.
l. ♀ ad. sk.	Brazil ( <i>Natterer</i> ).	Slater Coll.
m. ♀ ad. sk.	Near Santa Fé, R. Parana.	C. Darwin, Esq. [C.] (Type of the species.)

### 37. *Caprimulgus maculicaudus*.

*Stenopsis maculicaudus*, *Laur. Ann. Lyc. N. Y.* vii. p. 459 (1862; Para!).

*Antrostomus maculicaudus*, *Scl. P. Z. S.* 1866, p. 586, pl. xlvi.; *id.* & *Salv. Nomencl. Ac. Neotr.* p. 96 (1873); *Tacz. Orn. Pérou*, i. p. 216 (1884); *Berl. & Leverk. Orn.*, 1890, p. 29.

*Adult male.* Above brown mottled with blackish; top of the head black, with a pale rufous spot on the margins of the feathers; a distinct buff line from the forehead over the eye; a rufous band across the hind neck; scapulars black in the centre, the outer webs with broad buff margins; wing-coverts with buff spots near the tips; primaries deep brown, with from two to six large rufous spots on the inner and outer webs; central pair of rectrices greyish, mottled and barred with black; four outer pairs of rectrices tipped with white, inner webs with two to three round white spots; feathers of the chin and throat buff, deep brown at the bases and tips; the feathers of the breast narrowly barred with black, uniform on the lower abdomen; under wing-coverts buff, barred with brown. Total length about 7 inches, wing 5.1 to 5.2, tail 3.8, tarsus 0.5. (Description of a specimen in the Berlepsch collection.)

*Female.* Similar to the male, but having no white spots on the inner web of the outer rectrices, both webs being brown, irregularly barred with buff.

This species has the first primary exactly as long as or almost longer than the second. The female is very similar to the female of *Stenopsis cayennensis*, but the longer first primary and the shape of the tail, in which the lateral feathers are shorter than the central ones, as well as the distinct buff line over the eye, distinguishes it well enough.

*Hab.* Andes, from Colombia to Peru.

a. ♀ ad. sk.	S. America.	Purchased.
b. ♀ ad. sk.	Peru, July ( <i>H. Whitely</i> ).	Slater Coll.

### 38. *Caprimulgus yucatanicus*.

*Adult female.* Top of the head vinaceous rufous, each feather with a blackish-brown shaft-stripe; back and rump rufous-brown with brownish-black shaft-stripes; all the upper parts very minutely mottled with dusky; scapulars with bolder longitudinal blackish spots; wing-coverts similarly coloured, a series of the middle ones

with whitish spots before the tips, the shafts remaining blackish; primaries deep brown, paler and mottled near the tips, barred with cinnamon across both webs; secondaries similarly coloured, but much mottled with rufous; rectrices deep brown, spotted with pale rufous, uniform towards the tips and broadly tipped with pure white (central pair absent, probably concolorous with the upper parts); lores and cheeks rufous, minutely freckled with dusky; a broad band of white across the throat; the breast of the same colour as the scapulars; shaft-streaks deep brown; abdomen and lower tail-coverts banded with dark brown and pale rufous, pale buff towards the tips; under wing-coverts barred with deep brown and light brown; bases of all the feathers slate-colour. Total length about 8.5 inches, wing 4.25, tail about 3.8, tarsus 0.65, middle toe with claw 0.77, culmen 0.3; rectal bristles more than twice as long as the bill. Feet pale (in skin): "iris dark brown" (*Gaumer*).

This very distinct species has no very near ally. The longitudinal spots of the head alone are sufficient to distinguish it from *C. ocellatus*, which is perhaps the nearest species.

*Hab.* Yucatan.

a. ♀ ad. sk. Tizimin, Yucatan, June 10 (*G.* Salvin-Godman Coll.  
*F. Gaumer*). (Type of the species.)

### 39. *Caprimulgus binotatus*.

*Caprimulgus binotatus*, *Bp. Consp.* i. p. 60 (1850, *ex Temm. MS.*);  
*Hartl. J. f. O.* 1855, p. 355; *id. Orn. W.-Afr.* p. 22 (1857).

*Adult male* (?). Colour deep brownish black: head, neck, back, rump, upper tail-coverts, wing-coverts, throat, breast, and sides of the neck irregularly barred with very narrow and numerous bands of rusty red; cheeks and ear-coverts finely vermiculated with pale rusty; the abdomen more regularly varied with slightly broader vermiculations; under tail-coverts still more broadly barred with deep brown and buff; a pure white spot on each side of the throat; under wing-coverts nearly uniform brown; quills uniform deep brown on the inner webs, spotted with rufous on the outer webs; tail almost square, blackish brown, irregularly and narrowly barred with rusty red; no white on the tail. Wing 6 inches, tail 4.1.

A very singular species, which has no near ally. The tail seems to be emarginate.

*Hab.* Daboerom, Gold Coast (*Mus. Leyden*).

### 40. *Caprimulgus concretus*.

*Caprimulgus concretus*, *Bp. Consp.* i. p. 60 (1850, *ex Temm. MS.*);  
*Hartl. Orn. W.-Afr.* p. 22, note (1857); *Schleg. Handl. Dierk.* i.  
p. 222 (1857); *Salvad. Ucc. Borneo*, p. 118 (1874); *Sharpe, P. Z. S.*  
1875, p. 100, pl. xxii. fig. 2 (Borneo); *id. Ibis*, 1879, p. 250;  
*Vorderm. Nat. Tijdschr. Nederl. Ind.* p. 45 (1890); *Büttik. Not.*  
*Leyd. Mus.* xiii. p. 125 (1891).

*Caprimulgus*, sp., *Scl. P. Z. S.* 1863, p. 212 (Banjermassing).

*Lyncornis borneensis*, *G. R. Gray, Hand-l.* i. p. 62 (1869).

*Caprimulgus borneensis*, *Wall. in Salvad. Ucc. Borneo*, p. 117 (1874);  
*Sharpe, P. Z. S.* 1875, p. 101 (note).

*Adult male.* Above deep blackish brown with rufous-brown spots and very pale margins to some of the scapulars; centre pair of tail-feathers like the back, with interrupted bars of rufous-brown; primaries entirely deep brown, without any spots; throat and breast deep brown, with rufous-brown bars and a very large white spot on the throat; abdomen deep chocolate-brown, with broad whitish-buff bars; outermost rectrices uniform deep brown, tip of the inner web largely white; the next pair of tail-feathers with both webs white at the end. Total length about 9 inches, wing 6.4, tail 6, tarsus 0.55, feathered in front.

*Adult female.* Tail-feathers without large white terminal spot, only with a narrow and indistinct subterminal whitish band.

This species in its coloration almost resembles the smaller species of *Lyncornis*.

*Hab.* Borneo and Billiton.

a, b. ♂ ♀ ad. sk.	Brunei, Borneo.	Gov. Ussher [C.].
c, d, e. ♂ ♀ ad. sk.	Banjermassing ( <i>J. Motley</i> ).	Wallace Coll.
f. ♀ ad. sk.	I. of Billiton, June.	(Types of <i>C. borneensis</i> .) Dr. Vorderman [P.].

#### 41. *Caprimulgus enarratus*.

*Caprimulgus enarratus*, *Gray, Ann. & Mag. Nat. Hist.* 1871, p. 428;  
*Sharpe, P. Z. S.* 1872, p. 867; *Hartl. Vög. Madagascar*, p. 55 (1877); *Milne-Edw. & Grandid. Hist. Nat. Madagascar, Ois.* i. p. 213, pl. lxxix. (1879); *Sibree, Ibis*, 1891, pp. 216, 226.

*Adult.* Top of the head and cheeks lilac-greyish, the former with a series of round spots of deep brownish black, each spot narrowly margined with dark rufous; occiput with a narrow band of buff, reaching from one ear-covert to the other; nape and upper back foxy rufous, the basal part of the feathers dark slate-colour; rump like the top of the head but darker, with some pointed spots on the feathers; upper tail-coverts chestnut, with irregular blackish bars; scapulars deep velvety black, the outer webs of a uniform buff, the inner webs margined deep rufous; tail dusky black, irregularly barred with rufous; the central pair of rectrices rufous, with narrow irregular blackish bars; the two outermost feathers tipped with white; primaries dusky black, the outer webs spotted with pale chestnut, the inner webs without any marks; secondaries deep brown, irregularly banded with rufous; wing-coverts dusky, each feather marked at the end with a blackish spot, margined with buff or rufous; throat rufous-buff; upper breast brightly coloured, but similar to the back; abdomen brownish buff, barred with fuscous. Total length about 10 inches, wing 5.7, tail 4.4, tarsus 0.7, feathered.

Some specimens are conspicuously paler than others.

*Young.* A specimen with many signs of immaturity is much darker, especially on the head, throat, breast, and abdomen, but the tail shows already the white tips of adult specimens.

*Hab.* Eastern parts of Madagascar.

<i>a, b.</i> Ad. sk.	S.E. Madagascar.	Crossley Coll. (Types of the species.)
<i>c.</i> ♀ (?) ad. ; <i>d.</i> Imm. sk.	Madagascar.	Purchased.

#### 42. *Caprimulgus ocellatus*.

*Caprimulgus ocellatus*, *Tsch. Wieg. Arch.* 1844, p. 268 ; *id. Faun. Peruan., Aves*, pl. v. (1846).

*Antrostomus ocellatus*, *Bp. Consp.* i. p. 61 (1850) ; *Burm. Syst. Ueb. Th. Bras.* ii. p. 386 (1856) ; *Cass. U. S. Expl. Exp.* p. 187 (1858) ; *Scl. P. Z. S.* 1866, p. 138 ; *Pelz. Orn. Bras.* p. 13 (1867) ; *Scl. & Salv. Nomencl. Av. Neotr.* p. 96 (1873) ; *Salvin, Cat. Strickl. Coll.* p. 379 (1882) ; *Tacz. Orn. Pérou*, i. p. 215 (1884).  
*Nyctiphrynus ocellatus*, *Gray, Hand-l.* i. p. 59 (1869).

*Adult.* Above dark rufous-brown or deep chocolate-brown, very finely sprinkled or almost powdered with paler rufous ; some more or less concealed buffy spots on the hind neck ; scapulars with rounded velvety black spots before the tips, each surrounded by a rufous ring ; some of the upper wing-coverts with more or less concealed pale buff spots near the tips ; primaries deep brown, with rufous spots to the outer web only ; secondaries with rufous spots to the inner webs also ; central pair of rectrices similar in colour to the upper surface, with narrow, often indistinct bars of blackish ; four outer pairs of rectrices deep brown, spotted with rufous on the basal part, tipped with white for about 0.2 to 0.3 inch, a little broader on the outer ones ; lower parts similar in colour to the upper surface ; a band of pure white across the throat ; breast-feathers more distinctly powdered and narrowly fringed with sandy buff, forming a kind of shield ; feathers of the abdomen with a white or buffy-white spot near the tip, and some indistinct buff bars on the lower tail-coverts and lower wing-coverts. Total length about 8.5 inches, wing 5, tail 4.7, tarsus 0.65.

*Younger birds* are more variegated on the top of the head, and more spotted with buff or white on the upper wing-coverts and abdomen.

*Hab.* Brazil, Peru, and Ecuador.

<i>a.</i> Ad. sk.	South America.	Purchased.
<i>b.</i> Ad. sk.	Brazil.	Gould Coll.
<i>c, d, e.</i> Ad. sk.	Brazil.	Salvin-Godman Coll.
<i>f.</i> Ad. sk.	Brazil ( <i>Natterer</i> ).	Sclater Coll.
<i>g.</i> ♂ ad. sk.	Bahia ( <i>Wucherer</i> ).	Sclater Coll.
<i>h-l.</i> Ad. sk.	Sarayacu, Ecuador ( <i>C. Buckley</i> ).	Salvin-Godman Coll.

43. *Caprimulgus pulchellus*.

*Caprimulgus pulchellus*, *Salvad. Ann. Mus. Civ. Gen.* xiv. p. 195 (1879).

*Adult male*. Top of the head and scapulars grey, spotted and barred with black; an obsolete nuchal collar rufous, banded with black; scapulars partly mottled with rufous, some of the feathers margined with whitish rufous; rump and upper tail-coverts black, mottled with rufous; lower parts varied with dark brown, rufous, and whitish; a patch of white across the throat, bordered with black below; breast ornamented with numerous bands of black, grey, and rufous; the bands broader on the abdomen; abdomen spotted with darker and paler rufous; wings black, wing-coverts and secondaries spotted with rufous; second, third, fourth, and fifth primaries with a white spot in the middle; tail black, crossed by bars of rufous spots; lateral pair of rectrices tipped with white on the inner web, the following pair with a smaller subterminal spot of white; rictal bristles black. Total length about 8.3 inches, wing 6.5, tail 4, tarsus 0.5. (*Salvadori*.)

Somewhat resembling *C. concretus*, but easily distinguished by having white patches on the primaries.

*Hab.* Mount Singalan, W. Sumatra.

I have not seen this species.

## 2. PHALÆNOPTILUS.

Type.

*Phalænoptilus*, *Ridgw. Proc. U.S. Nat. Mus.* iii. p. 5 (1880)..... *P. nuttalli*.

The extremely soft and silky plumage of this genus is very remarkable. The distinctive characters pointed out by Ridgway (*l. c.*) may safely be regarded as sufficient for generic separation. The eggs, which are spotted as a rule in all species of *Caprimulgus*, are of a uniform dead white in the present genus.

*Range*. From Southern Mexico to Oregon and Washington west of the Rocky Mountains in the north.

1. *Phalænoptilus nuttalli* \*.

*Caprimulgus nuttalli*, *Aud. B. Amer.* vii. p. 350, pl. 495 (1843); *Koenig-Warth. J. f. O.* 1868, p. 379 (nidif.).

*Antrostomus nuttalli*, *Cass. Proc. Acad. Philad.* v. p. 183 (1852); *id. Cat. Caprim. Mus. Philad. Acad.* p. 13 (1852); *id. U. S. Expl. Exp.* p. 187 (1858); *Baird, B. N. A.* p. 149 (1860); *Dresser, Ibis*, 1865, p. 470 (Texas); *Coues, Ibis*, 1865, p. 538; *Scl. P. Z. S.* 1866, p. 137; *Gray, Hand-l.* i. p. 59 (1869); *Baird, Brewer, & Ridgw. N. Am. B.* ii. p. 417 (1874); *Ridgw. U. S. Geol. Expl. 40th Par.* iii. p. 567 (1877); *Belding, Proc. U. S. Nat. Mus.* i. p. 427 (1879).

*Phalænoptilus nuttalli*, *Ridgw. Proc. U. S. Nat. Mus.* iii. p. 5 (1880); *id. Man. N. Amer. B.* p. 299 (1887); *Drew, Auk*, 1885, p. 17; *Scott, Auk*, 1885, p. 356 (S. Arizona), 1886, p. 429; *Shufeldt, Auk*, 1885, p. 382; *Hensh. Auk*, 1886, p. 78 (New Mexico); *Evermann*,

\* *Antrostomus californianus*, Bp. *Consp.* i. p. 61, has been quoted as a synonym of the present species, but the description of Bonaparte does not well correspond.

- Auk*, 1886, p. 179 (California); *Townsend, Proc. U.S. Nat. Mus.* x. p. 206 (1887; N. California); *Lloyd, Auk*, 1887, p. 191 (W. Texas); *Mearns, Auk*, 1890, p. 254 (Arizona).  
*Phalacroptilus nuttalli nitidus*, *Brewst. Auk*, 1887, p. 147 (Texas & Arizona); *Ridgw. Man. N. A. B.* p. 588 (1887); *Goss, Auk*, 1889, p. 124, 1890, p. 286 (Kansas); *Harsbrouck, Auk*, 1889, p. 239 (Texas).  
*Phalacroptilus nuttalli californicus*, *Ridgw. Man. N. A. B.* p. 588 (1887); *Chapm. Auk*, 1888, p. 396.

*Adult male.* General colour above dark brownish grey, minutely sprinkled and streaked with black and pale ashy grey; the top of head and the scapulars show very distinct transverse markings, a character that distinguishes the species from all the other American Goatsuckers; transverse markings on the head velvety black, bordered with a line of white; markings on the scapulars and upper wing-coverts bolder and rather arrow-shaped; quills dull cinnamon-colour, barred with deep brown, greyish on the tips; two central rectrices coloured like the upper parts, two lateral pairs with broad, following pair with narrow white edges, which are more or less bordered with shades of buff; throat blackish brown, annulated with pale brown; a broad band of silvery white across the throat; feathers of the breast deep brownish black, with silvery grey tips, mottled with brown; abdomen pale buff, barred with dusky; lower tail-coverts uniform buff; lower wing-coverts dull cinnamon: "bill black; iris dark hazel; feet reddish purple, scales and claws darker" (*Audubon*). Total length about 7.5 inches, wing 5.4 to 5.9, tail 3.7 to 3.9, tarsus 0.65.

*Adult female.* Entirely similar to the male, but the white tips to the outer rectrices generally narrower.

*Young.* Similar to the adult, but having the patch on the throat buff; entire plumage lighter, the black markings being less developed, and more or less overspread and mixed with rusty buff or ochraceous.

Southern and Eastern specimens are perhaps a little smaller and paler on an average, and therefore specimens from Arizona and Texas are distinguished as *P. nuttalli nitidus* by American ornithologists. These characters, however, are so variable that I greatly doubt whether it will be possible to maintain this subspecies even if additional material is studied; I also consider that Californian specimens (*P. nuttalli californicus*, *Ridgw.*) belong to the true *P. nuttalli*. As regards size I find that Californian specimens have the wing from 5.4 to 5.8 inches in length, Colorado specimens 5.5 to 5.9, specimens from New Mexico, Arizona, &c., 5.4 to 5.8.

*Hab.* From Southern and Central Mexico and Texas throughout New Mexico, Colorado, Arizona, and California as far north as Oregon and Washington east of the Rocky Mountains.

<i>a, b.</i> Ad. sk.	California.	Sclater & Tweeddale Colls.
<i>c.</i> ♂ ad. sk.	Honey Lake, California, June 16 ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
<i>d.</i> ♂ ad. sk.	Petaluma, California ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.

e. ♂ ad. sk.	Nicasio, Marin Co., May 27 ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
f. ♂ ad. sk.	San Diego Co. ( <i>C. Hart-Merriam</i> ).	Salvin-Godman Coll.
g. ♀ ad. sk.	San Bernardino Co., Cal., Oct. 20 ( <i>R. B. Herron</i> ).	Salvin-Godman Coll.
h, i. ♂; k. ♀ ad. sk.	Colorado Springs, Col., May & June ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
l. ♀ ad. sk.	Estey's Park, Colorado, May 30 ( <i>Cole</i> ).	Salvin-Godman Coll.
m. ♀ ad. sk.	Grant Co., New Mexico, April 15 ( <i>A. W. Anthony</i> ).	Salvin-Godman Coll.
n. ♀ imm. sk.	Gila River, N. Mexico, Sept. 14 ( <i>Lt. Wheeler</i> ).	Salvin-Godman Coll.
o. ♀ sk.	Santa Fé Mts., N. Mexico, July 27 ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
p. ♀ sk.	Rio Mimbres, New Mexico ( <i>Clark</i> ).	Slater Coll.
q. ♀ imm. sk.	Apache, Arizona, Sept. 16 ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
r. ♂ sk.	Mexico.	Purchased.
s. Ad. sk.	Prov. Guanajuato, Mexico.	Salvin-Godman Coll.

## 3. OTOPHANES.

Type.

*Otophanes, Brewster, Auk, 1888, p. 88* . . . . . *O. macleodi*.

Nostrils somewhat tubular and prominent; very long and curved bristles at the gape; tarsus naked, about equal to the middle toe; tail slightly rounded; second and third primaries equal and longest; somewhat distinct superciliary shields of radiating feathers, terminating on the sides of the occiput in tufts of elongated feathers, erectile in life and similar to the "ear-tufts" in the Scops-Owl; feathers over the eye tipped with a fringe of hair-like bristles.

*Range.* Mexico.

1. *Otophanes macleodi*.

*Otophanes macleodii, Brewst. Auk, 1888, p. 89* (Chihuahua); *Allen, Auk, 1891, p. 320, pl. i.*

*Adult male.* Top of the head sandy brown, minutely mottled with buff and shaded with darker brown; hind neck banded with buff and deep brown; back and rump similar to the crown; scapulars with very large blackish-brown velvety spots, encircled by a buff line; upper wing-coverts with rounded creamy-white spots; primaries deep brown, banded with pale rufous; secondaries similar, but much mottled on the outer webs; innermost secondaries like the scapulars; innermost pair of rectrices coloured like the back and rump, the other pairs deep brown, indistinctly barred with rufous near the base, tipped with white; lower parts paler than the upper surface; a band of silky white across the throat; feathers of the abdomen with a white tip and a dark brown line before the white tip: "iris brown." Total length about 8.5 inches, wing 5.2, tail 4, tarsus 0.6.

*Hab.* Chihuahua and Jalisco, Mexico.

a. ♂ ad. sk. Hacienda de San Marcos, Zapotlan, Jalisco, Mexico, May 11 (W. Lloyd). Salvin-Godman Coll.

This specimen differs from the type, a female, which is in a rather rufous phase of plumage. The more rufous coloration may possibly be peculiar to the female sex.

#### 4. STENOPSIS.

Type.

*Stenopsis*, *Cass. Proc. Ac. Phil.* v. p. 179 (1851) . . . . *S. cayennensis*.

The genus *Stenopsis* is closely allied to *Caprimulgus*, and one species of the latter (*Caprimulgus maculicaudus*) agrees with *Stenopsis* in many points, but on account of the somewhat rounded tail must nevertheless remain with *Caprimulgus*. The most typical species of *Stenopsis* is no doubt *S. cayennensis*, which differs greatly from *Caprimulgus*. The bill is more elongated and not so broad; the nostrils are more exposed; the wing is more rounded; first primary rather broad, almost equal to or very little shorter than the second and third; the tail is perfectly square or distinctly emarginate. The sexes differ obviously.

*Range.* Throughout Southern America, north to Panama, south to Northern Patagonia.

#### *Key to the Species.*

- a. Primaries white at base in the male . . . . . *candicans*, p. 582.
- b. Primaries brown or black at base.
  - a'. Outer tail-feathers in the male white for their greater part . . . . . *cayennensis*, p. 583.
  - b'. Outer tail-feathers in the male with large white terminal spots.
    - a''. General colour above deep brown or blackish . . . . . *ruficervix*, p. 584.
    - b''. General colour above greyish.
      - a'''. Wing about 6·2 inches . . . . . *longirostris*, p. 585.
      - b'''. Wing about 5·4 inches . . . . . *decussata*, p. 586.

#### 1. *Stenopsis candicans*.

Ibiyau alas y cola blancas, *Azara, Apunt.* no. 314 (1805).

*Caprimulgus leucurus*, *Vieill. Nouv. Dict.* x. p. 246, pt. 1 (1817); *id. Enc. Méth.* p. 544 (1823); *Gray, Hand-l.* i. p. 59 (1869)\*.

*Stenopsis candicans*, *Pelz. P. Z. S.* 1866, p. 588 (Irisanga, S. Brazil; *ex Natt. M.S.*); *id. Orn. Bras.* pp. 12, 49 (1867).

? (♀) *Stenopsis langsdorffi*, *Pelz. P. Z. S.* 1866, p. 589; *id. Orn. Bras.* pp. 12, 52 (1867).

*Male.* Above whitish grey, here and there washed with ochraceous, finely marbled with black; top of the head with a blackish longitudinal stripe; scapulars with black streaks and ferruginous spots; larger wing-coverts and inner secondaries white; primaries black,

\* Vieillot refers to *Stenopsis cayennensis* and to the present species, but the description is that of *S. cayennensis*.



white at base, the third longest; a white line from the base of the mandible to the ear-coverts; throat, sides of the neck, and breast chestnut, undulated with black; lower abdomen, under wing-coverts, and lateral rectrices pure white, the latter partly margined with buff. Total length about 9 inches, wing about 6, tail 4. (*Pelzeln.*)

? *Female*. Primaries and tail barred.

*Hab.* Irisanga, S. Brazil.

## 2. *Stenopsis cayennensis*.

Engoulevent varié de Cayenne, *Buff. Hist. Nat. Ois.* ii. p. 545 (1779).

Crapaud volant de Cayenne, *Daubent. Pl. Enl.* 760 (1783).

Caprimulgus cayennensis, *Gm. Syst. Nat.* ii. p. 1031 (1788); *Cab. in Schomb. Guiana.* iii. p. 710 (1848).

Caprimulgus leopetes, *Jard. & Selby, Ill. Orn.* ii. pl. 87.

*Stenopsis cayennensis*, *Cass. Pr. Ac. Phil.* v. p. 179 (1851); *Cab. & Heine, Mus. Hein.* iii. p. 91 (1860); *Scl. Cat. Am. B.* p. 280 (1862); *id. P. Z. S.* 1866, p. 140; *Pelz. Orn. Bras.* p. 12 (1867); *Gray, Hand-l.* i. p. 59 (1869); *Scl. & Salvin, Nomencl. Ar. Neotr.* p. 96 (1873); *id. P. Z. S.* 1879, p. 531; *Cory, Auk,* iii. p. 343; *Salvin, Ibis,* 1885, p. 439 (B. Guiana); *Cory, B. W. Ind.* p. 138 (1889).

Caprimulgus cayanus, *Lath. Ind. Orn.* ii. p. 587 (1790).

Caprimulgus odontopteron, *Less. Rev. Zool.* 1839, p. 105.

Antrostomus odontopteron, *Bp. Consp.* i. p. 61 (1850).

? *Stenopsis albicauda*, *Laur. Ann. Lyc. N. Y.* 1874, p. 89 (Costa Rica).

*Adult male*. Upper surface pale brownish grey, narrowly streaked and vermiculated with blackish; feathers of the crown blackish, with light rufous margins; a rufous band across the hind neck; scapulars very deep brownish black in the middle, bordered with fulvous; first four primaries blackish brown, with a broad band of white across the middle and a narrow incomplete one near the base, the remainder with three somewhat incomplete bars; secondaries with white tips and two broad white spaces occupying almost the whole of the inner webs; outer pair of rectrices pure white, with one deep brown bar in the middle, the following two pairs with a cross bar, the tip and a broad margin on the outer web deep brown, the next pair to the central one similarly coloured, but without the bar; central pair greyish brown, undulated and narrowly barred with deep brown; chin, throat, and lower abdomen white; lower tail-coverts buffy white; breast and upper abdomen brown and buff. Total length about 9 inches, wing 5.6 to 6, tail 4.7 to 5, tarsus 0.63, feathered for half its length.

*Adult female*. Very different from the male; above darker and more uniform; spots and bars on the quills rufous; no white in the tail; chin, throat, and abdomen buff, with darker bars. Wing 5.5 inches, tail 4.1.

*Young male*. Spots on the primaries not white but rufous; throat and abdomen not pure white; outer rectrices shaded with buff, outer webs brown, barred with fulvous; a blackish bar of irregular form on the outer pair, but with traces developed on the pair next to the central ones; with age this bar becomes more and more

regular on the outer pair, and disappears on the pair next to the central ones, but these bars vary a great deal in shape and size.

Specimens from the Merume Mountains in British Guiana and from Colombia seem to be rather larger and darker, but this does not appear to be a constant character, as the species varies to a certain extent in shade of colour.

*Hab.* From Panama throughout the northern parts of South America, Colombia, Venezuela, Guiana, and the islands of Trinidad and Tobago.

Messrs. Selater and Salvin (*l. c.*) record the species from Martinique, but this statement wants confirmation.

a. ♂ ad. sk.	S. America.	Purchased.
b. ♂ ad. sk.	S. America.	Gould Coll.
c. ♂ ; d. ♀ ad. sk.	Chitra, Veragua ( <i>Aracé</i> ).	Salvin-Godman Coll.
e. ♂ ; f. ♀ ad. sk.	Bogota.	Selater Coll.
g. ♂ ad. sk.	Antioquia, U.S. of Colombia ( <i>Salmon</i> ).	Salvin-Godman Coll.
h, i, k. ♂ ad. sk.	Tobago ( <i>Kirk</i> ).	Selater Coll.
l. ♂ ad. sk.	Venezuela.	Purchased.
m, n. ♂ ; o. ♀ ad. sk.	Roraima, Brit. Guiana, Nov., Dec. ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
p. ♀ imm. sk.	Merume Mts., Brit. Guiana, June ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
q-s. ♂ ; t. ♀ ad. sk.	Aunai, Brit. Guiana, June, July, Dec. ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
u. ♂ ad. sk.	Guiana ( <i>Brown</i> ).	Selater Coll.

### 3. *Stenopsis ruficervix*.

*Stenopsis ruficervix*, *Scl. P. Z. S.* 1866, p. 140, pl. xiv. (Colombia); *Gray, Hand-l. i.* p. 59 (1869); *Scl. & Salvin, P. Z. S.* 1870, p. 782 (Merida, Venezuela); *id. Nomencl. Av. Neotr.* p. 96; *id. P. Z. S.* 1879, p. 531; *Salvin, Ibis*, 1885, p. 439 (B. Guiana).

*Caprimulgus decussatus*, *Cub. (nec Tsch.) in Schomb. Guiana*, iii. p. 710 (1848).

? *Stenopsis platara*\*, *Pelz. P. Z. S.* 1866, p. 589; *id. Orn. Bras.* pp. 12, 53 (1867).

*Adult male.* Above black spotted with rufous, the spots on the sides of the crown whitish; a rufous band across the hind neck; wing-coverts with larger buff spots; primaries deep blackish brown, the first four crossed by a band of pure white; four lateral pairs of rectrices with broad white tips, but the outer web more or less overspread with brown and the white on the fourth less in extent; a narrower white band across the middle of the tail confined to the inner webs, a still narrower and sometimes ill-defined one near the base; central pair of rectrices similar in colour to the upper parts, without white; chin and breast similar in colour to the upper wing-coverts; a white band across the throat; abdomen fulvous, becoming more or less uniform to the lower tail-coverts. Total length about 9 inches, wing 6.3 to 6.8, tail 4.6.

*Adult female.* Different from the male. The band across the

\* Seems to be smaller than *St. ruficervix*.

throat pale fulvous, the alar speculum more or less overspread with rufous, and no pure white in the tail.

*Young.* Similar to the female, but paler; quills with terminal edges of buff.

*Hab.* Colombia to Ecuador, Venezuela (Merida), to British Guiana (Roraima). An inhabitant of higher elevations.

a. ♂; b. ♀ ad. sk.	Roraima, Brit. Guiana, Aug. ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
c. ♀ ad. sk.	Merida, Venezuela ( <i>Goering</i> ).	Salvin-Godman Coll.
d. ♂ ad.; e. ♂ imm. sk.	Sierra Nevada, Santa Marta, Aug. ( <i>Simons</i> ).	Salvin-Godman Coll.
f. ♂ ad. sk.	Retiro, Antioquia ( <i>Salmon</i> ).	Salvin-Godman Coll.
g. ♂; h. ♀ ad. sk.	Santa Elena, U. S. of Colombia ( <i>Salmon</i> ).	Salvin-Godman Coll.
i. ♀ ad. sk.	Envigado, Antioquia ( <i>Salmon</i> ).	Salvin-Godman Coll.
k. ♂ ad. sk.	Antioquia, U. S. of Colombia ( <i>Salmon</i> ).	Salvin-Godman Coll.
l. ♀ ad. sk.	Bogota.	Gould Coll.
m. ♀ imm. sk.	Bogota.	Salvin-Godman Coll.
n, o. ♂; p. ♀ ad. sk.	Bogota.	Slater Coll.
q. Imm. sk.	Quito.	(Types of the species.) Tweeddale Coll.
r. Imm. sk.	Quito.	Gould Coll.
s, t. ♂ imm. sk.	Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
u. ♂ ad. sk.	Monji, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
v. ♂ ad. sk.	Monji, Ecuador ( <i>Buckley</i> ).	Slater Coll.
w. ♂ imm. sk.	Vicinity of Pasto, Ecuador ( <i>Lehmann</i> ).	Salvin-Godman Coll.
x. ♂ ad. sk.	Eachupata, E. Peru, Nov. ( <i>H. Whitely</i> ).	Salvin-Godman Coll.

#### 4. *Stenopsis longirostris* \*.

*Caprimulgus longirostris*, *Bp. Journ. Ac. Phil.* iv. pt. ii. p. 384 (1825).

*Antrostomus longirostris*, *Bp. Consp.* i. p. 61 (1850); *Burm. Syst.*

*Ueb. Th. Bras.* ii. p. 387 (1856).

*Stenopsis longirostris*, *Cass. Cat. Caprim. Phil. Mus.* (1851); *id. U. S.*

*Eycl. Exp.* p. 188 (1858); *Gray, Hand-l.* i. p. 59 (1869).

*Caprimulgus bifasciatus*, *Gould, P. Z. S.* 1837, p. 22; *id. in Darwin's*

*Voy. Beagle*, iii. p. 36 (1841); *Koenig-Warth. J. f. O.* 1868, p. 382.

*Stenopsis bifasciata*, *Scl. P. Z. S.* 1867, p. 328 (Chili); *Scl. & Salvin,*

*P. Z. S.* 1868, p. 142 (Conchitas); *Durnf. Ibis*, 1877, p. 37, 1878,

p. 396 (Patagonia); *Sharpe, P. Z. S.* 1881, p. 9 (Coquimbo);

*Tacz. Orn. Pérou*, i. p. 221 (1884); *Scl. & Huds. Argent. Orn.* ii.

p. 14 (1889).

*Antrostomus bifasciatus*, *Bp. Consp.* i. p. 61 (1850).

*Caprimulgus conterminus*, *Peale, Zool. Expl. Exp.* p. 169 (1858).

*Stenopsis reticulatus*, *Gray, Hand-l.* i. p. 59 (1869) (descrip. nulla).

*Caprimulgus andinus*, *Landb. Arch. f. Naturg.* 1860, p. 279.

*Adult male.* Above greyish, transversely mottled with blackish, black spots along the centre of the crown, a collar of rufous buff round the hind neck; scapulars with much black, and with buff spots and edges laterally; wing-coverts spotted with buff near the tips; primaries deep brown, first four crossed by a broad bar of

\* There can be no doubt, I think, that Bonaparte's name belongs to the present species.

white, often spotted with rufous near the base, following primaries brown, spotted with rufous: inner secondaries similar to the upper parts; central pair of rectrices greyish brown, mottled and irregularly barred with black; three outer rectrices on each side largely tipped with white, fourth with a white spot on the tip of the inner web; another band of white across the inner webs of the outer rectrices; a band of white tinged with buff across the throat: abdomen buff, irregularly barred with dark brown; under wing-coverts buff, more or less barred with brown. Total length about 9 inches, wing 6·1 to 6·4, tail 4·4 to 4·7, tarsus 0·7.

*Adult female.* Colours somewhat duller and more brownish, collar less obvious, bands across the primaries buff; tail brown and rufous buff throughout, without any pure white colour.

*Young.* Similar to the adult specimens, the white spots already developed, but colours more brownish, quills narrowly tipped with white.

*Hab.* From the Andes of Chili throughout Bolivia and the interior of Brazil to Patagonia.

a. ♂ ad. sk.	South America.	Salvin-Godman Coll.
b, c. ♀ ad. et ♂ jr. sk.	Arequipa, Peru ( <i>H. Whitely</i> ).	Sclater Coll.
d. ♂ ad. sk.	Tilotilo, Prov. Yungas, Bolivia ( <i>C. Buckley</i> ).	Salvin-Godman Coll.
e. ♂ imm. sk.	Coquimbo, Chili.	Dr. Coppinger [ <i>C.</i> ]
f. ♂ ad. sk.	Chili ( <i>E. C. Reed</i> ).	Salvin-Godman Coll.
g. ♂ ad.; h. ♀ ad.; i. ♂ imm. sk.	Santiago, Chili ( <i>Landbeck &amp; Leybold</i> ).	Sclater Coll.
k. ♀ ad. sk.	Cordillera de Santiago ( <i>E. C. Reed</i> ).	Sclater Coll.
l-p. ♂ ad. sk.	Chili.	Purchased.
q. ♂ ad. sk.	Chili ( <i>Leybold</i> ).	Sclater Coll.
r, s, t. ♂ ♀ ad. sk.	Chili ( <i>Landbeck</i> ).	H. Berkeley James, Esq. [ <i>P.</i> ]
u. ♂ ad. st.	Valparaiso.	C. Darwin, Esq. [ <i>P.</i> ] (Type of <i>C. bifasciatus</i> .)
v. ♂ ad.; w. ♂ juv. sk.	Chupat, Patagonia. May, Nov.	H. Durnford, Esq. [ <i>C.</i> ]
x. ♀ imm. sk.	Brazil (?).	Purchased. ( <i>C. reticulatus</i> , Gray.)

### 5. *Stenopsis decussata*.

*Caprimulgus decussatus*, *Tsch. Wiegmann Arch.* 1844, p. 268; *id. Faun. Peru.* p. 126, pl. v. (1846); *Bp. Consp.* i. p. 61 (1850).

*Caprimulgus æquicaudatus*, *Peale, U. S. Expl. Exp., Zool. B.* p. 168 (1848).

*Antrostomus æquicaudatus*, *Scl. P. Z. S.* 1867, p. 342 (Lima); *Scl. & Salv. P. Z. S.* 1868, p. 569 (Arequipa).

*Stenopsis æquicaudata*, *Scl. & Salv. Nomencl. Ar. Neotr.* p. 96 (1873); *id. P. Z. S.* 1879, p. 626 (Bolivia); *Tacz. Orn. Pér.* i. p. 222 (1884).

? *Stenopsis macrorhyncha*, *Salvad. Atti Soc. Ital. Sc. Nat.* xi. p. 160 (1868).

Similar to *St. longirostris*, but smaller and paler, the ground-colour being sandy buff, the collar on the hind neck paler, white spots on the primaries narrower. Total length about 8 inches, wing 5·4, tail 4, tarsus 0·65.

*Hab.* Peru.

a. ♂ ad. sk.	Islay, Peru, Sept. 13 ( <i>H. Whiteley</i> ).	Slater Coll.
b. ♀ ad. sk.	Lima ( <i>Nation</i> ).	Slater Coll.
c, d. ♂ ♀ ad. sk.	Callao, Peru, Sept. ( <i>A. H. Markham</i> ).	Salvin-Godman Coll.

## 5. NYCTIDROMUS.

Type.

Nyctidromus, *Gould, Icones Avium*, ii. pl. 2 (1838) . . . . N. albicollis.  
 Eucapripodus, *Less. Echo du Monde Sav.* 1843 . . . . . N. albicollis.

This genus is allied to *Caprimulgus*, but the very long and bare tarsus, in addition to the different habits, which are somewhat terrestrial, may be sufficient reasons for generic separation. The sexes are different in colour.

*Range.* From Texas throughout Central and South America to Southern Brazil.

## 1. Nyctidromus albicollis.

- Montvovau de la Guyane, *Buff. Hist. Nat. Ois.* vi. p. 580 (1779).  
 Tette-chèvre roux de la Guyane, *Daubent. Pl. Enl.* 733 (♀).  
 White-throated Goatsucker, *Lath. Gen. Syn.* ii. p. 596 (1783).  
 Guiana Goatsucker, *id. ibid.* p. 598 (1783).  
 Caprimulgus albicollis, *Gm. Syst. Nat.* ii. p. 1030 (1788); *Lath. Ind. Orn.* ii. p. 585 (1790); *Steph. Gen. Zool.* x. p. 155 (1817); *Vieill. Enc. Méth.* p. 536 (1823); *Hartl. Ind. Azara.* p. 20, 310 (1847); *Cub. in Schomb. Guiana*, iii. p. 710 (1848); *Léot. Ois. Trinidad*, p. 72 (1866); *Sci. Ibis*, 1867, p. 107 (Trinidad).  
 Caprimulgus guianensis, *Gm. Syst. Nat.* ii. p. 1030 (1788); *Lath. Ind. Orn.* ii. p. 586 (1790); *Vieill. Nouv. Dict.* x. p. 239 (1817); *Wied. Beitr.* iii. p. 318 (1830); *Cass. Proc. Ac. Phil.* 1851, p. 183; *id. Cat. Capr. Mus. Phil.* no. 2 (1851); *Koenig-Warth. J. f. O.* 1868, p. 379 (midific.).  
 Ibiyau, *Azara, Apunt.* p. 310 (1802).  
 Caprimulgus laticaudus, *Drap. Dict. Class. Sc. Nat.* iv. p. 133 (1838; Brazil).  
 Nyctidromus derbyanus, *Gould, Icon. Av.* ii. pl. ii. (1838); *Gray, List Fissirostr. Brit. Mus.* p. 11 (1844); *id. Gen. B.* p. 48 (1849); *Bp. Consp.* i. p. 62 (1850).  
 Nyctidromus affinis, *Gray, List Fissirostr. Brit. Mus.* p. 11 (1844).  
 Nyctidromus grillarius, *Bp. Consp.* i. p. 62 (1850); *Cass. Proc. Ac. Phil.* 1851, p. 183; *id. Cat. Capr. Mus. Phil.* no. 3 (1851).  
 Antrostomus guianensis and albicollis, *Bp. Consp.* i. p. 61 (1850).  
 Nyctidromus americanus\*, *Cass. Proc. Ac. Phil.* 1851, p. 179; *id. Cat. Capr. Mus. Phil.* no. 1 (1851); *Sci. P. Z. S.* 1856, p. 285, 1859, p. 367 (Mexico); *Sci. & Salv. Ibis*, 1859, p. 125; *Cab. & Heine, Mus. Hein.* iii. p. 92 (1860); *Laur. Ann. Lyc. N. Y.* vii. p. 290 (1861); *Salvin, Ibis*, 1866, p. 203 (Guatemala).  
 Nyctidromus albicollis, *Burm. Syst. Uchers. Th. Bras.* ii. p. 389 (1856); *Sci. & Salv. P. Z. S.* 1866, p. 193 (Upper Ucayali); *id. P. Z. S.* 1867, pp. 752, 978; *id. P. Z. S.* 1869, p. 252 (Venezuela); *id. ibid.* p. 598, 1870, p. 782 (Merida), p. 837 (Honduras), 1873, pp. 196, 290 (Peru), 1875, p. 237 (Venezuela), 1879, p. 532; *id.*

\* Nec *Caprimulgus americanus*, Linn.

- ibid.* p. 626 (Bolivia); *id.* *Nomencl. Av. Neotr.* p. 97 (1873); *Scl. P. Z. S.* 1866, pp. 124, 144; *Gray, Hand-l.* i. p. 60 (1869); *Lawr. Ann. Lyc. N. Y.* ix. p. 204 (1869; Yucatan); *id. Mem. Bost. Soc. N. H.* ii. p. 291 (1874; W. Mexico); *id. Bull. U. S. Nat. Mus.* iv. p. 31 (1876); *Wyatt, Ibis*, 1871, p. 375; *Lee, Ibis*, 1873, p. 134; *Layard, t. c.* p. 399; *Cab. J. f. O.* 1874, p. 226 (Rio); *Tacz. P. Z. S.* 1877, p. 327; *id. P. Z. S.* 1879, p. 240 (Peru); *id. Orn. Pérou*, i. p. 226 (1884); *Ridgw. Man. N. Amer. B.* p. 300 (1877, part.); *id. Proc. U. S. Nat. Mus.* ix. p. 258 (1880), x. p. 592 (1881); *Boucard, P. Z. S.* 1878, p. 67 (Costa Rica); *Salv. & Godm. Ibis*, 1880, p. 174; *Nutting, Proc. U. S. Nat. Mus.* v. p. 398 (1882); *Ridgw. Proc. U. S. Nat. Mus.* v. p. 501 (Costa Rica); *Sumichr. Naturaleza*, v. p. 249 (1882; Mexico); *Nutting, Proc. U. S. Nat. Mus.* vi. p. 386 (1883); *Salvin, Ibis*, 1885, p. 439 (B. Guiana); *id. Ibis*, 1889, p. 368 (Cozumel); *Cory, Auk*, 1889, p. 277 (Porto Rico).
- Nyctidromus guianensis*, *Cass. Cat. Capr. Mus. Phil.* p. 12 (1851); *Burm. Syst. Ueb. Th. Bras.* ii. p. 391 (1856); *Lawr. Ann. Lyc. N. Y.* vii. p. 290 (1861; Panama); *Scl. Cat. Am. B.* p. 281 (1862); *id. P. Z. S.* 1864, p. 176 (City of Mexico); *E. C. Taylor, Ibis*, 1864, p. 90 (Trinidad); *Scl. & Salv. P. Z. S.* 1864, p. 364 (Panama); *Pelz. Orn. Bras.* p. 13 (1867); *Salvin, P. Z. S.* 1870, p. 204 (Veragua).

*Adult male.* Above brown in different shades, finely mottled with darker brown, sometimes rather greyish brown, often rather rufous; top of the head with longitudinal black spots, bolder in the centre of the crown, where they form a long stripe; ear-coverts golden buff; scapulars with large black spots, chiefly on the outer webs, and broadly bordered with bright buff; primaries deep brown, with a broad white band across the first four or five, often indistinct on the fifth, and more or less fulvous on the outer webs; wing-coverts with terminal buff spots; outermost pair of rectrices deep brown, with a more or less developed white streak on the inner webs, the next pair white, more or less dusky on the outer webs; the following pair white, inclining to buff, barred with dusky near the base and on a great part of the outer webs, this coloration varying in extent; lower parts buff, regularly barred with dusky, darker on the breast; a broad white band across the throat, sometimes almost interrupted in the middle. Total length about 10 to 11 inches, wing 5·7 to 6·9, tail 5·7 to 6·6, tarsus 0·9 to 1·1.

*Adult female.* Similar to the male, but smaller, the markings duller and therefore not so beautifully contrasted, the band across the primaries not pure white, but more or less shaded with buff; outer rectrices barred with buff, only the tips of the next two pairs white. Wing 5·6 to 6·5 inches, tail 5·4 to 6.

*Young.* Colours duller, the abdomen not so distinctly barred as in adult individuals; white on the tail less in extent; white on the primaries less pure; head not so boldly streaked, but with drop-like spots, surrounded by light grey.

*The nestling* is covered with buff down, darker above.

This species, like many Goatsuckers, varies greatly in colour and size. The perfect plumage of the adult bird is apparently not

gained in the first year. Besides this there is a rufous phase of plumage, which is independent of locality, sex, or age, but more common in some places, rarer in others. As a rule, specimens from Guiana and Colombia are very small and dark rufous, and might be distinguished as local races, whereas the specimens from Matto Grosso, Brazil, as well as those from Central America and Mexico, are generally larger. The species, however, varies much in coloration and size.

*Hab.* Tropical America from Mexico to Southern Brazil (Matto Grosso). It seems to be absent from the West Indies, but a specimen has been recorded from Porto Rico.

a, b. ♂ ♀ ad. sk.	Tres Marias Islands, April ( <i>A. Forrer</i> ).	Salvin-Godman Coll.
c, d. Ad. st.	Mexico.	Purchased.
e, f. ♂ ♀ ad. sk.	Presidio de Mazatlan, April, June ( <i>A. Forrer</i> ).	Salvin-Godman Coll.
g. ♂; h-k. ♀ ad. sk.	Colima, Jan. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
l, m. ♂; n. ♀ ad. sk.	Tepic, May ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
o, p. ♂; q-t. ♀ ad. sk.	Tehuantepec, Feb., March ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
u. ♀ ad. sk.	Tonala, Chiapas, Feb. ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
v. ♀ ad. sk.	Acapulco, Guerrero ( <i>D. W. Smith</i> ).	Salvin-Godman Coll.
w. ♀ ad. sk.	City of Mexico ( <i>White</i> ).	Tweeddale Coll.
x. ♂ imm.; y. ♀ ad. sk.	Tampico, June ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
z. ♀ ad. sk.	Misantla, March ( <i>F. D. Godman</i> ).	Salvin-Godman Coll.
a'. ♂; b', c'. ♀ ad. sk.	Jalapa ( <i>De Oca</i> ).	Tweeddale Coll.
d'. ♂ ad. sk.	Orizaba ( <i>Botteri</i> ).	Selater Coll.
e'. Ad. sk.	Playa Vicente, Vera Cruz ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
f'-h'. ♂; i', k'. ♀ ad. sk.	Teapa, Feb. ( <i>D. W. Smith</i> ).	Salvin-Godman Coll.
l. ♀ ad. sk.	Buetzotz, Yucatan, April ( <i>G. F. Gaumer</i> ).	Salvin-Godman Coll.
m'. ♂ ad. sk.	Peto, Yucatan ( <i>G. F. G.</i> ).	Salvin-Godman Coll.
n', o'. ♀ ad. sk.	Temax, Yucatan ( <i>G. F. G.</i> ).	Salvin-Godman Coll.
p'. ♀ ad. sk.	Mugeris Isl., Dec. ( <i>G. F. G.</i> ).	Salvin-Godman Coll.
q'-u'. ♂ ad. et imm.; v'-z'. ♀ ad. sk.	Cozumel ( <i>G. F. G.</i> ).	Salvin-Godman Coll.
a''. ♂ ad. st.	British Honduras.	D. Dyson [C.].
b'', c''. ♀ ad. sk.	Orange Walk, Br. Honduras, Dec. ( <i>G. F. G.</i> ).	Salvin-Godman Coll.
d''. ♂ imm. sk.	Belize, Br. Honduras ( <i>Blancaneaux</i> ).	Salvin-Godman Coll.
e''-g''. ♂; h''-l''. ♀ ad. sk.	Guatemala.	Gould & Tweeddale Colls.
m''-p''. ♂; q'', r''. ♀ ad. sk.	Dueñas ( <i>O. S.</i> ).	Salvin-Godman Coll.

$s''$ , $t''$ . ♂ ♀ ad. sk.	Chisec, Vera Paz ( <i>O. S.</i> ).	Salvin-Godman Coll.
$u''$ . ♂ ad. sk.	Chuacas, Feb. ( <i>O. S.</i> ).	Salvin-Godman Coll.
$v''$ , $w''$ . ♂; $x''$ . ♀ ad. sk.	Retalhuleu ( <i>O. S.</i> ).	Salvin-Godman Coll.
$y''$ , $z''$ . ♂ ad. sk.	Choctum, Jan. ( <i>O. S.</i> ).	Salvin-Godman Coll.
$a^3$ . ♂ ad. sk.	Cahabon, Jan. ( <i>O. S.</i> ).	Salvin-Godman Coll.
$b^3$ . ♂ ad. sk.	Coban ( <i>O. S.</i> ).	Salvin-Godman Coll.
$c^3$ . Imm. sk.	Teleman, Nov. ( <i>O. S.</i> ).	Salvin-Godman Coll.
$d^3$ . ♀ ad. sk.	Pine ridge of Poctum ( <i>O. S.</i> ).	Salvin-Godman Coll.
$e^3-h^3$ . ♂ ad. sk.	La Libertad, Salvador, Feb. ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
$i^3$ . ♂; $k^3$ , $l^3$ . ♀ ad. et imm. sk.	Chinandega, Nicaragua, May, June ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
$m^3$ , $n^3$ . ♂ ad. sk.	Momotombo, Nicaragua, May ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
$o^3$ . ♀ ad.; $p^3$ . Pull. sk.	Irazu district, Costa Rica ( <i>W. Rogers</i> ).	Salvin-Godman Coll.
$q^3$ . ♂ ad. sk.	San José, Costa Rica, March 20 ( <i>J. Carmiol</i> ).	Salvin-Godman Coll.
$r^3-u^3$ . ♂; $v^3$ . ♀ ad. sk.	Panama.	Salvin-Godman Coll.
$w^3$ . ♀ ad. sk.	Calovevora ( <i>Arcé</i> ).	Salvin-Godman Coll.
$x^3$ , $y^3$ . ♂ ad. et imm. sk.	Chiriqui ( <i>Arcé</i> ).	Salvin-Godman Coll.
$z^3$ . ♂ ad. sk.	Arichuca, Colombia, March 7 ( <i>F. Simons</i> ).	Salvin-Godman Coll.
$a^4$ , $b^4$ . ♂ ad.; $c^4$ . Pull. sk.	Bogota.	Slater Coll.
$d^4$ . ♂ ad. sk.	Santa Rita Mts., Ecuador ( <i>C. Buckley</i> ).	Salvin-Godman Coll.
$e^4$ , $f^4$ . ♂ ♀ ad. sk.	Sarayacu, Ecuador ( <i>C. Buckley</i> ).	Salvin-Godman Coll.
$g^4$ . ♂ ad. sk.	Esmeraldas, Nov. ( <i>L. Fraser</i> ).	Slater Coll.
$h^4$ . ♂ ad. sk.	Caracas, Venezuela.	D. Dyson [C.].
$i^4$ . ♂ ad. sk.	Trinidad.	Slater Coll.
$k^4$ , $l^4$ . ♂; $m^4$ . ♀ ad. sk.	Bartica Grove, British Guiana, June to Sept. ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
$n^4$ . ♂ ad. sk.	Maroni River, Surinam ( <i>Käppler</i> ).	Salvin-Godman Coll.
$o^4$ . ♀ ad. sk.	Cayenne.	H. C. Rothery, Esq. [P.].
$p^4$ . ♀ ad. sk.	Demerara.	Gould Coll.
$q^4$ , $r^4$ . ♂ ad. et imm. sk.	Island of Mexiana ( <i>A. R. Wallace</i> ).	Salvin-Godman Coll.
$s^4$ , $t^4$ . ♂ ♀ ad. sk.	Para.	R. Graham, Esq. [P.].
$u^4$ . ♂ ad. sk.	Para ( <i>E. L. Layard</i> ).	Tweeddale Coll.
$v^4$ . ♀ ad. sk.	Pebas, Upper Amazons ( <i>J. Haucwell</i> ).	Salvin-Godman Coll.
$w^4$ . ♀ ad. sk.	Pernambuco ( <i>W. A. Forbes</i> ).	Salvin-Godman Coll.
$x^4$ , $y^4$ . ♂; $z^4-h^4$ . ♀ ad. sk.	Chapada, Matto Grosso, Feb., May ( <i>D. W. Smith</i> ).	Salvin-Godman Coll.
$c^5$ , $d^5$ . ♂; $e^5$ . ♀ ad. sk.	Bahia ( <i>Dr. Wucherer</i> ).	Salvin-Godman Coll.
$f^5$ . ♀ ad. sk.	Rio Claro, Prov. Goyaz ( <i>Joyner</i> ).	Salvin-Godman Coll.
$g^5$ . ♂ ad. sk.	São Paulo ( <i>Joyner</i> ).	Salvin-Godman Coll.



<i>h</i> <sup>5</sup> . ♀ ad. sk.	Pelotas, Rio Grande do Sul ( <i>Joyner</i> ).	Salvin-Godman Coll.
<i>i</i> <sup>5</sup> . ♀ ad. st.	Brazil.	Lord Stuart de Rothsay [P.].
<i>k</i> <sup>5</sup> - <i>m</i> <sup>5</sup> . ♂; <i>n</i> <sup>5</sup> . ♀ ad. sk.	Brazil.	Salvin-Godman Coll.
<i>o</i> <sup>5</sup> . Skull.	S. America.	Purchased.

Subsp. *a.* **Nyctidromus merrilli.**

*Nyctidromus albicollis*, *Merrill, Bull. Nutt. Orn. Club*, i. p. 88 (1876; Texas); *id. Pr. U. S. Nat. Mus.* i. p. 143 (1878; S. Texas).

*Nyctidromus albicollis merrilli*, *Sennett, Auk*, 1888, p. 44 (Texas); *Chapman, t. c.* p. 402.

*Adult male.* Distinguished by the prevailing grey colour of the upper surface, especially the very grey crown and mantle and the light-coloured central rectrices, by its large size, by the bars on the abdomen being less numerous, and by the outer pair of rectrices in the male having generally little or no white at all. Wing 6.6 to 7.4 inches, tail 7.

*Adult female.* A little smaller than the male; outermost rectrices barred with buff, the next pair tipped with white; white throat-patch more restricted in size; colours of the upper surface less brilliant.

*Younger individuals* are more fulvous, the wing-patch shaded with fulvous, the outer rectrices barred or showing remains of bars.

*The nestling* is covered with buff down, much darker and almost fulvous above.

This is a well recognizable grey and rather large northern form, but it cannot be raised to specific rank since most of the specimens from Mexico and many from Yucatan are intermediate, and a sharp line cannot be drawn; they gradually merge into the southern form. I have not yet seen the well-pronounced rufous phase from Texas.

*Hab.* Southern Texas and Northern Mexico.

<i>a-k.</i> ♂ ♀ ad. sk.	Brownsville, Texas ( <i>F. B. Armstrong</i> ).	Salvin-Godman Coll.
<i>l.</i> ♂ ad. sk.	Benavides, Texas ( <i>F. B. A.</i> ).	Salvin-Godman Coll.
<i>m-o.</i> ♂; <i>p.</i> ♀ ad. sk.	Hidalgo, Texas ( <i>F. B. A.</i> ).	Salvin-Godman Coll.
<i>q, r.</i> ♂; <i>s, t.</i> ♀ ad. sk.	San Patricio, Texas, Dec. ( <i>F. B. A.</i> ).	Salvin-Godman Coll.
<i>u, v.</i> ♂; <i>w, x.</i> ♀ ad. sk.	Corpus Christi, March ( <i>F. B. A.</i> ).	Salvin-Godman Coll.
<i>y.</i> ♀ ad. sk.	Nuevo Leon, Mexico, June 11 ( <i>F. B. A.</i> ).	Salvin-Godman Coll.

## 6. SIPHONORHIS.

Type.

*Siphonorhis*, *Selater, P. Z. S.* 1861, p. 77. . . . . *S. americanus*.

The bill is extremely broad at base, the tip strong and heavily decurved; nostrils tubular and very prominent; rictal bristles

strongly developed. Wing pointed, third primary longest; tail rounded, almost graduated. Tarsi long and naked. The sexes differ slightly in coloration.

*Range.* Restricted to the island of Jamaica.

### 1. *Siphonorhis americanus*.

Small Wood-Owl, *Sloane, Voy. Jamaica*, ii. p. 296.

*Caprimulgus americanus*, *Linn. Syst. Nat.* ed. x. p. 193 (1758); *id.* ed. xii. i. p. 346 (1766); *Gm. Syst. Nat.* ii. p. 1032 (1788); *Vieill. Nouv. Dict.* x. p. 239 (1817).

Engoulevant à Lunettes ou Haleur, *Buff. Hist. Nat. Ois.* vi. p. 543 (1779).

*Chordeiles americanus*, *Bp. Consp.* i. p. 63 (1850).

*Siphonorhis americanus*, *Scl. P. Z. S.* 1861, p. 77; *id. Cat. Am. B.* p. 282 (1862); *id. P. Z. S.* 1866, p. 144; *id. J. f. O.* 1867, p. 277; *Albrecht, J. f. O.* 1862, p. 199; *March, Pr. Ac. Nat. Sc. Phil.* 1863, p. 286; *Gray, Hand-l. B.* i. p. 60 (1869); *Scl. & Salv. Nomencl. Av. Neotrop.* p. 97 (1873); *A. & E. Newt. Handb. Jamaica*, p. 109 (1881); *Cory, List B. W. Ind.* i. p. 16 (1885); *id. B. W. Ind.* p. 139 (1889).

*Adult male.* General colour a somewhat rufous-brown, mottled and streaked with greyish and dark brown; along the top of the head some broader, on the back and rump some narrower blackish shaft-stripes; scapulars heavily blotched with black and laterally streaked with whitish; wing-coverts with buff terminal spots; primaries deep brown, irregularly banded with rufous, this colour being lighter on the outer webs; rectrices dull rufous, irregularly barred and mottled with dark brown, and with a dark brown sub-terminal bar and a white terminal bar; throat and breast dark rufous-brown, a white band across the former; feathers of the lower breast dark brown, tipped and barred with dull white; abdomen fawn-colour, barred with brown. Total length nearly 9 inches, wing 5.3, tail 4.8, tarsus 0.9, middle toe 0.95, culmen 0.4, width of gape 0.6.

*Adult female.* Similar to the male, but a little paler, the white patch on the throat somewhat duller, and the rectrices tipped with buff instead of white.

*Hab.* Jamaica.

a. ♂ ad. sk.	Trelawny, Jamaica, Sept. 14 ( <i>Osburn</i> ).	Sclater Coll.
b. ♀ ad. sk.	Westmoreland, Jamaica, Aug. 21 ( <i>Osburn</i> ).	Sclater Coll.

### 7. HELEOTHREPTUS.

Type.

<i>Amblypterus</i> , <i>Gould (nec Agass.)</i> , <i>P. Z. S.</i> 1837, p. 105.	II. anomalus.
<i>Eleothreptus (lege Heleothreptus)</i> , <i>Gray, List Gen. B.</i> p. 7 (1840).....	II. anomalus.

In this very remarkable genus the male and the female have totally different wings. In the male the first six primaries are curved inwards and about equal in length, the seventh, eighth, and

ninth are elongated, the eighth being longest, the tenth about half as long. In the female the first four are about equal in length, the rest gradually becoming shorter. The tail is somewhat short and square; the bill is rather broad, the rictal bristles strong and long; the middle toe is about twice as long as the lateral toes; the tarsus a little shorter than the middle toe with claw, feathered in front for about the upper half. Nothing is known about the nidification.

*Range.* Central and Southern Brazil and Argentina.

### 1. *Heleothreptus anomalus*.

*Amblypterus anomalus*, *Gould, P. Z. S.* 1837, p. 105; *id. Icon. Av.* pl. 11 (1838); *Petz. Reise Nov., Vög.* p. 36 (1865).

*Heleothreptus anomalus*, *Gray, List Gen. B.* p. 7 (1840); *id. Gen. B.* i. p. 49 (1847); *id. List Fissiv. Brit. Mus.* p. 10 (1848); *Bp. Consp.* i. p. 62 (1850); *Burm. Syst. Ueb. Th. Brasil.* ii. p. 338 (1856); *Cab. & Heine, Mus. Hein.* iii. p. 93 (1860); *Petz. Reis. Novara, Vög.* p. 86 (1865); *id. Orn. Bras.* p. 12 (1862); *Gray, Hand-l. B.* i. p. 60 (1869).

*Heleothreptus anomalus*, *Sci. P. Z. S.* 1866, p. 143; *id. & Salv. Nomencl. Av. Neotr.* p. 97 (1873); *Durnford, Ibis*, 1878, p. 62 (Buenos Ayres); *Sci. & Huds. Argentine Orn.* ii. p. 16 (1889).

*Adult male.* Above greyish brown, spotted and dashed with blackish brown, rather boldly along the top of the head and on the scapulars; lores, an indistinct superciliary stripe, some spots on the neck and in the centres of the wing-coverts pale fawn-colour; primaries deep blackish brown, with the basal portion rusty fawn-colour, with large whitish tips to the first five and a small whitish terminal spot to the sixth; retrices fawn-colour, with whitish tips, irregularly barred with blackish, the two central feathers like the back; beneath, throat and breast deep brown, with fawn-coloured shaft-spots; abdomen pale fawn-colour, irregularly barred with deep brown, more uniform towards the lower tail-coverts. Total length about 7.5 inches, wing 5.2, eighth primary 0.5 longer, tail 3, tarsus 0.7, bill just behind the nostrils 0.23.

*Adult female.* Similar in general coloration to the male, but the wings are brown, banded with rufous. The females of Natterer's collection seem to be larger, the wing measuring 5.4 inches, the tail 3.5.

The female from Quilmes, in Buenos Ayres, is a little more grey, and has distinct whitish terminal spots to the feathers on the sides of the crown and neck. I believe these to be signs of immaturity.

*Hab.* The same as that of the genus.

- |              |  |  |
|--------------|--|--|
| a. ♂ ad. sk. | [Demerara.]                                    | Dr. J. E. Gray [P.]<br>(Type of species.)<br>Sclater Coll. |
| b. ♀ ad. sk. | Irisanga, Brazil, Jan. 19 ( <i>Natterer</i> ). |  |
| c. ♀ ad. sk. | S. Brazil ( <i>Natterer</i> ).                 | Salvin-Godman Co   |
| d. ♀ sk.     | Quilmes, province of Buenos Ayres, March 31.   | H. Durnford, Esq.<br>[C.]                                  |

## 8. MACRODIPTERYX.

Type.

Macrodipteryx, *Swainson, B. W. Afr.* ii. p. 62, pl. v. (1837) ..... *M. macrodipterus*.

*Range.* That of the single species.

1. *Macrodipteryx macrodipterus*.

*Caprimulgus macrodipterus*, *Afzel. Descr. Sierra Leone*, pl. (1794); *Vieill. Nouv. Diet.* x. p. 245 (1817); *id. Enc. Méth.* p. 543 (1823).

*Caprimulgus longipennis*, *Shaw, Nat. Misc.* pl. 265 (1790-1813).

*Leona Goatsucker*, *Lath. Suppl. Syn.* ii. p. 264 (1802).

*Macrodipteryx africanus*, *Swains. B. W. Afr.* ii. p. 62, pl. v. (1837).

*Macrodipteryx longipennis*, *Bp. Consp.* i. p. 63 (1850); *Hartl. J. f. O.* 1853, p. 397 (W. Africa); *id. Orn. W.-Afr.* p. 23 (1857);

*Cub. & Heine, Mus. Hein.* iii. p. 90 (1860); *Bocage, Journ. Lisb.*

1868, p. 133 (Angola); *Gray, Hand-l.* i. p. 60 (1869); *Shell. &*

*Buckl. Ibis*, 1872, p. 290; *Pelz. Ibis*, 1873, p. 107; *Heugl. Orn.*

*N.O.-Afr.* i. p. 137 (1874); *Salvin, Cat. Strickl. Coll.* p. 378

(1882); *Hartert, J. f. O.* 1886, p. 591 (Haussa); *Reichen. J. f. O.*

1891, p. 331 (Togo; egg).

*Adult male.* Above brown, more or less distinctly mottled with ashy; feathers of the head centred with black, paler on the margin; scapulars deep black, with broad outer margin of bright buff; wing-coverts spotted with bright buff; a rufous collar round the neck, more obvious by contrast with the hind neck; quills deep brown, broadly barred with rufous, paler on the inner webs; tail crossed by irregular and spotted bands of pale rufous; abdomen and under wing-coverts buff, barred with brown; under tail-coverts uniform buff; breast brown, mixed with grey and bright buff; ninth primary more than twice as long as the wing, shaft bare except for about 5 to 6 inches at the tip, where it is ornamented with long webs. Total length about 8 to 9 inches, wing 6.8, tail 5, tarsus 0.7, ninth primary about 17 inches long.

*Adult female.* Similar to the male, but without any elongated quill.

*Young birds* are much paler; the band across the neck is less developed. According to Heuglin the shaft of the ninth primary is not bare in freshly-moulted specimens.

The species varies a good deal in markings, the band across the neck being often indistinct, and the ground-colour darker or paler.

*Hab.* From Western Abyssinia to the west coast of Africa, where it has been found from Senegambia to the Niger region.

a. ♀ ad. sk.	[Africa ( <i>Verreaux</i> ).]	Selater Coll.
b. ♂ ad. sk.	[W. Africa.]	Purchased.
c. ♂ ad. sk.	[W. Africa.]	Vienna Museum [E.]
d. ♀ ad. sk.	Sierra Leone.	Sir E. Sabine [P.]
e. ♂ ad.; f. Imm. sk.	Gambia ( <i>Sir A. Moloney</i> ).	Shelley Coll.
g. ♂ ad. sk.	River Gambia.	Sharpe Coll.
h. Imm.: i. ♀ ad. sk.	Accra, Feb. 11 ( <i>G. E. S.</i> ).	Shelley Coll.
k. ♂ ad. sk.	River Bonny ( <i>Hyslop</i> ).	Jardine Coll.
l. Imm. sk.	Bogos-land.	Mr. Esler.

## 9. COSMETORNIS.

Type.

Semeiophorus, *Gould (nec Agass., nec Wagl.)*, *Icon. Av.*ii. pl. 3 (1833) . . . . . *C. vexillarius*.*Cosmetornis*, *Gray, List Gen. B.* p. 8 (1840) . . . . . *C. vexillarius*.

The differences between *Cosmetornis* and *Macrodipteryx*, stated on p. 520, are so important that these two genera cannot be united into one.

*Range.* Tropical Africa.

1. *Cosmetornis vexillarius*.

*Semeiophorus vexillarius*, *Gould, Icon. Av.* ii. pl. 3 (1833); *Hartl. Arch. f. Naturg.* xxxiii. p. 10 (1867); *id. P. Z. S.* 1867, p. 821.

*Cosmetornis vexillarius*, *Hartl. Ibis*, 1862, p. 143 (S. Africa); *Sel. Ibis*, 1864, p. 114; *Kirk, ibid.* p. 323 (Zambesi); *Füsch & Hartl. Vög. O.-Afr.* p. 129 (1870); *Sharpe, ed. Layard's B. S. Afr.* p. 89 (1875); *Bocage, Orn. Angola*, p. 155 (1881); *Shelley, Ibis*, 1882, p. 240; *id. Ibis*, 1890, p. 167 (Aruwhimi R.); *Holub & Pelz. Beitr. Orn. Südafr.* p. 54 (1882); *Fischer, Zeitschr. ges. Orn.* 1884, p. 359 (Massai); *Hartert, J. f. O.* 1886, p. 591 (Benue); *Hartl. Abh. naturw. Ver. Bremen*, xii. p. 32 (1891).

*Macrodipteryx vexillarius*, *Bp. Consp.* i. p. 63 (1850); *Gray, Hand-l.* i. p. 61; *Heugl. Orn. N.O.-Afr.* i. p. 134 (1869); *Hartl. Vög. Madagascar*, p. 56 (1877).

*Cosmetornis spekei*, *Sel. Ibis*, 1864, p. 114, pl. ii.

*Macrodipteryx burtoni*, *Gray, Hand-l.* i. p. 61 (1869).

*Macrodipteryx sperlingi*, *Sharpe, P. Z. S.* 1873, p. 626 (Congo); *Bocage, Orn. Angola*, p. 156 (1881).

*Adult male.* Upper parts dark brown, mottled with pale rufous; top of the head blackish along the middle; a broad collar of rufous, spotted with blackish, round the neck, more distinct on the upper part; scapulars with large central spots of black and broadly bordered with buff on the outer webs; primaries deep brown, white at base for about one third and tipped with white; seventh and eighth quills elongated and not tipped with white; the ninth extremely elongated, about three times as long as the first primary, white at base and along the shaft and inner web, the outer web more or less dark brown; rectrices brown, irregularly barred with brownish buff; a large spot of white on the throat; abdomen white, barred with brown, middle of abdomen almost pure white; lower tail-coverts white; under wing-coverts white, barred with brown. Total length about 10·5 inches, wing 8·4, eighth primary about 2 inches longer, ninth primary about 18 inches longer than the first, tail 5·4, tarsus 0·9, culmen 0·4.

*Adult female.* Upper parts coloured as in the male, but the rufous collar narrower; wings more spotted with buff; abdomen and under tail-coverts pale buff, barred with brown; wing without any elongated primaries; quills deep brown, with about five large rufous spots on inner and outer webs. Wing about 7·6 inches.

In younger males the ninth primary is not so long, and brown on both webs.

*Hab.* Throughout Eastern Africa as far south as Damara-land,

across the continent to the Benue and Angola in the west and Fernando Po.

a, b. ♂ ad. sk.	Tingasi, Equatorial Africa, July 2.	Emin Pasha [P.].
c. ♀ ad. sk.	Semmo, Niam-Niam Country, March.	F. Bohndorff [C.].
d, e. ♂ ♀ ad. sk.	Mamboio, E. Africa ( <i>Sir J. Kirk</i> ).	Shelley Coll.
f. ♂ ad. sk.	Lake Nyassa ( <i>Sir J. Kirk</i> ).	Livingstone Exped.
g. ♂ ad. sk.	Quilimane.	Jardine Coll.
h. ♂ ad. sk.	Zambesi River ( <i>Sir J. Kirk</i> ).	Livingstone Exped.
i. ♂ imm. sk.	Victoria Falls, Jan. 2 ( <i>P. Oates</i> ).	W. E. & C. G. Oates, Esqs. [P.].
k. ♂ ad. sk.	Umvuli River, Oct. 18 ( <i>J. S. Jameson</i> ).	Shelley Coll.
l. ♀ ad. sk.	Gangani River, Sept. 13 ( <i>J. S. Jameson</i> ).	Shelley Coll.
m. ♀ ad. sk.	Damara-land ( <i>C. J. Andersson</i> ).	Sharpe Coll.
n. ♂ ad. sk.	Elephant Vley, Damara-land, Oct. 13 ( <i>C. J. A.</i> ).	Sharpe Coll.
o. ♂ ad. sk.	Angola.	Monteiro Coll.
p. ♂ ad. sk.	Fernando Po.	Sir R. Burton [P.].

## 10. SCOTORNIS.

Scotornis, *Swainson, B. W. Afr.* ii. p. 66 (1837) . . . . S. climacurus. Type.  
*Range.* That of the single species.

### 1. Scotornis climacurus.

- Long-tailed Goatsucker, *Lath. Gen. Syn.* iv. p. 540 (1783).  
 Caprimulgus climacurus, *Vieill. Gal. Ois.* i. p. 195, pl. 122 (1825; Senegal); *Keys. & Blas. Wirb. Eur.* pp. xxxiv, 146 (1840); *A. E. Brehm, J. f. O.* 1853, p. 452 (N.E. Africa); *Thienem. Fortpfl. all. Vög.* pl. xlii. fig. 19 (1856, egg); *Koenig-Warth. J. f. O.* 1868, p. 377 (nidificat.).  
 Caprimulgus longicaudis, *Steph. Gen. Zool.* xiii. p. 89 (1826).  
 Caprimulgus longicaudus, *Drap. Dict. Class. Sc. Nat.* iv. p. 133 (1838); *Brehm, Vögelf.* p. 44 (1855); *Reichen. J. f. O.* 1875, pp. 20, 49 (W. Africa).  
 Caprimulgus wiederspergii, *Rehb. Allg. D. Naturh. Zeitschr.* 1846, iii. p. 289, pl. ix.  
 Scotornis climacurus, *Swains. B. W. Afr.* ii. p. 66 (1837).  
 Scotornis climacurus, *Gray. Gen. B.* i. p. 51 (1849).  
 Scotornis climacurus, *Bp. Consp.* i. p. 62 (1850); *Hartl. J. f. O.* 1853, p. 396 (W. Africa); *id. Orn. W.-Afr.* p. 23 (1857); *Sharpe, Ibis*, 1869, p. 192; *Shell. & Buckl. Ibis*, 1872, p. 285.  
 Scotornis longicauda, *Cab. & Heine, Mus. Hein.* iii. p. 90 (1860); *Ussher, Ibis*, 1874, p. 46 (Gold Coast); *Heugl. Orn. N.O.-Afr.* i. p. 133 (1874); *Salvin, Cat. Strickl. Coll.* p. 378 (1882); *Sharpe, Journ. Linn. Soc., Zool.* xiv. p. 434 (1884); *Büttik. Notes Leyden Mus.* vii. p. 156 (Liberia); *Hartert & Kutter, J. f. O.* 1886, p. 591 (Haussa Ld., nidif.).  
 Scotornis longicaudus, *Gray, Hand-l.* i. p. 60 (1869).  
 Scotornis nigricans, *Salvad. Atti Soc. Ital. Sc. Nat.* xi. p. 450 (1868); *id. Ann. Mus. Civ. Gen.* xxix. p. 226 (1888); *Finsch & Hartl. Vög. O.-Afr.* p. 857 (1870); *Büttik. Notes Leyden Mus.* vii. p. 157 (Liberia).

*Scotornis finschii*, Gray, *Hand-l.* i. p. 60 (1869).

*Scotornis phasianurus*, *S. furcatus*, *S. boreanii*, *S. macrocerus*, *S. longipennis*, Paul. v. Württ. MS., *vide Heugl. Orn. N.O.-Afr.* i. p. 133 (1874).

*Adult male.* Ground colour of a kind of light ferruginous brown, sometimes more greyish, sandy or rufescent, and varied with brown or blackish freckles; along the top of the head the usual longitudinal blackish spots; scapulars with blackish centres and broad buff, creamy, or orange-buff borders; wing-coverts with larger and smaller terminal spots of cream-colour or almost white, forming a distinct bar across the upper part of the wing; primaries deep brownish black, crossed by a broad band of white, but the first primary and sometimes the second with the white restricted to the inner web; secondaries brownish black, varied with light rufous and tipped with white; central rectrices greatly elongated and of the colour of the upper parts, with numerous more or less distinct dark bars; lateral tail-feather shortest, outer web and tip white, second pair with white tips only; narrow rictal stripe and large spot on the throat white or whitish; breast variegated; abdomen light fulvous buff, more or less barred with dark brown; lower abdomen and under tail-coverts uniform. Total length about 14·5 inches, wing 5·8, lateral rectrices 4·3, central 11·3, tarsus 0·7, feathered in front for its upper half.

*Adult female.* Central rectrices much less elongated, measuring about 7 inches; outer webs of lateral rectrices not pure white, and the spots on the primaries shaded with ferruginous.

*Young.* Seems to be similar to the female.

This species varies much in the depth of colours.

*Hab.* From Nubia throughout the Soudan, across the continent to Senegambia, and throughout Western Africa about as far south as the Equator.

<i>a.</i> ♂ ad. st.	W. Africa.	Purchased.
<i>b-d.</i> ♂ ad. sk.	W. Africa.	Gould Coll.
<i>e, f.</i> ♂ ad. sk.	W. Africa.	Sharpe Coll.
<i>g, h.</i> ♂ ad. sk.	Khartoum ( <i>E. Marno</i> ).	Shelley Coll.
<i>i.</i> ♂ ad.; <i>k.</i> ♂ imm. sk.	E. Africa.	Shelley Coll.
<i>l.</i> ♂ ad. sk.	Ndoruma, Niam-niam Country, Nov.	F. Bohndorff, Esq. [P.].
<i>m.</i> ♂ ad. sk.	W. Africa.	Purchased.
<i>n.</i> ♂ ad. sk.	Dakar, Senegal.	M. A. Bouvier [P.].
<i>o.</i> ♂ ad. sk.	R. Gambia.	Sharpe Coll.
<i>p-x.</i> ♂ ad. et imm. sk.	Accra, Feb., March, May ( <i>Buckley</i> ).	Shelley Coll.
<i>y, z.</i> ♂ ad. sk.	Accra ( <i>Smith</i> ).	Sharpe Coll.
<i>a'.</i> ♂ ad. sk.	Int. of Fantee.	J. Hickman, Esq. [P.].
<i>b'-e'.</i> ♂ ad. sk.	Fantee ( <i>Ussher &amp; Blissett</i> ).	Sharpe Coll.
<i>f', g', h'.</i> ♂ ad. et imm. sk.	Cape Coast ( <i>Ussher &amp; Blis- sett</i> ).	Sharpe Coll.
<i>i'.</i> ♀ ad. sk.	Ashanti.	Gould Coll.
<i>k'.</i> ♂ ad. sk.	Ogowe R.	M. A. Bouvier [P.].
<i>l'.</i> ♂ imm. sk.	Gaboon ( <i>Verreaux</i> ).	Sharpe Coll.

## 11. HYDROPSALIS\*.

	Type.
Hydropsalis, <i>Wagl. Isis</i> , 1832, p. 1222 .....	II. furcifera.
Psalurus, <i>Swains. Class. B.</i> p. 339 (1837) .....	II. torquata.

*Range.* South America.

*Key to the Species.*

- a. Lateral rectrices much longer (about twice as long or more) than the central ones.
- a'. Darker; rufous collar on the hind neck.... *torquata*, p. 598.
- b'. Paler; buff collar on the hind neck .....
- b. Lateral rectrices not longer, or only a little longer, than central.
- c'. Shortest rectrices white, with broad dark tips .....
- c. Shortest rectrices blackish near the base ..
- furcifera*, p. 599.
- climacocercus*, p. 600.
- schomburgki*, p. 601.

1. *Hydropsalis torquata* †.

- Le Tette-Chèvre du Brésil, *Briss. Orn.* ii. p. 481 (1760).
- Caprimulgus torquatus, *Gm. Syst. Nat.* ii. p. 1032 (1788); *Vieill. Nouv. Dict.* x. p. 238 (1817).
- Caprimulgus psalurus, *Temm. Pl. Col.* 157, 158 (1823).
- Hydropsalis psalurus, *Bp. Consp.* i. p. 59.
- Caprimulgus fissicaudus, *Merrem, Ersch & Grub. Enc.* xv. p. 148.
- Psalurus macropterus, *Swains. Classif. B.* p. 339 (1837).
- Hydropsalis torquata, *Cass. Journ. Ac. Phil.* ii. p. 114 (1852); *Cab. & Heine, Mus. Hein.* iii. p. 93 (1860); *Scl. Cat. Am. B.* p. 281 (1862); *id. P. Z. S.* 1866, p. 41; *Pelz. Orn. Bras.* p. 11 (1867); *Gray, Hand-l.* i. p. 58 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 96 (1873).

*Adult male.* Upper parts grey, with narrow blackish bars and longitudinal black spots; a light rufous band across the hind neck; scapulars strongly marked with blackish and buff; upper wing-coverts with roundish spots near the tips; first primary deep brown, with a narrow whitish border to the basal half of the outer web, and sometimes with an obsolete spot to the inner web; second primary with a few narrow buff bars to the basal half, the next one with bars across three quarters of the basal part, the following ones barred for almost the whole length; outer pair of rectrices very long, deep brown with pale buff bars, tipped and largely bordered with sandy grey on the inner web and the terminal half of the outer; the following tail-feathers deep brown, barred with buff for about

\* The "Engoulevent à queue fourchue," Levaill. Ois. d'Afr. pls. 47 & 48; *Caprimulgus forficatus*, Vieill. Enc. Méth. p. 540; *Scelchusa forficata*, Gray, Bp., etc., from South Africa, is no doubt a fictitious bird.

† *Ibiyau cola extraña*, Azara, Apunt. no. 315 (1805), and *Caprimulgus enicurus*, Vieill. Enc. Méth. p. 543 (1823) (based on Azara), probably refers to some *Hydropsalis*, but I am unable to say to which species.

*Caprimulgus manurus*, Vieill. Nouv. Dict. x. p. 239, and Enc. Méth. p. 540, is also a species of this genus, but it is doubtful to which species it belongs.

There are also two other Goatsuckers described by Azara in the 'Apuntamientos' which remain unidentified:—the *Ibiyau anonimo*, on which *Caprim. sphenurus*, Vieill. Nouv. Dict. x. p. 243, is based; and the *Ibiyau acanelado*.



the basal half, tipped with pale sandy grey; central rectrices elongated, but only little more than half as long as the lateral ones, pale grey in colour, with many narrow irregular and some broader and more regular bars of a deep blackish-brown colour; general colour of the lower surface buffy white, with brownish and blackish spots and bars; breast very dark, with some rufous-buff spots, chin and throat paler, abdomen and lower tail-coverts almost uniform. Total length about 15.5 inches, wing 6.5, lateral rectrices 11 to 13, central 6.5 to 7, tarsus 0.7.

*Adult female.* Without any greatly elongated tail-feathers; band across the hind neck less pure; abdomen and lower tail-coverts barred; rectrices entirely barred and without any white. Lateral rectrices 5.4 inches, central 4.8, wing 6.3.

*Younger males* have the tail-feathers much shorter and the lower abdomen more barred. The more spot-like appearance of the pale border of the outer web of the first primary is also a sign of immaturity. Some specimens are paler, others darker, with the nuchal band sometimes darker rufous.

*Hab.* Brazil, with the exception of the southern parts.

a-h. ♂ ad. sk.	Brazil.	Tweeddale Coll.
i. Ad. st.	Brazil.	Gould Coll.
k-p. ♂ imm. sk.	Brazil.	Gould Coll.
q. ♀ ad. sk.	Brazil.	Slater Coll.
r, s. ♂ ad. st.	Brazil.	Purchased.
t. ♂ ad.; u, v. ♀ ad. sk.	Bahia, Brazil ( <i>Wucherer</i> ).	Salvin-Godman Coll.
w. ♀ ad. sk.	Chapada, Matto Grosso, Brazil ( <i>H. H. Smith</i> ).	Salvin-Godman Coll.

## 2. *Hydropsalis furcifera*.

Biyau cola de tixera, *Azara, Apunt.* no. 309 (1805).

Caprimulgus furcifer, *Vieill. Nouv. Dict.* x. p. 242 (1817).

*Hydropsalis furcifera*, *Bp. Consp.* i. p. 58 (1850); *Scl. & Salv. Nomencl.* p. 96 (1873); *Durnford, Ibis*, 1877, p. 185 (Buenos Ayres); *Barrows, Auk*, 1884, p. 24 (Entrerios); *Berl. J. f. O.* 1887, p. 120 (Paraguay); *Scl. & Hudson, Argentine Orn.* ii. p. 15, pl. xii. (1889).

*Hydropsalis psalurus*, *Burm. Syst. Ueb.* ii. p. 381 (1856); *id. La-Plata Reise*, ii. p. 450 (1861; Parana).

*Hydropsalis torquata*, *Lee, Ibis*, 1873, p. 134 (Guauguaychú).

*Hydropsalis azaræ*, *Wagl. Isis*, 1832, p. 1222 (Paraguay).

*Hydropsalis pallescens*, *Pelz. Verh. zool.-bot. Ges. Wien*, 1865, p. 986; *id. Orn. Bras.* p. 11 (1867).

*Adult male.* Similar to the male of *H. torquata*, but paler and larger, the nuchal collar buff instead of rufous, the abdomen less whitish and rather buff. Total length about 20 inches, wing 7.4, lateral rectrices 15, central 7.5.

*Adult female.* Similar to the female of *H. torquata*, but much larger and generally paler; the band across the neck paler. Wing 6.8 inches, lateral rectrices 6.8, central 5.7.

*Hab.* From Matto Grosso and the Western parts of Bolivia throughout Southern Brazil, Paraguay, Uruguay, and Argentina.

a. ♂ ad. sk.	Cordova.	G. T. Baker, Esq. [P.]
b. ♂ ad.; c. ♀ ad. sk.	Gualeguaychu ( <i>Lee</i> ).	Sclater Coll.
d. ♀ ad. sk.	Puntalara, Oct. 18.	Durnford Coll.
e. ♂ imm.; f. ♀ ad. sk.	Mendoza ( <i>Weisshaupt</i> ).	Salvin-Godman Coll.
g. Ad. st.	Brazil.	Mrs. Johnson [P.].
h. ♀ ad. sk.	Brazil.	Purchased.
i. ♀ ad. sk.	Forte do Principe, Brazil, Aug. 14 ( <i>Natterer</i> ).	Sclater Coll.
k. ♀ ad. sk.	Bolivia.	Sclater Coll.

### 3. *Hydropsalis climacocercus*.

*Hydropsalis climacocercus*, *Tsch. Wieg. Arch.* 1844, *Consp.* p. 9; *id. Faun. Per., Orn.* p. 128, pl. vi. fig. 1 (1846); *Bp. Consp.* i. p. 59 (1850); *Gray, Hand-l. i.* p. 58 (1869).

*Hydropsalis trifurcata*, *Tsch. Wieg. Arch.* 1844, *Consp.* p. 9 (descr. nulla); *id. Faun. Per., Orn.* p. 129, *ex Natt. MS.* (1846); *Bp. Consp.* i. p. 59 (1850); *Scl. P. Z. S.* 1866, p. 141; *Scl. & Salv. P. Z. S.* 1866, p. 193 (Lower Ucayali); *Petz. Orn. Bras.* p. 11 (1867); *Scl. & Salv. P. Z. S.* 1867, pp. 583, 978 (Tocantins; Pebas); *id. P. Z. S.* 1873, p. 290, 1879, p. 626 (Bolivia); *id. Nomencl. Av. Neotrop.* p. 96 (1873); *Gray, Hand-l. i.* p. 58 (1869); *Tacz. Orn. Pérou*, i. p. 224 (1884).

*Adult female.* Upper parts clear rufous grey vermiculated with black; along the top of the head, back, and rump some longitudinal black spots, bolder on the crown; scapulars with large central triangular black spots, with broad buff edges to the outer webs; primaries deep brown, nearly black, with a broad white band across the first four, one or two distinct and one indistinct white band across the rest; secondaries with white bars to the inner webs; tail deeply furcate, the central pair of rectrices elongated, grey, with narrow black bars; outer elongated pair of rectrices with the outer webs deep brown, barred with pale smoky brown on the basal part, white at the tip; inner webs white, with some short and one very long and broad deep blackish-brown patch and a greyish tip; the rectrices next to the central pair white, broadly tipped with brown and washed with this colour near the base of the outer web; chin and upper throat whitish; breast buff, barred with dark brown; abdomen white, with indications of dark bars; lower tail-coverts washed with sandy buff. Total length about 10·3 inches, wing 6·3, lateral rectrices 6·9, central 6·6, shortest 4·2, tarsus 0·6, half feathered in front.

*Adult female.* Different from the male. Above duller and more greyish; the bands across the primaries pale rufous, narrower, and two or three in number on the first; abdomen barred; lower tail-coverts rich buff; rectrices pale brown, barred with dusky, measuring only 5·1, 4·9, 3·8 inches in length.

*Hab.* Brazil to the eastern parts of Peru and Ecuador.

a, b. ♂ ad. sk.	S. America.	Gould Coll.
c. ♂ ad. sk.	Peru.	Tweeddale Coll.
d. ♂ ad. sk.	Yuyo, Bolivia ( <i>C. Buckley</i> ).	Salvin-Godman Coll.

e. ♀ ad. sk.	Pebas, E. Peru, June 6 ( <i>J. Hauxwell</i> ).	Salvin-Godman Coll.
f, g. ♂ ad.; h, i. ♀ ad. sk.	Lower Ucayali ( <i>Bartlett</i> ).	Slater Coll.
k, l. ♂ ♀ ad. sk.	R. Amazons.	Purchased.
m. ♂ sk.	Forte do Principe, Brazil, Aug. 18 ( <i>Natterer</i> ).	Salvin-Godman Coll.
n. ♂ ad. sk.	Rio Guaparé, Brazil, Aug. 5 ( <i>Natterer</i> ).	Slater Coll.
o. ♂ ad. sk.	R. Tocantins ( <i>A. R. Wallace</i> ).	Slater Coll.

#### 4. *Hydropsalis schomburgki*.

? *Hydropsalis furcifer*, *Cab. (nec Vieill.) in Schomb. Guiana*, iii. p. 710 (1848).

*Hydropsalis schomburgki*, *Scl. P. Z. S.* 1866, p. 142 (B. Guiana; *ex Gray MS.*); *Scl. & Saltr. Nomencl. Av. Neotr.* p. 96 (1873); *Salvin, Ibis*, 1885, p. 439 (B. Guiana).

*Adult male*. Similar to that of *H. climacocercus* in the form of the tail, but less brilliant in colour, much more blackish above; white band across the first primaries less broad, the white colour on the lateral rectrices less in extent, shortest rectrices blackish near the bases, with dark bars across the central rectrices broader. Wing 6.2 inches, lateral rectrices 5.9, central 5.6, shortest 3.6, tarsus 0.6.

*Adult female*. Colour of the upper surface similar to that of the male; first primaries crossed by an interrupted rufous bar; wing-coverts with distinct buff terminal spots; abdomen and lower tail-coverts entirely barred; rectrices deep blackish brown with pale brown bars, without white. Tail shorter than in the male.

*Young males* seem to be similar to the female, but the spots on the first primaries are white, washed with buff, and the abdomen less barred.

*Hab.* British Guiana.

a. ♂ ad. st.	British Guiana.	Sir R. Schomburgk [C.]. (Type of species.)
b. ♀ ad.; c. ♂ jun. sk.	British Guiana.	Sir R. Schomburgk [C.].
d, e. ♂ ♀ ad. sk.	British Guiana.	Slater Coll.
f. ♀ ad. sk.	Camacusa, B. Guiana, March 10 ( <i>H. Whitely</i> ).	Salvin-Godman Coll.

#### 12. MACROPSALIS.

*Macropsalis*, *Scl. P. Z. S.* 1866, p. 143 . . . . . Type. *M. forcipata*.

*Range.* Tropical South America.

#### *Key to the Species.*

- a. Lateral rectrices lyriiform . . . . . *lyra*, p. 602.  
 b. Lateral rectrices straight.  
 a'. Shafts of lateral rectrices white, inner webs dark brown . . . . . *segmentata*, p. 602.  
 b'. Shafts of lateral rectrices deep brown, inner webs brown, with broad whitish margins . . . . . *forcipata*, p. 603.

1. *Macropsalis lyra*.

*Hydropsalis lyra*, *Bp. Consp.* i. p. 59 (1850; Colombia); *Cass. Journ. Ac. Phil.* ii. pl. xiv.; *id. Cat. Capr. Philad. Mus.* p. 11 (1851); *Scl. P. Z. S.* 1866, p. 143; *Scl. & Salv. P. Z. S.* 1870, p. 782 (Merida, Venezuela); *id. Nomencl. Av. Neotr.* p. 96 (1873); *id. P. Z. S.* 1879, p. 532; *Tacz. Orn. Pérou*, i. p. 225 (1884).

*Adult male* Above and below black with pale rufous brown spots and bars, and a rufous band across the hind neck; quills brownish black, the outer web of the first primary with a narrow border of rufous to the basal half, rest of primaries with small rufous spots to the outer webs; lateral rectrices extremely elongated and lyriiform, which distinguishes this species from all its congeners; outer elongated rectrices black with pale brownish tips, the ends of the shafts white; inner webs bordered with buff on the basal part. Total length about 31 inches, wing 7, lateral rectrices 27, central 3.6.

*Adult female*. In coloration quite similar to the male, but a little paler on the top of the head and back and with no elongated lateral rectrices, these measuring not more than 5.6 inches and barred with light rufous across the outer webs.

In *young birds* the pale rufous border to the outer web of the first primary reaches to the tip and the outer web has distinct spots; in quite young males the lateral rectrices are not yet elongated.

*Hab.* Venezuela, Colombia. Ecuador to Peru.

<i>a-h.</i> Ad. sk.	Colombia.	
<i>i, k.</i> ♂ ad. sk.	Antioquia ( <i>T. K. Salmon</i> ).	Salvin-Godman Coll.
<i>l.</i> ♂ ad. sk.	Ecuador ( <i>C. Buckley</i> ).	Salvin-Godman Coll.
<i>m.</i> ♂ imm. sk.	Merida, Venezuela ( <i>A. Goering</i> ).	Slater Coll.
(♀ ♀).		

2. *Macropsalis segmentata*.

*Hydropsalis segmentata*, *Cass. Proc. Ac. Phil.* 1849, p. 238; *id. Journ. Ac. Phil.* ii. p. 116; *Scl. Cat. Am. B* p. 28 (1862); *Gray, Hand-l.* i. p. 58 (1869); *Scl. & Salv. P. Z. S.* 1879, pp. 532, 626 (Bolivia); *id. Nomencl. Av. Neotr.* p. 96 (1873); *Tacz. Orn. Pérou*, i. p. 233 (1884).

*Adult male*. In general coloration similar to *M. lyra*, but without the rufous band across the neck, with some narrow shaft-lines on the breast, and at once distinguished by the long lateral rectrices, these being perfectly straight; the inner webs of the rectrices uniform deep blackish brown with small pale tips, the outer webs narrow and with some fulvous spots, the shafts white from above. Total length about 26 inches, wing 6.5, lateral rectrices 21.5, central 4.2.

*Adult female*. Similar to the male, but the outer rectrices not elongated, measuring only 4.9 inches. Distinguished from the female of *M. lyra* by the want of a distinct rufous nuchal band and by the distinct and continuous bars on both webs of the outer tail-feathers.

*Young.* Less brilliantly coloured, the abdomen rather pale buff.

*Hab.* Colombia and Ecuador to Peru and Bolivia.

<i>a, b.</i> ♂ ♀ ad. sk.	Antioquia, U.S. of Colombia ( <i>T. K. Salmon</i> ).	Salvin-Godman Coll.
<i>c, d.</i> Ad. st.	Colombia.	Purchased.
<i>e, f.</i> ♀ ; <i>g.</i> Imm. ♂ ; <i>h, i.</i> ♂ ad. sk.	Bogota.	Gould and Sclater Colls.
<i>k.</i> ♀ imm. sk.	Matos, Ecuador ( <i>L. Fraser</i> ).	Sclater Coll.
<i>l.</i> ♂ ad. sk.	Near Quito.	Gould Coll.
<i>m.</i> ♀ imm. sk.	Tilotilo, Prov. Yungas, Bolivia ( <i>C. Buckley</i> ).	Salvin-Godman Coll.

### 3. *Macropsalis forcipata* \*.

*Caprimulgus forcipatus*, *Nitzsch, Pterylogr.* p. 125.

*Caprimulgus megalurus*, *Licht. Nomencl.* p. 62 (1854).

*Hydropsalis limbatus*, *Cass. Journ. Ac. Phil.* ii. p. 115.

*Hydropsalis forcipatus*, *Burm. Syst. Ueb.* ii. p. 380 (1856); *Scl. Cat. Am. B.* p. 281 (1862); *id. P. Z. S.* 1866, p. 143; *Pelz. Orn. Bras.* p. 11 (1867); *Cab. J. f. O.* 1874, p. 226 (Rio); *Forbes, Ibis*, 1881, p. 348; *Salv. Cat. Strickl. Coll.* p. 380 (1882).

*Hydropsalis creagra*, *Bp. Consp.* i. p. 58 (1850).

*Adult male.* Upper surface brownish black spotted with rufous buff; a pale rufous band across the hind neck; first primary deep brown, with buff spots on the inner web, the others with bars on both webs; outer pair of rectrices extremely elongated, the shafts and outer webs uniform brownish black with small whitish tips, inner webs of the same colour but broadly buffy white along the outer edge; lower parts buff, with some dark brown bars. Total length about 30 inches, wing 9, lateral rectrices 2.4-5, central 2.7.

*Adult female.* Similar to the male, but the nuchal band less distinct, the lower parts more rufous buff; outer rectrices deep brown with fulvous bars, and only 7 inches in length. Wing only 7.7 inches.

*Hab.* South-eastern parts of Brazil.

<i>a, b.</i> ♂ ad. sk.	S. America (Brazil).	Gould Coll
<i>c.</i> Ad st.	Brazil.	Purchased.
<i>d, e, f.</i> ♂ ad. sk.	Brazil.	Salvin-Godman Coll.
<i>g.</i> ♂ ad.; <i>h.</i> ♀ ad. sk.	Brazil ( <i>Dillwyn</i> ).	Sclater Coll.
<i>i, k, l.</i> ♂ ad. sk.	São Paulo, Brazil.	

### 13. LYNCOENIS.

*Lyncornis*, *Gould, Icon. Av.* 1838, pl. iv. . . . . Type.  
L. cerviniceps.

#### *Key to the Species.*

*a.* Wing more than 9 inches long.

*a'.* Wing more than 11 inches . . . . . *cerviniceps*, p. 604.

\* *Hydropsalis upanemæ*, *Pelz. Verh. zool.-bot. Ges. Wien*, 1865, p. 985, *id. Orn. Bras.* p. 11, *Scl. P. Z. S.* 1866, p. 143, is probably a female or young specimen of *M. forcipata*.

- b'*. Wing less than 11 inches.  
*a''*. Feathers of abdomen with regular bars.  
*a'''*. Larger; top of the head lighter . . . . . *macrotis*, p. 605.  
*b'''*. Smaller; top of the head darker . . . . . *mindanensis*, p. 605.  
*b''*. Feathers of the abdomen irregularly  
 barred . . . . . *macropterus*, p. 605.  
*b*. Wing less than 9 inches long.  
*c'*. Distinct crescent on the hind neck . . . . . *temmincki*, p. 606.  
*d'*. No distinct crescent on the hind neck . . . . . *papuensis*, p. 606.

### 1. *Lyncornis cerviniceps*.

*Lyncornis cerviniceps*, *Gould, Icon. Av.* pt. ii. pl. iv. (1838); *Gray, Hand-l.* i. p. 62 (1869); *Jerd. Ibis*, 1871, p. 356; *Blyth, B. Burnm.* p. 82 (1875); *Hume, Stray F.* ii. pp. 162, 469 (1874; Tenasserim); *id. op. cit.* v. p. 17 (1877; Cachar), viii. p. 48 (Malay Penins.); *Wardl. Ramsay, Ibis*, 1877, p. 459; *Davison, Stray F.* v. p. 454 (1877); *Hume & Davison, Stray F.* vi. p. 60 (1878); *Bingh, Stray F.* ix. p. 151 (1880); *Oates, B. Burmah*, ii. p. 22 (1883); *id. ed. Hume's Nests & Eggs Ind. B.* p. 52 (1890); *Hume, Stray F.* xi. p. 40 (1888; Manipur).

*Eurostopodus cerviniceps*, *Blyth, Cat. B. Mus. As. Soc.* p. 82 (1849).

*Lyncornis cerviceps*, *Bp. Consp.* i. p. 62 (1850).

*Lyncornis bourdilloni*, *Hume, Stray F.* iii. p. 302 (1875); *id. op. cit.* iv. p. 382 (1876); *Davison, Ibis*, 1888, p. 147.

*Adult.* Forehead, crown, and nape pale brownish buff, with very fine black vermiculations, and large black spots along the middle; elongated ear-tufts black, tipped or bordered with buff; general colour of the upper surface chestnut, buff, and black, a rusty collar on the hind neck; quills dark chocolate-brown, with many interrupted chestnut bars; inner secondaries pale buff with a little black only, nearly uniform in older birds, less uniform in younger specimens; rectrices black, with buff and rusty mottled bars; feathers of the throat and breast dark chocolate-brown, tipped with chestnut; a broad band of white across the throat; abdomen blackish brown, each feather with one or two bars of buff. Total length about 16 inches, wing 11 to 12, tail 8 to 8.5, tarsus 0.8.

*Hab.* From the Naga Hills, Dibrughur and Cachar to Southern Tenasserim, and again in the Travancore Hills.

- a.* ♂ ad. sk. Dibrughur, July 29 (*J. R.* Hume Coll.  
*Cripps*).  
*b, c.* Ad. sk. Cachar. Hume Coll.  
*d, e.* Ad. sk. Burma. E. Blyth, Esq. [P.].  
*f.* ♀ ad. sk. Karen Hills, Jan. 14 (*R. G.* Tweeddale Coll.  
*W. R.*).  
*g.* ♀ ad. sk. Kareenue, Jan. 29 (*Col. Lloyd*). Oates Coll.  
*h, i.* ♀ ad. sk. Foot of Arrakan Hills, Dec. 29. Oates Coll.  
*k, l.* Ad. sk. Tonghoo (*Col. Lloyd*). Tweeddale Coll.  
*m, n.* ♂; *o, p.* ♀ Tonghoo, Jan., Feb. (*R. G.* Tweeddale Coll.  
 ad. sk. *W. R.*).  
*q, r.* ♂ ad. sk. Salween District, Dec. 18 (*W.* Hume Coll.  
*Davison*).  
*s, t, u.* ♂; *v-z.* Pahpoon, Nov.-Febr. (*W.* Hume Coll.  
 ♀ ad. sk. *Davison*).

<i>a'</i> . ♂ ad. sk.	Thatone, Jan. 20 ( <i>W. Davison</i> ).	Hume Coll.
<i>b'</i> , <i>c'</i> . ♂ ; <i>d'-h'</i> . ♀ ad. sk.	Pabyin, Mergui, Dec., Jan. ( <i>W. Davison</i> ).	Hume Coll.
<i>i'-o'</i> . ♂ ; <i>p'</i> , <i>q'</i> . ♀ ad. sk.	Bankasoon, Feb. ( <i>W. Davison</i> ).	Hume Coll.
<i>r'</i> . ♂ ad. sk.	Thoungyeen R., Jan. 1 ( <i>C. T. Bingham</i> ).	Hume Coll.
<i>s'-w'</i> . Ad. sk.	Poongah and Kossoom, Sept., Oct. ( <i>J. Darling</i> ).	Hume Coll.
<i>x'</i> . ♀ ad. sk.	S. Travancore, Jan. 15 ( <i>Bourdillon</i> ).	Hume Coll.
<i>y'</i> , <i>z'</i> . ♂ ad. sk.	Konegur, Travancore, Aug., Nov.	F. T. Bourdillon, Esq. [C.]

## 2. *Lyncornis macrotis*.

*Caprimulgus macrotis*, *Fig. P. Z. S.* 1831, p. 97 (Manila).

*Lyncornis macrotis*, *Gould, Icon. Av.* pt. 2 (1838); *Bp. Consp.* i. p. 62 (1850); *Gray, Hand-l.* i. p. 62 (1869); *Tweedd. Trans. Zool. Soc.* ix. p. 159 (1877); *Wardl. Ramsay, Ibis*, 1886, p. 157 (Manila).

*Adult.* Similar to *L. cerviniceps*, but with the tail and wings shorter; top of the head of a totally different pale chocolate-colour, so that the rusty collar on the hind neck becomes very perceptible by contrast; general aspect darker, the white band across the throat more or less distinctly interrupted in the middle. Total length about 14.5 inches, wing 10.6 to 11.1, tail 6.8 to 7.4.

*Hab.* Luzon, Philippines.

<i>a</i> . Ad. sk.	Manila.	Zoological Society. (Type of the species.)
<i>b-f</i> . Ad. sk.	Manila.	
<i>g</i> . Ad. sk.	Philippines.	Cuming Coll.
<i>h</i> . Ad. st.	[Philippines.]	Purchased.

## 3. *Lyncornis mindanensis*. (Plate XIII.)

*Lyncornis mindanensis*, *Tweedd. P. Z. S.* 1878, p. 944.

*Adult.* Similar to *L. macrotis*, but smaller and the top of the head still darker; general aspect blacker. Total length about 13 inches, wing 10.3, tail 6.6, tarsus 0.65.

*Hab.* S. Mindanao.

<i>a, b, c</i> . ♂ ad. sk.	Zamboanga, Mindanao, April, May ( <i>A. H. Everett</i> ).	Tweeddale Coll. (Types of the species.)
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## 4. *Lyncornis macropterus*.

*Lyncornis macropterus*, *Bp. Consp.* i. p. 62 (1850); *Wallace, Ibis*, 1860, p. 141; *Gray, Hand-l.* i. p. 62 (1869); *Walden, Tr. Z. S.* viii. pp. 47, 112 (1872).

*Adult.* In size about equal to *L. mindanensis*, but easily distinguished from all the foregoing species by the fine vermiculations of the feathers of the abdomen, which has quite a different aspect. Each feather of the abdomen in *L. cerviniceps* and the Philippine species has only two buff bars, whereas the feathers of the abdomen

in *L. macropterus* have several smaller buff cross-markings. Total length about 13 inches, wing 9·9 to 10·8, tail 6·3 to 6·8, tarsus 0·65.

*Hab.* Celebes.

a. Ad. sk.	Celebes.	Tweeddale Coll.
b. Ad. : c. ♂ ; d. ♀ ad. sk.	Menado, N. Celebes.	Wallace Coll.

### 5. *Lyncornis temminckii*.

*Lyncornis temminckii*, *Goult, Icon. Av.* pt. 2 (1838); *Bp. Consp.* i. p. 62 (1850); *Gray, Hand-l.* i. p. 62 (1869); *Wald. Ibis*, 1872, p. 369; *Salvad. Ucc. Borneo*, p. 115 (1874); *Tweedd. Ibis*, 1877, p. 298; *Hume, Stray F.* viii. p. 43 (1879; Malay Peninsula); *Nicholson, Ibis*, 1882, p. 58 (S.E. Sumatra); *Grabowsky, Orn.*, 1885, p. 157 (S.E. Borneo); *Everett, Journ. Straits Branch Asiat. Soc.* 1889.

*Adult.* In colour much resembling the species of *Lyncornis* from the Philippines, but easily distinguished by its small size, the total length being only about 10·5 inches, the wing 7·6 to 8·3, the tail about 5·5, the tarsus 0·5.

*Hab.* The Malay Peninsula and adjacent islands, Sumatra and Borneo.

a. ♂ ad. sk.	Batang Padang, Perak.	L. Wray, Esq. [P.].
b. ♂ ; c. ♀ ad. sk.	Ding-ding R., Feb. 28 ( <i>W. Davison</i> ).	Hume Coll.
d-f. Ad. sk.	Penang, April ( <i>Dr. Cantor</i> ).	India Museum [P.].
g, h. ♂ ; i-l. ♀ ad. sk.	Selangore, Jan., April, Sept., Nov. ( <i>W. Davison</i> ).	Hume Coll.
m-l'. Ad. sk.	Klang, Feb. to June ( <i>W. Davison</i> ).	Hume Coll.
m'-p'. Ad. sk.	Malacca.	
q', r'. ♀ ad. sk.	Malacca, Aug. ( <i>R. G. W. R.</i> ).	Tweeddale Coll.
s'-s'. Ad. sk.	Malacca, Jan., July, Oct.	Hume Coll.
y'. ♂ ad. sk.	Kuroo, Malay Peninsula, Nov.	Hume Coll.
z'. ♀ ad. sk.	Nealys, Malay Peninsula, Oct.	Hume Coll.
a''-d''. ♂ ; e''-k''. ♀ ad. sk.	Johore, Jan.-March & Aug.	Hume Coll.
l', m''. Ad. sk.	Lamong, S.E. Sumatra ( <i>E. C. Buxton</i> ).	Tweeddale Coll.
n''. ♂ ; o''. ♀ ad. sk.	Marope, Borneo, July ( <i>A. H. Everett</i> ).	Tweeddale Coll.
p''. Skeleton.	Java.	Purchased.

### 6. *Lyncornis papuensis* \*.

*Caprimulgus papuensis*, *Schleg. Ned. Tijdschr. Dierk.* iii. p. 340 (1866; New Guinea, Salwatti); *Gray, Hand-l.* i. p. 58 (1869).

*Lyncornis papuensis*, *Salvad. Ann. Mus. Civ. Gen.* vii. p. 767 (1875); *id.* x. p. 311 (1877); *id.* *Orn. Papuas.* i. p. 534 (1880).

*Adult.* Above deep brown, spotted and vermiculated with rufous, top of the head and back slightly shaded with greyish, scapulars

\* *Eurostopodus astrolabæ*, Ramsay, *Proc. Linn. Soc. N. S. Wales*, vii. p. 20 (1883), seems to be identical with *Lyncornis papuensis*, to judge from the description. *Cf.* *Salvad. Ibis*, 1884, p. 354.



with much more rufous; upper wing-coverts distinctly spotted with rufous; quills deep brown, inner webs with small rufous spots; tail deep blackish brown, barred with rufous, central pair of rectrices similar to the upper parts in colour; a large white patch on the throat; upper breast somewhat more distinctly barred; pale spots on the abdomen rather rounded and very conspicuous; lower tail-coverts pale rufous, barred with deep brown. Total length about 10 inches, wing 7·8, tail 5·5, tarsus 0·65.

*Hab.* New Guinea, Salwatti.

#### 14. EUROSTOPUS.

Type.

*Eurostopodus* (*corr.* *Eurostopus*), *Gould, P. Z. S.* 1837, p. 142 ..... *E. albigularis*.

The species belonging to this genus are very similar to true *Caprimulgus*, but easily distinguishable by the absence of rictal bristles and by the rather strong feet, while the tarsus is thickly covered with feathers.

The eggs are spotted like those of *Caprimulgus*, the spots perhaps more distinct and darker.

*Range.* Australia and Papuasia.

#### Key to the Species.

- a.* Wing more than 9·5 inches in length ..... *albigularis*, p. 607.  
*b.* Wing less than 9 inches in length.  
*a'.* First primary with large white spot ..... *argus*, p. 608.  
*b'.* First primary without white spot ..... *nigripennis*, p. 609.

#### 1. *Eurostopus albigularis*.

*Caprimulgus guttatus*, *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 192 (pullus) (1825)\*.

*Caprimulgus albigularis*, *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 194 (adult) (1825); *Finsch, Neu-Guinea*, p. 162 (1865).

*Caprimulgus mystacalis*, *Temm. Pl. Col.* 410 (1826).

*Eurostopodus albigularis*, *Gould, P. Z. S.* 1837, p. 142; *Gray, List Spec. Fissirostr. Brit. Mus.* p. 11 (1848); *Gould, B. Austr.* ii. pl. 7 (1848); *id. Handb. B. Austr.* i. p. 96 (1865); *Gray, Handb.* i. p. 62 (1869); *Ramsay, P. Z. S.* 1875, p. 113 (egg); *id. ibid.* p. 581 (N.E. Queensland); *Salvad. Orn. Papuas.* i. p. 532 (1880); *North, Nests & Eggs Austr. B.* pl. xi. fig. 3 (1890).

*Adult.* Above dark grey with black vermiculations and spots, varied also with rusty rufous spots and markings; top of the head grey, with fine black vermiculations, and long black spots down the middle; a more or less distinct rusty rufous semicollar on the hind neck; scapulars pale grey, with black vermiculations and large black rufous marginal spots; the first two quills mostly uniform black, but sometimes with a white spot, the others with rusty rufous spots,

\* This name has constantly been applied to the smaller species, but on examining the type in the British Museum, I find that it is a nestling of *E. albigularis*, and not of the smaller form. As the description of this bird is not sufficient to recognize the species, I prefer the name *C. albigularis*, published in the same article.

the third and fourth with a round white spot on the outer web; throat blackish brown, with rusty rufous spots and a very large white spot on each side; breast black and greyish; under wing-coverts, tarsus, abdomen, thighs, and lower tail-coverts rusty, with blackish bars; tail above grey, with black bars and vermiculations; tail below blackish brown, with pale rusty cross bars. Total length about 13 inches, wing 10, tail 6·2.

*Young.* Feathers of the upper parts mottled brown and grey at the bases, about the terminal half or more rufous, with a black spot in the middle; lower parts buff, irregularly barred with deep brown and strongly shaded with rufous.

*Hab.* Australia and New Guinea.

<i>a.</i> Pull. sk.	Australia.	Linnean Soc. (Type of <i>C. guttatus</i> , Vig. & Horsf.)
<i>b.</i> Pull. sk.	[Australia.]	Purchased.
<i>c.</i> Imm. st.	Australia.	Purchased.
<i>d-g.</i> ♂ ♀ ad. sk.	Australia.	Tweeddale Coll.
<i>h. i.</i> ♂ ad. sk.	Brisbane ( <i>Cockerell</i> ).	Salvin-Godman Coll.
<i>k.</i> Ad. st.	Woody Wallis Island.	Earl of Derby [P.].

## 2. *Eurostopus argus.*

Fichtel's Goatsucker, *Lath. Gen. Hist.* vii. p. 345.

*Eurostopodus guttatus*, *Gould (nec Vig. & Horsf.)*, *P. Z. S.* 1837, p. 142; *Gray, List Fissirostr.* p. 11 (1848); *Bp. Consp.* i. p. 62 (1850); *Cass. Cat. Capr. Mus. Philad.* p. 12 (1851); *Gould, B. Austr.* ii. pl. 8 (1848); *id. Handb. B. Austr.* i. p. 96 (1865); *Gray, Hand-l.* i. p. 62 (1869); *Ramsay, Proc. Linn. Soc. N. S. W.* ii. p. 128 (1877); *Salvad. Orn. Papuas.* i. p. 531 (1880); *North, Nests & Eggs Austr. B.* pl. xi. fig. 2 (1890).

*Caprimulgus albogularis*, *Schleg. (nec Vig. & Horsf.) Ned. Tijdschr. Dierk.* iii. p. 340 (1866; Aru).

*Caprimulgus argus*, *Rosenb. Reis naar Zuidoostereil.* p. 37 (descr. nulla) (1867; Aru).

*Caprimulgus guttatus*, *Thienem. Fortpfl. ges. Vög.* pl. xlii. fig. 21 (1854); *Koenig-Warth. J. f. O.* 1868, p. 377 (nidification).

*Eurostopus albogularis*, *Salvad. (nec Vig. & Horsf.) Ann. Mus. Civ. Gen.* x. p. 311 (1877).

*Eurostopus guttatus*, *Salvad. Ann. Mus. Civ. Gen.* xii. p. 321 (1878); *D'Alb. & Salvad. ibid.* xiv. p. 55 (1879).

*Adult.* Distinguished from *E. albogularis* by its smaller size and its uniform rusty lower abdomen and under tail-coverts, smaller under wing-coverts and tarsus; first primary with a round white spot on the inner web, the following three with increasing white spots on both webs; the colour of the upper surface varies much, being sometimes very pale grey, sometimes quite rufous, sometimes darker; the rusty rufous collar on the neck is sometimes very distinct, sometimes rather obsolete. Total length about 12 inches, wing 8·8, tail 6·4.

*Hab.* Australia, Aru Islands, and probably New Ireland.

<i>a.</i> Ad. st.	Australia.	Purchased.
<i>b.</i> Ad. sk.	Australia.	E. Rishton, Esq. [P.].
<i>c, d.</i> ♂ ♀ ad. sk.	Australia.	Tweeddale Coll.

e. Ad. sk.	S. Anstralia.	Capt. Sturt [C.].
f. Ad. sk.	Queensland ( <i>J. T. Cockerell</i> ).	Tweeddale Coll.
g. Imm. sk.	N.E. Anstralia.	Purchased.
h, i. Ad. sk.	Port Albany ( <i>Coxen</i> ).	Tweeddale Coll.
k. Ad. st.	Red Wallis Island.	Earl of Derby [P.].
l. Ad. sk.	N. Anstralia.	Capt. Chambers [P.].
m, n. ♂ ♀ ad. sk.	Derby, N.W. Anstralia ( <i>T. H. Bowyer Bower</i> ).	Capt. Bowyer Bower [P.].
o, p. ♂ ad. sk.	N.W. Anstralia.	J. R. Elsey, Esq. [P.].
q. ♂ ad. sk.	Shark Bay, W. Anstralia, May.	Dr. Rayner [P.].
( <sup>2</sup> ) r. Pull. sk.	Topaca, New Ireland.	Rev. G. Brown [C.].

### 3. *Eurostopus nigripennis*.

*Eurostopodus nigripennis*, *Rams. Pr. Linn. Soc. N. S. W.* vi. p. 843 (1881); *Scl. Ibis*, 1882, p. 465, note.

*Caprimulgus nobilis*, *Tristr. Ibis*, 1882, p. 134, pl. iii. (Rendova, Solom. I.).

*Eurostopus nigripennis*, *Salvad. Orn. Papuas.* iii. p. 528 (1882); *id. Agg. Orn. Papuas.* i. p. 63 (1889); *Ramsay, Pr. Linn. Soc. N. S. W.* vii. p. 19 (1882).

*Adult female* (type of *E. nobilis*). Similar to *E. albigularis*, but of the size of *E. argus*, from which it is at once distinguishable by the want of the white mark on the first primary and by those of the next primaries being much smaller and bordered with a rusty shade; lower abdomen and under tail-coverts barred; smaller under wing-coverts barred; scapulars for a great part of the tips deep brownish black, with small rufous spots. Total length about 12 inches, wing 8.8, tail 5.9. (*Mus. H. B. Tristram.*)

*Hab.* Rubiana and Rendova Islands, Solomon Group.

### 15. CHORDEILES.

Type.

*Chordeiles*, *Swains. Faun. Bor.-Am.* ii. p. 496 (1831)... *C. virginianus*.

*Range.* The whole of North and South America.

#### *Key to the Species.*

- A. Abdomen uniform white; three outer primaries uniform brown, inner primaries with large patches of white . . . . . *rupestris*, p. 617.
- B. Abdomen not entirely white; three outer primaries with white or buff patches.
- a'. Wing less than 5.5 inches . . . . . *pusillus*, p. 618.
- b'. Wing more than 5.5 inches
- a". Without distinct rufous spots to the primaries, anterior to the white patch; white patch in male extending over five outer quills, sometimes indicated on the sixth . . . . . [pp. 610-614. *virginianus* and allies,
- b". With distinct rufous markings on quills, anterior to the white patch; white patch in male extending over four outer quills, rarely indicated on the fifth . . . . . [pp. 614-616. *acutipennis* and allies,

1. *Chordeiles virginianus*.\*

- Le Tette-chèvre de la Virginie, *Briss. Orn.* ii. p. 477 (1760).  
*Caprimulgus virginianus*, *Gm. S. N.* ii. p. 1028 (1788); *Steph. Gen. Zool.* x. p. 153 (1817); *Aud. Orn. Biogr.* ii. p. 273, pl. 147 (1834); *Koenig-Warth. J. f. O.* 1868, p. 373; *Lawr. Proc. U. S. Nat. Mus.* i. p. 450 (1878).  
*Chordeiles virginianus*, *Swains. Faun. Bor.-Amer.* ii. p. 496 (1831); ? *Gosse, B. Jamaica*, p. 33 (1847); *Bp. Consp.* i. p. 63 (1850); *Cab. & Heine, Mus. Hein.* iii. p. 86 (1860); *Sci. & Salv. Ibis*, 1860, p. 275 (Guatemala); *Sci. Cat. Am. B.* p. 279 (1862); *Sci. & Salv. P. Z. S.* 1864, p. 364 (Panama); *iid. Nomencl. Ar. Neotr.* p. 96 (1873); *iid. P. Z. S.* 1879, p. 531; *Sci. P. Z. S.* 1866, p. 133; *Gray, Hand-l.* i. p. 61 (1869); *Coues, Key N. Am. B.* p. 181 (1872); *Barrows, Auk*, 1884, p. 24; *Stejn. Auk*, 1885, p. 178; *Turner, Proc. U.S. Mus.* viii. p. 242 (1885; Labrador); *Brewst. Auk*, 1886, p. 105; *Fox, t. c.* p. 319; *Cory, B. W. Ind.* p. 135 (1889); *Berl. J. f. O.* 1887, p. 19 (Paraguay); *Ridgw. Man. N. Am. B.* p. 301 (1887); *Langdon, Auk*, 1887, p. 130; *Richmond, Auk*, 1888, p. 21; *Sci. & Hudson, Argentine Orn.* ii. p. 13 (1889); *Everm. Auk*, 1889, p. 22; *Merrill, Auk*, 1889, p. 256; *Feilden, Ibis*, 1889, p. 486 (Barbados).  
*Caprimulgus popetue*, *Viell. Ois. Am. Sept.* i. p. 56, pl. xxiv. (♀) (1807); *id. Nouv. Dict.* x. p. 242 (1817).  
*Chordeiles popetue*, *Baird, B. N. Am.* p. 151 (1858); *Dresser, Ibis*, 1865, p. 471; *Pelz. Orn. Brus.* p. 14 (1867); *Baird, Brew. & Ridgw. N. Am. B.* ii. p. 401 (1874); *Ridgw. U.S. Geol. Expl. 40th Par.* iii. p. 568 (1877); *Merrill, Proc. U.S. Nat. Mus.* iii. p. 6 (1880); *Stearns, Proc. U.S. Nat. Mus.* vi. p. 117 (1883; Labrador); *Ayersborg, Auk*, 1885, p. 283 (S.E. Dakota); *Coues, Auk*, vi. p. 37 (1888).  
 Long-winged Goatsucker, *Penn. Arct. Zool.* ii. p. 337 (1785).  
*Caprimulgus americanus*, *Wils. (nec Linn.) Am. Orn.* v. p. 65, pl. xl.  
*Chordeiles americanus*, *De Kay, N. Y. Zool.* ii. p. 34, pl. xxvii.

*Adult male.* Above black with a little metallic greenish gloss, the feathers with lateral buff spots, producing a mottled appearance; scapulars more greyish towards the bases of the feathers, the spots more tinged with rufous; wing-coverts more spotted with pale fulvous; some larger longitudinal spots of pale rufous-buff form an indistinct nuchal collar; primaries uniform deep brown, the first five with a broad band of white across both webs, but often not extending to the outer web of the first, this band situated about midway between the tip and carpal joint; sometimes an indication of the white band on the sixth; secondaries with pale greyish bars to the inner webs; rectrices with indistinct pale buff or greyish-buff bars across both webs, and a subterminal white bar, often not extending to the outer web of the lateral tail-feathers, and not over the central pair; a large V-shaped white mark across the throat; abdomen barred with buff or whitish buff and brown, the brown bars becoming less numerous on the lower abdomen and under tail-coverts. Total length about 9 to 9.5 inches, wing 7.6 to 8.25, tail 4.3 to 4.7.

\* I think there cannot be much doubt that Azara's *Ibijau jaspeado* (Apunt. no. 313) and Vieillot's *Caprimulgus variegatus* (Nouv. Dict. x. p. 238, & Enc. Méth. p. 539), as well as Merrem's *C. jaspideus*, are referable to *C. virginianus*

*Adult female.* Similar to the male, but having the throat-patch buff, not pure white; the tail-feathers without the white subterminal bar; wing-patches generally less in extent; abdomen and lower tail-coverts generally more buff.

*Young.* Colours less distinct, the underparts more finely and profusely mottled and altogether of a more greyish appearance; throat-patch less distinct, the white being mottled with dusky.

*Nestling in down.* Whitish grey with dusky markings.

*Hab.* Northern and Eastern parts of North America, as far north as Hudson's Bay, wandering south in winter to the Bahamas, West Indies, Central America, and over the greater part of South America. A specimen from the Bermudas is in the Museum, collected by Lieut. Wedderburn; it probably occurs there as a straggler only.

a. ♂ ad. sk.	Hudson's Bay.	Sir G. Back [P.]
b. ♀ ad. sk.	Nova Scotia ( <i>Lieut. Wedderburn</i> ).	Jardine Coll.
c, d. ♀ ad. sk.	Canada ( <i>Col. Shelley</i> ).	Tweeddale Coll.
e. ♂ ad. sk.	Fort Dufferin, June 6.	N. A. Bound. Comm. [P.]
f. ♂ ad. sk.	Fort Simpson.	B. R. Ross, Esq. [P.]
g, h, i. ♂; k, l. ♀ ad. sk.	British Columbia.	J. K. Lord, Esq. [C.]
m. ♂; n, o. ♀ ad. sk.	Vancouver Island.	J. K. Lord, Esq. [C.]
p, q. ♂; r. ♀ ad. sk.	Waukegan, Illinois, May ( <i>E. W. Nelson: Hensh. Coll.</i> ).	Salvin-Godman Coll.
s, t, u. ♂; v, w. ♀ ad. et imm. sk.	Lyons' Falls, New York, June to Aug. ( <i>A. J. Dayan: Hensh. Coll.</i> ).	Salvin-Godman Coll.
x, y. ♂; z, a'. ♀ ad. sk.	Washington, D. C. ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
b'. Pull. sk.	Cobb's Island, Virginia, July ( <i>H. W. H.</i> ).	Salvin-Godman Coll.
c'. ♂ ad. sk.	North Fork, Ind. Terr., July 17 ( <i>C. H. Merriam: Hensh. Coll.</i> ).	Salvin-Godman Coll.
d'. ♀ ad. sk.	Browsville, Texas, May 4 ( <i>F. B. Armstrong</i> ).	Salvin-Godman Coll.
e'. ♂ ad. sk.	Bermudas ( <i>Lieut. Wedderburn</i> ).	Jardine Coll.
f'. ♂ ad. sk.	Nuevo Leon, Mexico, May 19 ( <i>F. B. Armstrong</i> ).	Salvin-Godman Coll.
g'. ♀ ad.; h'. Imm. sk.	Panama ( <i>J. McLeannan</i> ).	Salvin-Godman Coll.
i'. ♂ imm. sk.	Bogota.	Sclater Coll.
k'. Imm. sk.	Antioquia, U. S. Colombia ( <i>T. K. Salmon</i> ).	Salvin-Godman Coll.
l', m'. ♂ ♀ ad. sk.	Uruguay, Oct. ( <i>J. Natterer</i> ).	Sclater Coll.
o'. Sternum.	N. America.	Purchased.

Specimens intermediate between *Chordeiles virginianus* and *C. henryi*.

a. ♂ ad. sk.	North America ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
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b. ♀ ad. sk.	Waukegan, Illinois, May 15 ( <i>E. W. Nelson</i> ).	Salvin-Godman Coll.
c. ♂ ad. sk.	Milk River, July 25 ( <i>Coues</i> ).	Salvin-Godman Coll.
d. ♂ ad. sk.	Pembina Mts., July 16 ( <i>Coues</i> ).	Salvin-Godman Coll.
e. ♂ ; f. ♀ ad. sk.	Atotonilco (Huejotzingo), Mexico ( <i>Ferrari-Perez</i> ).	Salvin-Godman Coll.
g. ♂ ad. sk.	Calovevora, Veragua ( <i>Arce</i> ).	Salvin-Godman Coll.

Subsp. a. **Chordeiles henryi.**

*Chordeiles henryi*, *Cass. Illustr. B. Calif. & Tex.* i. p. 233 (1855);  
*Baird, B. N. Am.* p. 153, pl. xvii. (1858); *Sci. Cat. Amer. B.*  
p. 279 (1862); *id. P. Z. S.* 1866, p. 133; *Blakist. Ibis*, 1862, p. 3;  
*id. op. cit.* 1863, p. 55; *Dresser, Ibis*, 1865, p. 471; *Cory, Auk*, vi.  
p. 37 (1888).

*Caprimulgus henryi*, *Koenig-Warth. J. f. O.* 1868, p. 376.

*Chordeiles popetue*, var. *henryi*, *Baird, Brew. & Ridgw. N. Am. B.*  
ii. p. 404 (1874); *Merrill, Proc. U.S. Nat. Mus.* i. p. 146 (1878);  
*Belding, t. c.* p. 427 (1879).

*Chordeiles virginianus henryi*, *Stejn. Auk*, ii. p. 182 (1885); *A. O.*  
*U. Check-list*, p. 221 (1886); *Evermann, Auk*, iii. p. 80 (1886);  
*Townsend, Proc. U.S. Nat. Mus.* x. p. 207 (1887); *Ridgw. Man.*  
*N. A. B.* p. 301 (1887); *Harsbr. Auk*, vi. p. 239 (1889).

*Chordeiles popetue henryi*, *Drew, Auk*, ii. p. 17 (1885); *Brewst. t. c.*  
p. 143 (1885).

*Chordeiles sennetti*, *Coues, Auk*, 1888, p. 37 (Dakota to Texas).

*Chordeiles virginianus sennetti*, *Chapm. Auk*, 1888, p. 396.

. Similar to *C. virginianus*, but much lighter, with a much greater predominance of the light, almost cinereous mottlings; lower abdomen and lower tail-coverts more uniform and often pure white; the patch on the primaries generally larger. The female more fulvous in colour. Total length about 9.1 to 10 inches, wing 7.6 to 8.4, tail 4.3 to 4.8.

Typical specimens from the plains of Texas and Mexico are very distinct, but others approach the true *C. virginianus*. In many cases it is difficult or even impossible to assign the specimens to any particular form, and indeed the intermediate individuals form a perfect passage between the subspecies.

*Hab.* Tablelands of Mexico and Texas, throughout Western United States, east to Northern Illinois. Probably a resident bird in the southern parts of its habitat, while northern specimens wander southwards into South America. I have seen undoubted specimens from Bogota, where the true *C. virginianus* also occurs.

a. ♀ ad. sk.	Pembina, Dakota, July 16 ( <i>Dr. Coues</i> ).	Salvin-Godman Coll.
b. ♂ ad. sk.	Dakota, July 30 ( <i>J. Bailey</i> ).	Salvin-Godman Coll.
c. ♀ ad. sk.	Wyoming Terr., Aug. 8 ( <i>J.</i> <i>Bailey</i> ).	Salvin-Godman Coll.
d, e, f. ♂ ad. sk.	Fort Bridger, Utah, June ( <i>C.</i> <i>Drexler</i> ).	Sclater and Salvin- Godman Colls.
g. ♂ ; h, i. ♀ ad. sk.	California.	Lord Walsingham [P.]
k. ♂ ad. sk.	California, May 20 ( <i>R. B.</i> <i>Herron</i> ).	Salvin-Godman Coll.

<i>l.</i> Imm. sk.	California ( <i>Verreaux</i> ).	Slater Coll.
<i>m-q.</i> ♂ ; <i>r-v.</i> ♀ ad. sk.	Colorado Springs, Colorado, June ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
<i>w.</i> ♂ ; <i>x.</i> ♀ imm. sk.	Portland, Oregon, Aug. 29 ( <i>Henshaw</i> ).	Salvin-Godman Coll.
<i>y.</i> ♂ ad. sk.	S. Antonio, Texas, June 10 ( <i>H. E. Dresser</i> ).	Salvin-Godman Coll.
<i>z-d'.</i> ♂ ; <i>e'.</i> ♀ ad. sk.	Brownsville, Texas, March, May ( <i>F. B. Armstrong</i> ).	Salvin-Godman Coll.
<i>f'.</i> ♂ ad. sk.	Aransas Bay, Texas, June 2 ( <i>Armstrong</i> ).	Salvin-Godman Coll.
<i>g'-r'.</i> ♂ ad. ; <i>s'.</i> ♂ imm. sk.	Corpus Christi, Texas, April, May ( <i>Armstrong</i> ).	Salvin-Godman Coll.
<i>t'.</i> ♂ ad. sk.	Laramie Park, Texas, June 7 ( <i>R. B. Hitz</i> ).	Salvin-Godman Coll.
<i>u'-a'.</i> ♂ ; <i>b'.</i> , <i>c'.</i> ♀ ad. sk.	N. Leon, Mexico, May ( <i>Arm- strong</i> ).	Salvin-Godman Coll.
<i>d'.</i> ♂ ad. sk.	Matamoras, Mexico, July 24 ( <i>H. E. Dresser</i> ).	Salvin-Godman Coll.
<i>e''.</i> Imm. sk.	Jerez, Zacatecas, Mexico, May ( <i>Armstrong</i> ).	Salvin-Godman Coll.
<i>f''.</i> ♂ ; <i>g''.</i> , <i>h''.</i> ♀ ad. sk.	Southern Pine Ridge, W. Distr. Brit. Honduras, April ( <i>F. Blancaneaux</i> ).	Salvin-Godman Coll.
<i>i''.</i> ♀ imm. sk.	Chupat, Patagonia ( <i>H. M. Harrison</i> ).	John Gatcombe, Esq. [P.].

Subsp.  $\beta$ . *Chordeiles chapmani*.

*Chordeiles chapmani*, *Coues, Auk*, 1888, p. 37.

*Chordeiles virginianus chapmani*, *Chapman, Auk*, 1888, pp. 272, 396 ;  
*Scott, Auk*, 1889, pp. 186, 252.

This is merely a rather dark and smaller form of the true *C. virginianus*, with which the coloration agrees. Wing about half an inch shorter than in the true *C. virginianus*, measuring 7 to 7·3 inches, tail about 4.

*Hab.* Florida (Southern parts chiefly).

<i>a.</i> ♂ ad. sk.	Miami, Florida, April 24 ( <i>H. W. Henshaw</i> ).	Salvin-Godman Coll.
<i>b-e.</i> ♂ ; <i>f-h.</i> ♀ ad. ; <i>i.</i> Pull. sk.	Tarpon Springs, Florida, May, June ( <i>W. E. D. Scott</i> ).	Salvin-Godman Coll.

Subsp.  $\gamma$ . *Chordeiles minor*.

*Chordeiles minor*, *Cab. J. f. O.* 1856, p. 5 (Cuba) ; *Gundl. Ann. Lyc. Nat. Hist.* 1860, p. 262 (Cuba) ; *Scl. P. Z. S.* 1861, p. 77 (Jamaica) ; *id. Cat. Am. B.* p. 279 (1862) ; *id. P. Z. S.* 1866, p. 133 ; *Cub. & Heine, Mus. Hein.* iii. p. 86 (1860) ; *Gray, Hand-l.* i. p. 61 (1869) ; *Scl. & Salv. Nom. Av. Neotr.* p. 96 (1873) ; *Gundl. J. f. O.* 1874, p. 117 (Cuba) ; *A. & E. Newt. Handb. Jamaica*, p. 109 (1881) ; *Cory, B. Bahamas*, p. 106 (1880) ; *id. B. Haiti & S. Domingo*, p. 85 (1885) ; *id. Auk*, 1886, p. 340 ; *id. B. W. Ind.* p. 135 (1889).

*Caprimulgus minor*, *Koenig-Warth. J. f. O.* 1868, p. 375.

- Chordeiles popetue*, var. *minor*, *Baird, Brew. & Ridgw. N. Am. B.* ii. p. 400 (1874).  
*Chordeiles popetue minor*, *Ridgw. Proc. U.S. Nat. Mus.* iii. p. 231 (1881); *Marquard, Auk*, 1889, p. 183.  
*Chordeiles virginianus minor*, *Stejn. Auk*, 1885, p. 182; *Ridgw. Man. N. A. B.* p. 301 (1887).  
*Chordeiles gundlachi*, *Laur. Ann. Lyc. N. Y.* vi. p. 165 (1856; Cuba); *Brewer, Proc. Bost. Nat. Hist. Soc.* vii. p. 306 (1860).  
 ? *Chordeiles popetue*, *Gundl. Ann. Lyc. Nat. Hist.* 1860, p. 263 (Cuba); *id. J. f. O.* 1874, p. 117 (Cuba).

This is also a form which is closely allied to *C. virginianus*, or rather by its small size to *C. chapmani* from Florida. It differs from the latter merely in the stronger rufous tint, which pervades the whole plumage, especially the scapulars, sides of the head and neck, lower throat and upper breast, abdomen and under wing-coverts. In adult males the under tail-coverts are peculiarly coloured, being rusty buff crossed by a few dark brown bars and some white spots. The wings are as a rule somewhat shorter than in *C. chapmani*, measuring 6·6 to 7 inches in length.

*Hab.* West-Indian Islands: Cuba, San Domingo, Jamaica.

- a-b.* ♂ ad. sk. Jamaica.  
*c.* ♀ imm.; *d.* ♂ ad. sk. Spanish Town, Jamaica (*W. Salvin-Godman Coll. T. March*).  
*e-f.* ♂ ♀ ad. sk. Jamaica.  
*g.* ♂ ad. sk. La Vega, San Domingo, Ang. *Salvin-Godman Coll.* 6 (*C. B. Cory*).  
*h.* ♂ ad. sk. Cuba. *Sclater Coll.*

## 2. *Chordeiles acutipennis*.

- Engoulevent acutipenne de la Guyane, *Buff. Hist. Nat. Ois.* vi. p. 547 (1779); *Daubent. Pl. Enl.* 7:32 (1783).  
*Caprimulgus acutipennis*, *Bodd. Tabl. Pl. Enl.* p. 46 (1783); *Cass. Cat. Capr. Mus. Phil.* p. 11 (1851).  
*Chordeiles acutipennis*, *Cass. Proc. Ac. Phil.* v. p. 187 (1850); *id. U. S. Expl. Exp.* p. 189 (1858); *Pelz. Orn. Bras.* p. 14 (1867); *Gray, Hand-l.* i. p. 62 (1869); *Tacz. Orn. Pérou*, i. p. 212 (1884).  
*Caprimulgus acutus*, *Gm. Syst. Nat.* ii. p. 1031 (1788); *Vieill. Nouv. Dict.* x. p. 231 (1817); *id. Enc. Méth.* p. 536 (1823); *Steph. Gen. Zool.* x. p. 168 (1817).  
*Caprimulgus semitorquatus*, *Wied, Beitr.* iii. p. 330 (1830).  
*Chordeiles acutus*, *Bp. Consp.* i. p. 63 (1850); *Burm. Syst. Ueb. Th. Bras.* ii. p. 395 (1856); *Tacz. P. Z. S.* 1877, p. 327.  
 Le Tette-chèvre tacheté du Brésil, *Briss. Orn.* ii. p. 483 (1760).  
 Ibijau, *Buff. Hist. Nat.* vi. p. 539 (1779).  
*Caprimulgus brasilianus*, *Gm. Syst. Nat.* ii. p. 1031 (1788); *Steph. Gen. Zool.* x. p. 161 (1817); *Wied, Beitr.* iii. p. 337 (1830); *Koenig-Warth. J. f. O.* 1868, p. 381 (nidif.).  
*Caprimulgus noitibo*, *Vieill. Nouv. Dict.* x. p. 241 (1817).  
*Caprimulgus brasiliensis*, *Vieill. Enc. Méth.* p. 542 (1823); *Tsch. Faun. Per.*, *Orn.* p. 125, pl. v. (1846).  
*Chordeiles brasilianus*, *Bp. Consp.* i. p. 63 (1850); *Cab. & Heine, Mus. Hein.* iii. p. 86 (1860); *Scl. Cat. Am. B.* p. 279 (1862); *Pelz. Orn. Bras.* p. 14 (pt.) (1867).



- Caprimulgus labeculatus, *Jard. Ann. & Mag. N. II.* 1846, p. 118.  
 Chordeiles labeculatus, *Bp. Consp.* i. p. 63 (1850).  
 Chordeiles sapiti, *Bp. Consp.* i. p. 63 (1850; *ex Natt. MS.*); *Cab. & Heine, Mus. Hein.* iii. p. 86 (1860).  
 Caprimulgus hirundinaceus, *Spir. Av. Bras.* ii. p. 2, pl. iii. fig. 1 (1825).  
 Chordeiles pruinus, *Burm. (nec Tsch.) Syst. Uebers.* ii. p. 394 (1856).  
 Caprimulgus stenopterus, *Pelz. Orn. Bras.* p. 14, note (1868).

In general appearance similar to pale brown examples of *C. virginianus*. Above blackish brown, the feathers laterally spotted with buff, brownish, or rufous-brownish, more brownish on the top of the head and on the scapulars; primaries deep brown, the first four, or sometimes five, crossed by a white bar, all the primaries above the white band and the secondaries throughout more or less heavily spotted with rufous; rectrices, except the central pair, with a distinct subterminal bar of white; lower parts buff, barred with brown; a large white patch across the throat and up to the chin, with a more or less distinct rufous patch below it; breast mottled with greyish. Total length about 8 inches, wing 6.1 to 6.5, tail 3.8, tarsus 0.55.

*Adult female.* Similar to the male, but without white subterminal bar to the rectrices, spots on the primaries more or less washed with rufous or buff.

*Young birds* are very pale, with all the markings less developed, especially the dark ones, which are small and not so pronounced.

*Hab.* South America except the most southern parts.

a. ♀ ad. sk.	I. of Tobago ( <i>Kirk</i> ).	Jardine Coll. (Type of <i>C. labeculatus</i> , Jard.)
b-e. ♂; f, g. ♀ ad. sk.	I. of Tobago ( <i>Kirk</i> ).	Jardine Coll.
h. ♂ juv. sk.	Cartagena, Colombia.	Sclater Coll.
i. ♂ ad. sk.	Caracas, Venezuela ( <i>Goering</i> ).	Sclater Coll.
k. ♂; l, m. ♀ ad. sk.	Aunai, Brit. Guiana, April ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
n. ♀ ad. sk.	Quongá, Brit. Guiana, Oct. 20 ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
o, p, q. ♂ ad. sk.	Cayenne.	
r, s. ♂ ad. sk.	Brazil.	Salvin-Godman and Sclater Colls.
t, u. ♂ ad. sk.	Pernambuco ( <i>W. A. Forbes</i> ).	Salvin-Godman Coll.
v. ♂ ad.; w. ♀ imm. sk.	Bahia, Brazil.	Salvin-Godman and Tweeddale Colls.
x. ♂ ad. sk.	Barra do Rio Negro ( <i>Natterer</i> ).	Sclater Coll.
y. ♀ ad. sk.	Forte do Rio Branco, Dec. 17 ( <i>Natterer</i> ).	Sclater Coll.
z, a'. ♀ ad. sk.	Santa Fé, Minas Geraes, Brazil ( <i>Rogers</i> ).	Sclater and Salvin-Godman Colls.
b'. ♀ ad. sk.	South America.	Purchased.
c'. Ad. sk.	Guayaquil ( <i>Jameson</i> ).	Jardine Coll.

Subsp. *α*. *Chordeiles pruinus*.

- ? *Caprimulgus exilis*, *Less. Rev. Zool.* 1839, p. 44 (Chili).  
*Caprimulgus pruinus*, *Tsch. Wiegmann Arch.* 1844, *Consp.* p. 8 (*ex Licht. MS.*); *id. Faun. Peru.* pl. vi. fig. 2 (1846).  
*Chordeiles semitorquatus*, *Tsch. Faun. Peru.* p. 130 (text to plate) (1846).  
*Chordeiles peruvianus*, *Peale, Zool. U.S. Expl. Exp., B.* p. 172 (1848); *Sci. & Salv. P. Z. S.* 1868, p. 175; *id. Nomencl. Av. Neotr.* p. 96 (1873); *Tacz. Orn. Pérou*, p. 210 (1884).  
*Chordeiles acutus*, *Tacz. P. Z. S.* 1874, p. 545.

This is a rather pale form found in Peru. It is very sandy grey above, with the black markings long and narrow, and is a distinct subspecies. I have nevertheless seen examples of the northern form *C. texensis* which are almost similar in plumage to *C. pruinus*. Therefore I think that larger material obtained in different localities and at different times of the year will show that this is merely a subspecies.

*Hab.* Western Peru from Lima southwards.

- |                          |                             |                       |
|--------------------------|-----------------------------|-----------------------|
| <i>a.</i> ♂ ad. sk.      | Tambo Valley, Peru, Oct. 26 | Slater Coll.          |
|                          | ( <i>H. Whitely</i> ).      |                       |
| <i>b, c.</i> ♂ ♀ ad. sk. | Lima ( <i>Jelski</i> ).     | Slater Coll.          |
| <i>d.</i> Ad. st.        | Lima.                       | E. Wilson, Esq. [P.]. |

Subsp. *β*. *Chordeiles texensis*.

- Chordeiles texensis*, *Lawr. Ann. Lyc. N. Y.* vi. p. 167 (1856: Texas);  
*Baird, B. N. Am.* p. 154, pl. xlv. ; *Selat. Cat. Am. B.* p. 279 (1862); *id. P. Z. S.* 1866, p. 134; *Dresser, Ibis*, 1865, p. 471;  
*Gray, Hand-l.* i. p. 61 (1869); *Salvin, Cat. Strickl. Coll.* p. 375 (1882); *A.O.U. Check-list*, p. 221 (1886); *Scott, Auk*, 1886, p. 429; *Sennett, Auk*, 1887, p. 27; *Cooper, t. c.* p. 92; *Ridgw. Man. N. A. B.* p. 301 (1887); *Lloyd, Auk*, 1888, p. 191; *Salvin, Ibis*, 1889, p. 368 (Cozumel).  
*Caprimulgus texensis*, *Koenig-Warth, J. f. O.* 1868, p. 376.  
*Chordeiles acutipennis*, var. *texensis*, *Baird, Brew. & Ridgw. N. A. B.* ii. p. 406 (1874); *Merrill, Proc. U.S. Nat. Mus.* i. p. 146 (1878).  
*Chordeiles acutipennis texensis*, *Ridgw. Proc. U.S. Nat. Mus.* iii. p. 5 (1880); *Belding, op. cit.* v. p. 543 (1883; Lower California).

This is merely a large Northern form of *C. acutipennis*, and no constant difference can be found, except the large size. This, however, varies in true South-American *C. acutipennis*, and specimens approaching *C. texensis* are not rare.

*Hab.* From Southern California and Texas to Costa Rica and Veragua.

- |                                |                                       |                     |
|--------------------------------|---------------------------------------|---------------------|
| <i>a, b.</i> ♀ ; <i>c-e.</i> ♂ | Colton, California, April ( <i>F.</i> | Salvin-Godman Coll. |
| ad. sk.                        | <i>Stephens</i> ).                    |                     |
| <i>f.</i> ♂ ad. sk.            | Triunfo, Lower California,            | Salvin-Godman Coll. |
|                                | June 17 ( <i>W. Brewster</i> ).       |                     |
| <i>g, h.</i> ♂ ♀ ad. sk.       | Cape St. Lucas ( <i>J. Xantus</i> ).  | Salvin-Godman Coll. |

<i>i.</i> ♀ imm. sk.	Gila River, Arizona, Sept. 14 ( <i>Lt. Wheeler</i> ).	Salvin-Godman Coll.
<i>k, l.</i> ♂ ♀ ad. sk.	Yuma, Arizona, Oct. 5.	G. F. Morcom, Esq. [P.].
<i>m, n.</i> ♂ ; <i>o,</i> <i>p.</i> ♀ ad. sk.	Hidalgo, Texas, April ( <i>F. B.</i> <i>Armstrong</i> ).	Salvin-Godman Coll.
<i>q-v.</i> ♂ ; <i>w, x,</i> <i>y.</i> ♀ ad. sk.	Brownsville, April, May ( <i>F.</i> <i>B. A.</i> ).	Salvin-Godman Coll.
<i>z.</i> ♀ ad. sk.	Matamoros, August ( <i>II. E.</i> <i>Dresser</i> ).	Salvin-Godman Coll.
<i>a'-i'.</i> ♂ ; <i>k', l'.</i> ♀ ad. sk.	Nuevo Leon, May ( <i>F. B. A.</i> ).	Salvin-Godman Coll.
<i>m'.</i> ♂ ad. sk.	Altamira, Tamaulipas, March ( <i>W. B. Richardson</i> ).	Salvin-Godman Coll.
<i>n', o'.</i> ♂ ♀ ad. sk.	Xicotencal, Tamaulipas, May ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>p', q'.</i> ♂ ad. sk.	Mexicalcingo, Valley of Mexico ( <i>Ferrari-Perez</i> ).	Salvin-Godman Coll.
<i>r'.</i> ♂ ad. sk.	Coapa, Valley of Mexico ( <i>Ferrari-Perez</i> ).	Salvin-Godman Coll.
<i>s'.</i> ♂ ad. sk.	S. Baltazar, Puebla, July ( <i>F.</i> <i>Ferrari-Perez</i> ).	Salvin-Godman Coll.
<i>t', u'.</i> ♂ ; <i>v'.</i> ♀ ad. sk.	Sierra de Alamos, Sonora, May ( <i>W. Lloyd</i> ).	Salvin-Godman Coll.
<i>w'.</i> ♂ juv. sk.	Mazatlan ( <i>Lt. Murray</i> ).	Jardine Coll.
<i>x', y'.</i> ♂ ♀ ad. sk.	Mazatlan, Jan. ( <i>A. Forrer</i> ).	Salvin-Godman Coll.
<i>z', a'.</i> ♂ ♀ ad. sk.	Santana, near Guadalajara ( <i>W. Lloyd</i> ).	Salvin-Godman Coll.
<i>b'.</i> ♂ ; <i>c'-g'.</i> ♀ ad. sk.	Plains of Colima, Jan. ( <i>W. B.</i> <i>Richardson</i> ).	Salvin-Godman Coll.
<i>h'.</i> ♀ ad. sk.	Juchatengo, Oaxaca ( <i>M.</i> <i>Trujillo</i> ).	Salvin-Godman Coll.
<i>i'.</i> ♂ ad. sk.	Tehuantepec ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>k'.</i> ♀ ad. sk.	Tonalá, Chiapas ( <i>W. B. R.</i> ).	Salvin-Godman Coll.
<i>l'-y'.</i> ♂ ; <i>z'-c'.</i> ♀ ad. sk.	Cozumel Island ( <i>G. F. Gaumer</i> ).	Salvin-Godman Coll.
<i>d<sup>3</sup>, e<sup>3</sup>.</i> ♂ ♀ ad. sk.	Ruatan Island ( <i>G. F. G.</i> ).	Salvin-Godman Coll.
<i>f<sup>3</sup>.</i> ♀ ad. sk.	San Geronimo, Guatemala ( <i>O. S.</i> ).	Salvin-Godman Coll.
<i>g<sup>3</sup>.</i> ♂ ad. sk.	Realejo, Nicaragua, March ( <i>O. S.</i> ).	Salvin-Godman Coll.
<i>h<sup>3</sup>.</i> ♂ ad. sk.	Veragua ( <i>Arce</i> ).	Salvin-Godman Coll.

### 3. *Chordeiles rupestris*.

*Caprimulgus rupestris*, *Spir.*, *Av. Bras.* ii. p. 2, pl. ii. (1823).

*Chordeiles rupestris*, *Bp. Consp.* i. p. 63 (1850); *Burm. Syst. Ueb. Th. Bras.* ii. p. 393 (1856); *Sci. Cat. Am. B.* p. 279 (1862); *id. P. Z. S.* 1866, p. 134; *Sci. & Salv. P. Z. S.* 1866, p. 193 (Lower Ucavali); *Pelz. Orn. Bras.* p. 14 (1867); *Sci. & Salv. P. Z. S.* 1867, p. 583 (Rio Negro); *id. P. Z. S.* 1873, p. 290; *id. Nomencl. Av. Neotr.* p. 96 (1873); *id. P. Z. S.* 1879, p. 626 (Bolivia); *Tacz. Orn. Pérou*, i. p. 214 (1884).

*Adult male.* Above sandy buff, the feathers with vermiculations and hastate spots of black, bolder on the head and scapulars; three outer primaries uniform deep brown, the fourth also mostly uniform,

sometimes with a patch of white on the inner web; inner primaries and secondaries with large patches of white in the middle, the last secondaries similar to the scapulars; outer rectrices white, tipped and more or less spotted with brown; central rectrices similar in colour to the upper parts; lower surface white; a band of brown and buff across the throat; breast spotted with brown; larger under wing-coverts white, the smaller ones spotted with brown. Total length about 7·9 inches, wing 6·2 to 6·7, tail 3·5 to 3·7, tarsus 0·45.

*Female.* Similar to the male.

*Hab.* Amazonia and Peru.

<i>a, b.</i> ♀ ad. sk.	South America.	Slater & Gould Colls.
<i>c.</i> ♂; <i>d, e.</i> ♀ ad. sk.	Ucavali, Peruvian Amazons, May, June.	E. Bartlett [C.].
<i>f.</i> ♂; <i>g.</i> ♀ ad. sk.	YQUITOS, June, Aug.	H. Whitely [C.].
<i>h-k.</i> ♂; <i>l-n.</i> ♀ ad. sk.	Pebas, E. Peru, July, February ( <i>J. Hauvwell</i> ).	Salvin-Godman and Slater Colls.
<i>o.</i> Ad. st.	Pará.	Purchased.
<i>p.</i> ♀ ad. sk.	Pernambuco, Brazil ( <i>Craven</i> ).	Slater Coll.

#### 4. *Chordeiles pusillus*.

*Chordeiles pusillus*, *Gould*, *P. Z. S.* 1861, p. 182; *Sl.* *P. Z. S.* 1866, p. 135; *Gray*, *Hand-l.* i. p. 61 (1869); *Sl.* & *Salv. Nomencl. Av. Neotr.* p. 96 (1873).

*Adult male.* Above deep brown; feathers of the crown fringed with rufous; a spotted line of buff over the eye; back and rump mottled with rufous-brown; scapulars, last secondaries, and upper wing-coverts largely spotted with rusty buff; primaries deep brown, the four outer ones crossed by a broad band of white in the middle, the second with large white tips, shaded with buff; innermost secondaries like the scapulars; tail deep brown, mottled with greyish and rusty, all except the lateral and central pair tipped with white on the inner webs; feathers of the chin, throat, and upper breast deep brown, tipped with rusty buff: a pure white band across the throat; abdomen white, barred with dark brown; under tail-coverts white, often indistinctly barred; under wing-coverts dark brown, barred with white. Total length about 6 inches, wing 4·8 to 5·3, tail 2·8.

*Female.* Similar to the male, but the white patches at the tips of the rectrices mottled with brown.

*Hab.* British Guiana to Brazil.

<i>a.</i> ♂ ad. sk.	S. America.	Gould Coll. (Type of the species.)
<i>b, c.</i> ♂; <i>d, e, f.</i> ♀ ad. sk.	Aunai, Brit. Guiana ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
<i>g, h.</i> ♀ ad. sk.	Ceará, N. Brazil ( <i>W. Jesse</i> ).	Salvin-Godman Coll.
<i>i.</i> ♂; <i>k.</i> ♀ ad. sk.	Bahia, Brazil ( <i>Dr. Luschmuth</i> ).	Salvin-Godman Coll.
<i>l.</i> ♂ ad. sk.	Fazenda, Brazil, July 22 ( <i>Natterer</i> ).	Slater Coll.
<i>m.</i> ♀ ad. sk.	Corunda, July 12 ( <i>Natterer</i> ).	Slater Coll.
<i>n.</i> ♂ ad. sk.	Chapada, Matto Grosso, Brazil, Oct. 10 ( <i>D. W. Smith</i> ).	Salvin-Godman Coll.

## 16. NYCTIPROGNE.

	Type.
Nyctiprogne, <i>Bp. C. S. O.</i> p. 35 (1854) .....	N. leucopygia.
Podochætes, <i>Scl. P. Z. S.</i> 1866, p. 135 .....	N. leucopygia.

The very small bill with the hidden nostrils is characteristic of this form.

*Range.* Brazil and Cayenne.

## 1. Nyctiprogne leucopygia.

- Caprimulgus leucopygus, *Spir. Ar. Bras.* ii. p. 3, pl. iii. (1823).  
 Chordeiles minutus, *Bp. Consp.* i. p. 63 (1850; *ex Natl. MS.*).  
 Chordeiles leucopygus, *Burm. Syst. Ueb.* ii. p. 393 (1856); *Gray, Hand-l.* i. p. 62 (1869).  
 Lurocalis leucopygus, *Cass. Cat. Caprim.* (1851).  
 Nyctiprogne leucopygia, *Bp. C. S. O.* p. 35 (1854); *Scl. & Salv. Nomencl. Ar. Neotr.* p. 96 (1873).  
 Podochætes leucopygus, *Scl. P. Z. S.* 1866, p. 135.

*Adult.* Above deep brown, finely barred with reddish brown; centres of the feathers uniform; scapulars with light outer edges; primaries deep brown, with pale rufous spots to the edges of the outer and inner webs; central rectrices brown variegated with pale rufous, three outer pairs with distinct, fourth pair with indistinct white bars, confined to outer web on the outermost pair; chin and throat pale rufous, finely barred with black; breast and abdomen deep brown, with pale bars of a brownish buff, becoming more and more white towards the lower tail-coverts. Total length about 8 inches, wing 6, tail 4.5, tarsus 0.5.

*Hab.* Brazil and Cayenne.

a. ♂ ad. sk.	Matto Grosso, Brazil, Nov. ( <i>Natterer</i> ).	Sclater Coll.
b. Ad. sk.	Brazil.	Sclater Coll.

## 17. PODAGER.

	Type.
Podager, <i>Wagl. Isis</i> , 1832, p. 277.....	P. nacunda.

*Range.* That of the single species.

## 1. Podager nacunda.

- Nacundá, *Azara, Apunt.* no. 312 (1805).  
 Caprimulgus nacunda, *Vieill. Nouv. Dict.* x. p. 240 (1817; *ex Azara*): *Koenig-Warth. J. f. O.* 1868, p. 372 (nific.).  
 Caprimulgus campestris, *Licht. Verz. Doubl.* p. 59 (1823; San Paulo).  
 Caprimulgus diurnus, *Temm. Pl. Col.* 182 (1823); *Wied, Beitr.* iii. p. 326 (1830).  
 Proithera diurnis, *Swains. Class. B.* ii. p. 339 (1837).  
 Podager nacunda, *Cub. in Schomb. Guiana*, iii. p. 711 (1848); *Bp. Consp.* i. p. 63 (1850); *Burm. J. f. O.* 1853, p. 170; *id. Syst. Ueb. Th. Bras.* ii. p. 400 (1856); *id. La-Plata Reise*, ii. p. 449 (1861); *Cub. & Heine, Mus. Hein.* iii. p. 88 (1860); *Scl. Cat.*

*Am. B.* p. 278 (1862); *id. P. Z. S.* 1866, p. 132; *id. S. Huds. Argentine Orn.* ii. p. 12 (1889); *Scl. & Salv. P. Z. S.* 1866, p. 193 (Lower Ucayali), 1867, pp. 583, 978, 1868, p. 142 (Buenos Ayres), 1873, p. 290, 1879, p. 626; *iid. Nomencl. Av. Neotr.* p. 95 (1873); *Pelz. Orn. Bras.* p. 15 (1867); *Gray, Hand-l. B.* i. p. 61 (1869); *Lee, Ibis*, 1873, p. 134 (Argentina); *Salvin, Cat. Strickl. Coll.* p. 375 (1882); *id. Ibis*, 1885, p. 438 (B. Guiana); *Tacz. Orn. Pérou*, i. p. 208 (1884); *Barrows, Auk*, 1884, p. 24 (Lower Uruguay); *Berl. J. f. O.* 1887, p. 19 (Paraguay).

*Podager nacauda, Léot. Ois. Trinidad*, p. 79 (1866).

*Adult male.* Upper parts pale brown, thickly vermiculated and spotted with black, with distinct bars upon the tail; all the primaries have the basal part white, the remainder being deep blackish brown narrowly edged with whitish at the tips; secondaries pale brown, barred and vermiculated with blackish brown; central rectrices entirely of the colour of the back, three or four outer pairs broadly tipped with white; lores, malar line, and upper throat rusty brown, barred with blackish brown; chin almost uniform rusty; lower part of throat very dark brown; breast similar to the upper parts; a large spot on the throat; abdomen and lower tail-coverts white. Total length about 11·8 inches, wing 9·9, tail 4·8, tarsus 1.

*Adult female.* Wing shorter; basal part of primaries brown, with only a broad white band across them; no white tips to outer rectrices. Wing 9·5 inches.

*Younger specimens* are narrowly barred on the abdomen and under tail-coverts.

*Hab.* Tropical South America from the island of Tobago and Colombia to Patagonia.

<i>a, b.</i> ♀ ad. sk.	Medina, Plains of River Meta, Colombia ( <i>Wheeler</i> ).	Salvin-Godman Coll.
<i>c.</i> ♀ ad. sk.	Bogotá ( <i>Bowman</i> ).	Salvin-Godman Coll.
<i>d, e.</i> ♂ ♀ ad. sk.	Island of Tobago ( <i>Kirk</i> ).	Jardine Coll.
<i>f, g.</i> ♂ ♀ ad. sk.	Aunai, British Guiana, Feb., April ( <i>H. Whiteley</i> ).	Salvin-Godman Coll.
<i>h.</i> ♀ ad. sk.	Pebas, E. Peru ( <i>J. Hauxwell</i> ).	Salvin-Godman Coll.
<i>i.</i> ♂ ad. sk.	Capim River ( <i>A. R. Wallace</i> ).	Sclater Coll.
<i>k.</i> ♀ ad. sk.	Bahia ( <i>Wucherer</i> ).	Salvin-Godman Coll.
<i>l.</i> ♂ ad.; <i>m.</i> ♀ imm. sk.	Chapada, Matto Grosso, Aug. ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
<i>n, o.</i> ♂ ♀ ad. sk.	Bolivia.	T. Bridges, Esq. [C.].
<i>p.</i> ♀ ad. sk.	Uruguay, Nov.	Alan Peel, Esq. [C.].
<i>q.</i> Ad. st.	Brazil.	Lord Stuart de Rothesay [P.].
<i>r.</i> ♂ ad. sk.	Brazil.	Lord Stuart de Rothesay [P.].
<i>s-u.</i> ♀ ad. sk.	Brazil.	Purchased.
<i>v.</i> ♂ ad. sk.	Chupat, Patagonia, Aug. 3.	II. Durnford, Esq. [C.].

## 18. LUROCALIS.

Type.

Lurocalis, *Cass. Proc. Ac. Philad.* v. (1851) p. 189. *L. semitorquatus*.

Tail short, truncate; tarsus feathered in front. The young birds rather peculiarly marked with white.

*Range.* South America.*Key to the Species.*

- a. Abdomen barred ..... *semitorquatus*, p. 621.  
 b. Abdomen uniform rufous..... *rufiventris*, p. 622.

1. *Lurocalis semitorquatus*.Petit Engoulevent tacheté de Cayenne, *Buff. Hist. Nat. Ois.* ii. p. 540 (1779); *Daubent. Pl. Enl.* p. 734 (1783).White-collared Goatsucker, *Lath. Gen. Syn.* ii. pt. ii. p. 599 (1783).Caprimulgus semitorquatus, *Gm. Syst. Nat.* ii. p. 1031 (1788);*Vieill. Nouv. Dict.* x. p. 241 (1817).Podager gouldi, *Gray, Gen. B.* i. pl. 18 (1849).*Lurocalis semitorquatus*, *Cass. Proc. Ac. Phil.* v. p. 189 (1851); *Sci.**Cat. Am. B.* p. 278 (1862); *id. P. Z. S.* 1866, p. 132; *Taylor,**Ibis*, 1864, p. 90 (Trinidad); *Pelz. Orn. Bras.* p. 15 (1867);*Gray, Hand-l.* i. p. 61 (1869); *Layard, Ibis*, 1873, p. 390; *Sci. &**Salv. Nomencl. Av. Neotr.* p. 95 (1873); *Salvin, Ibis*, 1885, p. 438

(B. Guiana).

Chordeiles semitorquatus, *Tsch. Faun. Peru.* p. 130, pl. vi. (1849);*Burm. Syst. Ueb. Th. Bras.* ii. p. 397 (1856); *Cab. & Heine, Mus.**Hein.* iii. p. 87 (note) (1860).Antrostomus semitorquatus, *Bp. Consp.* i. p. 61 (1850).Caprimulgus nattereri, *Temm. Pl. Col.* 107 (1823).Podager nattereri, *Bp. Consp.* i. p. 63 (1850).*Lurocalis nattereri*, *Cass. Proc. Ac. Phil.* v. p. 590 (1851); *Sci. Cat.**Am. B.* p. 278 (1862); *Pelz. Orn. Bras.* p. 15 (1867); *Sci. &**Salv. P. Z. S.* 1867, p. 583 (Para); *id. Nomencl. Av. Neotr.*p. 95 (1873); *Salvin, Cat. Strickl. Coll.* p. 375 (1882).Chordeiles nattereri, *Burm. Syst. Ueb. Th. Bras.* ii. p. 398 (1856).Urocolus nattereri, *Cab. & Heine, Mus. Hein.* iii. p. 87 (1860).

*Adult.* Deep brownish black above, each feather with lateral rufous spots, most of them centred with blackish; scapulars whitish grey at the basal parts; last secondaries with more or less distinct whitish-grey bars; quills deep brown, with interrupted rufous bars and spots; first primary often uniform; rectrices similar in colour, but most of them with greyish tips and the pair next to the central ones often with indistinct white tips; chin, throat, and upper part of the breast deep brown, spotted and indistinctly barred with pale rufous; a large white spot across the throat; lower part of the breast regularly barred with dark brown and pale rufous or buff; abdomen, lower tail-coverts, and under wing-coverts deep rusty rufous, regularly barred with blackish throughout. Total length about 9 to 10 inches, wing 8 to 8.5 inches, tail 3.7, tarsus 0.5.

The *female* seems to be similar to the male.

*Young birds* are different from the adult; the feathers of the lower surface are paler, the breast mottled with whitish; throat-

spot tinged with buff; quills tipped with whitish; scapulars and inner secondaries lighter; feathers of the upper parts, including the upper wing-coverts, whitish finely mottled with dark brown, and with deep brown central spots, before the tip of each feather a large rufous spot with a black eye at the tip, but with the outermost margin white.

Smaller specimens occur, with the wing only 6·7 to 7 inches in length, but they are entirely similar in colour. If these be distinct, then the name of *L. semitorquatus* should be restricted to the smaller form, the larger birds being *L. nattereri*.

There is, however, no sufficient reason to keep them distinct, as the size is variable (I measured specimens with the wing 7·2, 7·5, and 7·8 inches in length); and the small form seems not to be restricted to any specified locality, but occurs in Guiana and Cayenne as well as in Brazil.

*Hab.* British Guiana to Southern Brazil.

a. Ad. sk.	S. America.	Tweeddale Coll.
b. Ad. st.	S. America.	Sir E. Belcher [P.].
c, d. Ad. sk.	Demerara.	Gould Coll.
e. Ad. sk.	Takutu R., Brit. Guiana ( <i>Whitely</i> ).	Salvin-Godman Coll.
f. ♂ ad.; g. ♂ imm. sk.	Bartica Grove, Brit. Guiana, June 2 ( <i>Whitely</i> ).	Salvin-Godman Coll.
h. Ad. st.	Cayenne.	H. C. Rothery [P.].
i. Ad. sk.	Cayenne.	Sclater Coll.
k. ♂ ad. sk.	Pará ( <i>Layard</i> ).	Tweeddale Coll.
l. ♂ ad. sk.	Pará ( <i>Wallace</i> ).	Sclater Coll.
m, n. Ad.; o. Imm. sk.	Rio de Janeiro.	Sclater & Salvin- Godman Colls.
p. ♀ ad. sk.	Ypanema, Oct. 20 ( <i>Natterer</i> ).	Salvin-Godman Coll.
q, r. Ad. sk.	Brazil.	Sclater Coll.

## 2. *Lurocalis rufiventris*.

*Lurocalis nattereri*, *Tacz. (nec Temm.) P. Z. S.* 1879, p. 240 (Peru).  
*Lurocalis rufiventris*, *Tacz. Orn. Pérou*, i. p. 209 (1884); *Berl. & Tacz. P. Z. S.* 1884, p. 306.

*Adult female.* Similar to *L. semitorquatus*, but the spots of the upper surface somewhat brighter rufous, the rufous spots on the breast smaller and more numerous on a darker brown ground; abdomen and under wing-coverts entirely uniform bright rufous; lower tail-coverts uniform rufous, the longest tail-coverts only with a few bars. Total length 10 to 10·5 inches, wing 8·2 to 8·5, tail 3·4, tarsus 0·5.

The *male* is probably not different from the female.

*Young birds*, so far as I can make out from the remains of immaturity in one skin before me, are entirely different from young specimens of *L. semitorquatus*. The abdomen seems to be paler, but is also unbarred; longest under tail-coverts only barred. The feathers of the upper surface are white with brown vermiculations and large deep black spots before the tip, whereas the young of *L. semitorquatus* have rufous spots with merely a black eye in each near the tip. Primaries tipped with whitish.



(Our descriptions are from two females from Peru and an immature skin from Colombia in the Berlepsch collection.)

*Hab.* Colombia to Peru. Seems to be an inhabitant of high elevations.

*a.* Vix ad. st. Bogota. Purchased.

## Subfamily II. NYCTIBIINÆ.

The genus *Nyctibius* differs so greatly from the *Caprimulgine* in having the normal number of phalanges in the outer toes, in the claw of the middle toe not being pectinated, in the presence of large powder-down patches, in the extremely short tarsus and totally different feet, and in the peculiarly hooked bill, that its members must be regarded as constituting a subfamily, if not a family. In most other respects, however, they agree with the *Caprimulgide*, but little is known about their habits.

The subfamily consists of one genus only.

*Range.* From Jamaica and Mexico throughout the tropical parts of South America.

### 19. NYCTIBIUS.

	Type.
<i>Nyctibius</i> , <i>Vicill. Nouv. Dict.</i> xvi. p. 6 (1817) . . . . .	N. jamaicensis.
<i>Nyctornis</i> , <i>Nitzsch, Pterylogr.</i> p. 130 (1840) . . . . .	N. jamaicensis.

*Range.* That of the subfamily.

#### *Key to the Species.*

- a.* Small, wing less than 7 inches; general colour rufous; flanks and lower tail-coverts with large silky white terminal spots . . . . . *bracteatus*, p. 623.
- b.* Larger, wing more than 7 inches; tail not more than 9.
- a'.* Tail less than 6 inches . . . . . *leucopterus*, p. 624.
- b'.* Tail always more than 6 inches . . . . . *jamaicensis*, p. 625.
- c.* Very large, tail always more than 9 inches.
- c'.* Ground-colour rufous above; top of the head deep brown and rufous, without pale markings . . . . . *longicaudatus*, p. 626.
- d'.* Ground-colour rufous-brown above; top of the head blackish with very light cross markings . . . . . *athereus*, p. 627.
- e'.* Ground-colour more or less whitish . . . . . *grandis*, p. 628.

#### 1. *Nyctibius bracteatus*.

*Nyctibius bracteatus*, *Gould, P. Z. S.* 1846, p. 1; *Bp. Consp.* i. p. 58 (1850); *Cass. Proc. Ac. Sc. Phil.* v. p. 184 (1851); *id. Cat. Caprim. Mus. Phil.* (1851); *Scl. P. Z. S.* 1866, pp. 130, 538; *Scl. & Salvin, Exot. Orn.* pl. 20 (1867); *id. Nomencl. Av. Neotr.* p. 95 (1873); *Tacz. Ora. Pérou*, i. p. 206 (1884); *Salvin, Ibis*, 1885, p. 438 (B. Guiana).

*Nyctibius rufus*, *Cub. in Schomb. Guiana*, p. 711 (1848); *Scl. P. Z. S.* 1866, pp. 130, 585.

*Adult.* Bright rufous, speckled and vermiculated with black, more heavily on the top of the head; lower abdomen and lower tail-coverts lighter and without black vermiculations; along the upper wing and scapulars a series of white spots each surrounded by a blackish line; the same kind of spots on the upper abdomen, while the lower abdomen and lower tail-coverts are tipped with pure silky white; primaries deep brown, the outer webs pale brown; tail bright rufous, irregularly barred with black; under wing-coverts dark brown; tail bright rufous, irregularly barred with black. Total length about 9 inches, wing 6·3, tail 5.

*Young birds* are much paler and covered all over with large pale spots, the white spots are less pure.

*Hab.* Peru, Ecuador, Colombia, and Guiana.

<i>a.</i> Imm. sk.	Sarayaçu, Ecuador ( <i>C. Buckley</i> ).	Salvin-Godman Coll.
<i>b-e.</i> Ad. sk.	Sarayaçu, Ecuador ( <i>C. Buckley</i> ).	Salvin-Godman & Sclater Colls.

## 2. *Nyctibius leucopterus*.

*Caprimulgus leucopterus*, *Wied, Beitr.* iii. p. 311 (1830).

*Nyctibius leucopterus*, *Des Murs, Icon. Orn.* pls. 49, 50; *Burm.*

*Syst. Uebers.* ii. p. 377 (1856); *Sci. P. Z. S.* 1866, p. 130 (S.E. Brazil); *Sci. & Salvin, Nomencl. Av. Neotr.* p. 95 (1873).

*Chordeiles leucopterus*, *Bp. Consp.* i. p. 63 (1850).

*Adult (male?).* Above deep brown with a dull-coppery or somewhat oily gloss, feathers with black terminal spots, which are very bold on the head and hind neck, so that these parts are almost black, mottled with whitish, somewhat more on the hind neck; upper tail-coverts uniform deep brownish black; wing-coverts deep blackish, along the middle of the upper wing a broad white band caused by a series of the middle wing-coverts being pure white with brown tips; first primary uniform deep brown, the others with pale brown spots to the outer webs; secondaries deep brown, some with indistinct pale spots; rectrices deep brown, irregularly banded with pale brown, paler from below; lower parts brown, with two streaks on the sides of the throat and a series of large terminal spots on the breast black; abdomen and lower tail-coverts strongly mottled with whitish by reason of many irregular whitish bands, most of the feathers with small blackish tips and narrow blackish shaft-lines; under wing-coverts uniform blackish. Total length about 11·5 inches, wing 8·5, tail 5·4. "Bill black; iris orange" (*Burmeister*).

Description from a specimen (probably from Bahia) in the Berlepsch collection, the same as referred to by Sclater, *P. Z. S.* 1866, p. 130.

A very distinct species, chiefly recognizable by its short tail.

*Hab.* Coast-region of Brazil (Caravellos, Bahia).

3. *Nyctibius jamaicensis*.

- Wood-Owl, *Sloane, Voy. Jamaica*, ii. p. 295.  
 Le Guira-querea, *Buff. Hist. Nat. Ois.* vi. p. 536 (1779).  
 Engoulevant gris, *Buff. Hist. Nat. Ois.* vi. p. 548 (1779).  
*Caprimulgus jamaicensis* et *griseus*, *Gm. Syst. Nat.* ii. p. 1029 (1788);  
*Steph. Gen. Zool.* x. p. 144 (1817); *Vieill. Nouv. Dict.* x. p. 238  
 (1817); *Denny, P. Z. S.* 1847, p. 38; *Koenig-Warth. J. f. O.* 1868,  
 p. 388.  
 Urutau, *Azara, Apunt.* no. 308 (1802).  
*Caprimulgus cornutus*, *Vieill. Nouv. Dict.* x. p. 245 (1817).  
*Nyctibius urutau*, *Lafr. Mag. de Zool.* 1837, pl. lxxxii.  
*Nyctibius pectoralis*, *Gould, Icon. Av.* pt. ii. (1838); *Bp. Consp.* i.  
 p. 58 (1850); *Scl. P. Z. S.* 1860, p. 79; *id. Cat. Am. B.* p. 278  
 (1862); *E. C. Taylor, Ibis*, 1864, p. 90 (Trinidad).  
*Nyctibius jamaicensis*, *Gosse, B. Jamaica*, p. 41, pl. vi. (1847); *Bp.*  
*Consp.* i. p. 58 (1850); *Scl. P. Z. S.* 1861, p. 77 (Jamaica); *id.*  
*Cat. Am. B.* p. 278 (1862); *id. P. Z. S.* 1866, p. 129; *Albrecht,*  
*J. f. O.* 1862, p. 199; *March, Pr. Ac. Nat. Sci. Phil.* p. 286  
 (1863); *Salvin, Ibis*, 1866, p. 194; *id. Ibis*, 1885, p. 438 (B.  
 Guiana); *id. Ibis*, 1889, p. 368 (I. Ruatan); *Gray, Hand-l. i.*  
*p.* 56 (1869); *Finsch, P. Z. S.* 1870, p. 557 (Trinidad); *Layard,*  
*Ibis*, 1873, p. 389; *Scl. & Salv. Nomencl. Av. Neotrop.* p. 95 (1873);  
*id. P. Z. S.* 1879, p. 531; *A. & E. Newt. Handb. Jamaica*, p. 108  
 (1881); *Tacz. Orn. Pérou*, i. p. 207 (1884); *Cory, List B. W.*  
*Ind.* p. 16 (1885); *id. Auk*, iii. p. 338 (1886); *id. B. W. Ind.*  
*p.* 133 (1889).  
*Nyctibius pallidus*, *Gosse, B. Jamaica*, p. 49, pl. vii. (var.) (1847);  
*Bp. Consp.* i. p. 58 (1850); *Cory, Auk*, iii. p. 339 (1886); *id. B. W.*  
*Ind.* p. 134 (1889).  
*Nyctibius cornutus*, *Bp. Consp.* i. p. 58 (1850); *Tschudi, Faun. Per.*  
*p.* 123 (1855); *Burm. Syst. Ueb. Th. Bras.* ii. p. 376 (1856); *Pelz.*  
*Orn. Bras.* p. 10 (1867); *Tacz. P. Z. S.* 1879, p. 240 (Peru).

*Adult.* General colour greyish or brownish, heavily marked with longitudinal streaks and blotches of deep blackish brown, sometimes also with much white; throat more or less whitish with blackish shafts; belly and lower tail-coverts similar, but more or less dark and marked with distinct black shaft-lines; feathers of the breast with a series of deep brown terminal spots; wings and tail deep brown with pale bands, more developed on the tail.

There are considerable differences in size. As a rule specimens from Mexico and Central America are the largest, measuring about 16 inches in length, wing 12 to 13, tail 9. The specimens from Jamaica are nearly as large, the wing measuring 11·5 to 12 inches, and they no doubt belong to the same form. Going farther to the south, we find that specimens from Colombia are a little smaller, but hardly separable. Still more to the south, in Brazil and Guiana we find them much smaller again, so that specimens from Brazil have the wing only 9·8 to 10·8 inches in length. Unless larger series from different localities show that there is no constant difference in examples from the same localities, I would propose to separate the smaller form subspecifically.

*Hab.* From Central and Southern Mexico throughout the tropical parts of South America.

a. *Larger form (Northern specimens).*

a. Ad. sk.	Jamaica.	P. Gosse, Esq. [C.].
b. Ad. st.	Jamaica.	Purchased.
c, d. Ad. sk.	Jamaica, Aug., Dec. ( <i>Osburn</i> ).	Sclater Coll.
e. ♂ ad. sk.	Presidio de Mazatlan, March 15 ( <i>A. Forrer</i> ).	Salvin-Godman Coll.
f. Ad. sk.	Jalapa, Mexico ( <i>C. T. Hoöge</i> ).	Salvin-Godman Coll.
g. Ad. sk.	La Antigua, Vera Cruz ( <i>M. Trujillo</i> ).	Salvin-Godman Coll.
h. Ad. sk.	Teapa, Feb. ( <i>Mrs. H. H. Smith</i> ).	Salvin-Godman Coll.
i. Ad. sk.	Tehuantepec ( <i>F. Sumichrast</i> ).	Salvin-Godman Coll.
k. Ad. sk.	Near City of Guatemala ( <i>O. S.</i> ).	Salvin-Godman Coll.
l, m. Ad. sk.	Ruatan Island, Bay of Honduras ( <i>G. F. Gaumer</i> ).	Salvin-Godman Coll.
n. ♂ ad. sk.	Volcan de Chiriqui ( <i>E. Arcé</i> ).	Salvin-Godman Coll.
o, p. Ad. sk.	Concordia, Antioquia, U. S. Colombia.	T. K. Salmon, Esq. [C.].

b. *Smaller form (Southern and Eastern specimens).*

q. Ad. sk.	Andes of Quito, Ecuador ( <i>Fraser</i> ).	Sclater Coll.
r. Ad. sk.	Quito, Ecuador.	Salvin-Godman Coll.
s, t. Ad. sk.	Sarayacu, Ecuador ( <i>C. Buckley</i> ).	Salvin-Godman Coll.
u. ♀ ad. sk.	Yquitos, Upper Amazons, May ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
v. ♂ ad. sk.	Roraima, British Guiana, Oct. 27 ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
w. Ad. sk.	Bartica Grove ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
x. Ad. st.	Cayenne.	H. C. Rothery, Esq. [P.].
y. ♀ ad. sk.	Maranham, June 15 ( <i>E. L. Layard</i> ).	Tweeddale Coll.
z. Ad. sk.	Pernambuco, Brazil.	Sclater Coll.
a'. Ad. sk.	Bahia.	Purchased.
b', c', d'. Ad. sk.	Bahia ( <i>Dr. Wucherer</i> ).	Salvin-Godman Coll.
e'. Skeleton.	Jamaica.	Gosse Coll.

4. *Nyctibius longicaudatus.*

*Caprimulgus longicaudatus*, *Spir.*, *Av. Brasil*. ii. p. 1, pl. i. (1825) (R. Japura).

*Nyctibius longicaudatus*, *Tsch. Fam. Peru*. pp. 20, 124 (1846) (Prov. Maynas); *Cass. Pr. Ac. Phil.* v. p. 184 (1851); *id. Cat. Caprim. Mus. Phil.* (1851); *Burm. Syst. Ueb. Th. Bras.* ii. p. 376 (1856; note); *Scl. P. Z. S.* 1866, pp. 128, 145; *Pelz. Orn. Bras.* p. 10 (1867); *Gray, Hand-l.* i. p. 55 (1869); *Scl. & Salv. P. Z. S.* 1873, p. 290 (E. Peru); *id. Nomencl. Av. Neotr.* p. 95 (1873); *Tacz. Orn. Pér.* i. p. 205 (1884); *Salvin, Ibis*, 1885, p. 437 (B. Guiana).

*Adult.* Upper surface dark rufous-brown, with narrow shaft-lines

and bars of blackish; top of the head somewhat blackish; upper tail-coverts with broad bars; bend of wing and smaller upper wing-coverts almost blackish, the latter crossed by a broad rufous-buff stripe; larger wing-coverts with longitudinal rufous-buff marks; wing and tail-feathers dark rufous, with broad deep brown bars; under wing-coverts deep brown, with pale rufous bars; lower surface a little lighter than the upper parts, more or less uniform towards the lower abdomen and lower tail-coverts; lower breast with some blackish terminal spots, forming a kind of irregular broken band. Total length about 18 inches, wing 12, tail 10·8.

A female from Guiana is much smaller and measures only about 16 inches in length, wing 11, tail 9·5. From the small material before me I am unable to say whether this is a sexual difference or whether the specimens from Guiana form a smaller race. There is no difference in colour.

*Hab.* Upper Amazons, Ecuador, Peru, and Guiana.

a. Ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Sclater Coll.
b, c. Ad. sk.	Sarayacu, Ecuador ( <i>Buckley</i> ).	Salvin-Godman Coll.
d. ♀ ad. sk.	Bartica Grove, Brit. Guiana, Dec. 7 ( <i>H. Whitely</i> ).	Salvin-Godman Coll.

### 5. *Nyctibius æthereus*.

*Caprimulgus æthereus*, *Wied, Beitr.* iii. p. 303 (1830); *Thienem. Fortpfl. ges. Voy. Atl.* pl. xlii. fig. 20 (1854); *Koenig-Warth. J. f. O.* 1868, p. 371 (nidiific.).

*Nyctibius æthereus*, *Bp. Consp.* i. p. 58 (1850); *Cass. Pr. Ac. Phil.* v. p. 184 (1851); *id. Cat. Caprim. Mus. Phil.* (1851); *id. U. S. Expl. Exp.* p. 190, *Orn. Atl.* pl. xiv. (1858); *Burm. Syst. Ueb. Th. Bras.* ii. p. 375 (1856); *Cab. & Heine, Mus. Hein.* iii. p. 94 (1860); *Scl. P. Z. S.* 1866, p. 128; *Pelz. Orn. Bras.* p. 10 (1867); *Gray, Hand-l.* i. p. 55 (1869); *Scl. & Salv. Nomencl. Ar. Neotr.* p. 95 (1873); *Cab. J. f. O.* 1874, p. 226 (Rio); *Salvin, Cat. Strickl. Coll.* p. 374 (1882).

*Adult.* Upper surface rufous-brown, with narrow deep brown longitudinal shaft-stripes and vermiculations; top of the head deep brown, with pale almost whitish markings; upper tail-coverts and tail with broad bars; quills dark brown with irregular paler bars; wing-coverts spotted with white; lower surface dark greyish brown with deep brown shaft-lines, blackish terminal and very pale sub-terminal spots on the breast, rufous on the flanks, paler, and almost whitish towards the lower abdomen and lower tail-coverts; under wing-coverts blackish, with whitish bars. Total length about 20 inches, wing 12·5 to 13·3, tail 12.

This species is distinguished from *N. longicaudatus* by the less rufous colour, especially on the under surface; the blackish spots on the breast are more numerous; the top of the head, which is deep brown and rufous in *N. longicaudatus*, is blackish with very pale buff bar-like spots. The size a little larger.

*Hab.* Brazil.

<i>a-d.</i> Ad. sk.	S. America.	Sharpe & Tweeddale Colls.
<i>e.</i> Ad. st.	S. America.	Purchased.
<i>f, g.</i> Ad. sk.	Brazil.	Sclater & Salvin- Godman Colls.

### 6. *Nyctibius grandis*.

Le grand Tette-chèvre tacheté du Brésil, *Briss. Orn.* ii. p. 485 (1760).

Grand Ibijau, *Buff. Hist. Nat. Ois.* vi. p. 541 (1779).

Grand Crapaud-volant de Cayenne, *Daubent. Pl. Enl.* 325 (1783).

Grand Goatsucker, *Lath. Gen. Syn.* iv. p. 590.

*Caprimulgus grandis*, *Gm. Syst. Nat.* i. p. 1029 (1788); *Wied, Beitr.* iii. p. 295 (1830); *Koenig-Warth. J. f. O.* 1868, p. 372 (nidific.).

*Nyctibius grandis*, *Vieill. Nouv. Dict.* xvi. p. 7 (1825); *Jard. & Selby, Ill. Orn.* pl. 89 (about 1829); *Cab. in Schomb. Guiana*, iii. p. 711 (1848); *Gray, Gen. B.* i. p. 46, pl. xvi. (1849); *Bp. Consp.* i. p. 58 (1850); *Burm. Syst. Ueb. Th. Bras.* ii. p. 374 (1856); *Cab. & Heine, Mus. Hein.* iii. p. 94 (1860); *Lawr. Ann. Lyc. New York* vii. p. 290 (1862; New Granada); *Scl. P. Z. S.* 1866, pp. 128, 145; *Scl. & Salv. P. Z. S.* 1866, p. 193 (Ucayali); *iid. Nomencl. Av. Neotr.* p. 95 (1873); *iid. P. Z. S.* 1873, p. 290; *Pelz. Orn. Bras.* p. 10 (1867); *Gray, Hand-l.* i. p. 55 (1869); *Tacz. Orn. Pérou*, i. p. 204 (1884); *Salvin, Ibis*, 1885, p. 437 (B. Guiana).

*Adult.* Ground-colour of the upper parts white or greyish white, finely streaked and vermiculated with blackish brown, more or less overspread with rufous on the mantle; primaries deep brown, indistinctly barred with pale brown on the inner webs; outer web of first primary uniform, outer webs of remaining primaries barred with ashy white or whitish brown; lower surface white or whitish, barred and spotted with deep brown; under wing-coverts deep brown barred with whitish; rectrices deep brown, with interrupted whitish bars. Total length about 19 inches, wing 1½ to 1·6, tail 10.

*Hab.* Brazil, Peru, Ecuador, Colombia, Venezuela, and Guiana.

<i>a.</i> ♂; <i>b.</i> ♀ ad. st.	S. America.	Purchased.
<i>c.</i> ♂ ad. sk.	San Cristobal, Venezuela ( <i>A. Goering</i> ).	Salvin-Godman Coll.
<i>d.</i> ♂ ad. sk.	Camacusa, Brit. Guiana, Apr. 9 ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
<i>e, f.</i> Ad. sk.	Cayenne.	Sclater & Tweeddale Colls.
<i>g, h.</i> Ad. sk.	Sarayacu, Ecuador ( <i>C. Buckley</i> ).	Salvin-Godman Coll.
<i>i.</i> ♂ ad. sk.	Upper Ucayali, Peruv. Amazons, June 14 ( <i>E. Bartlett</i> ).	Salvin-Godman Coll.

## Family PODARGIDÆ.

(By ERNST HARTERT.)

The *Podargida* resemble the *Caprimulgida*, and especially the *Nyctibiina*, in their general appearance, but they differ entirely in the structure of the palate, which is desmognathous, in the absence of the oil-gland and of the basipterygoid processes, and also in the manner of their nidification. The typical forms have a very broad and flat bill. The number of rectrices is always ten. The middle toe is not pectinated, the number of phalanges in the outer toe is not reduced. The sternum has two pairs of posterior notches.

In their habits they are nocturnal, and their food consists of insects. They build a nest of twigs, or lay their eggs, which are white as a rule, in hollow trees.

The young, when hatched, are helpless, but thickly covered with down in the genera *Podargus* and *Batrachostomus*, while those of *Egotheles* seem to be unknown.

*Range.* From the Eastern Himalayas throughout the hill-tracts south of the Brahmaputra, Burmah, the Malay Peninsula, Malay Archipelago, Southern Philippines, throughout Papuasias and Australia to Tasmania.

### *Synopsis of the Subfamilies.*

- |  |                               |
|--|-------------------------------|
| <p>A. Nostrils a narrow slit near the base of the bill, protected by a membrane and hidden by plumes and feathers; large powder-down patches on each side of the rump; tarsus shorter than middle toe; fourth and fifth or fifth and sixth primaries longest . . . . .</p> | <p>[p. 629.</p>               |
|  | <p>I. <i>PODARGINÆ</i>,</p>   |
| <p>B. Nostrils situated near the tip of the bill, obvious and open; bunches of elongated erect loral bristles with long lateral filaments; no distinct powder-down patches; tarsus longer than middle toe; third and fourth quills longest . . . . .</p>                   | <p>[p. 645.</p>               |
|  | <p>II. <i>ÆGOTHELINÆ</i>,</p> |

### Subfamily I. *PODARGINÆ*.

#### *Key to the Genera.*

- |   |   |
|---|---|
| <p>a. Rectrices pointed, the central pair much longer than the adjoining pair . . . . .</p>       | <p>1. <i>PODARGUS</i>, p. 630.</p>            |
| <p>b. Rectrices rounded at the tips, central pair a trifle longer than the adjoining pair . .</p> | <p>[p. 636.<br/>2. <i>BATRACHOSTOMUS</i>,</p> |

## 1. PODARGUS.

Type.

Podargus,<sup>5</sup> *Vieill. N. Dict.* xxvii. p. 151 (1819; *ex*  
 "Podarge," *Cuvier, Règne Anim.* tom. iv. p. 172,  
 pl. iv. fig. 1, 1817) ..... *P. strigoides*.

The birds belonging to this genus, like those of the genus *Batrachostomus*, have a large powder-down patch on each side of the rump. The remiges are twenty-two in number, ten primaries (of which three are on the metacarpus) and twelve secondaries. They build a flat nest constructed of dry sticks on the fork of a branch, and lay two white eggs.

The young are covered with white down.

All the species are extremely variable in coloration and size. Several authors have described a number of varieties as different species. The study of a large material has led me to distinguish only four species and one subspecies.

*Range.* Papuasia, Australia, and Tasmania.

*Key to the Species.*

- A. Tail distinctly more than 10 inches in length .. *papuensis*, p. 630.  
 B. Tail distinctly less than 10 inches.  
 a. Wing more than 9 inches in length. .... *strigoides*, p. 631.  
 b. Wing less than 9 inches in length.  
 a'. Larger, wing about 8 inches in length .... *phalænoides*, p. 634.  
 b'. Smaller, wing about 7 to 7.5 inches in length. *ocellatus* and *mar-*  
 [moratus, pp. 634, 635.]

1. *Podargus papuensis*.

*Podargus papuensis*, *Quoy et Gaim. Voy. Astrolabe, Ois.* pl. xiii. (1830); *Bp. Consp.* i. p. 57 (1850); *Gould, B. Austr. Suppl.* pl. vii. (1855); *id. Handb. B. Austr.* i. p. 91 (1865); *Gray, Hand-l.* i. p. 54 (1869); *Ramsay, P. Z. S.* 1875, p. 580 (N.E. Queensland); *id. Tab. List Austr. B.* p. 2 (1888); *Salvad. Orn. Papuas.* i. p. 513 (1880); *A. B. Meyer, Zeitschr. ges. Orn.* 1884, p. 278; *Sharpe, Journ. Linn. Soc., Zool.* xiii. p. 493 (1878); *Forbes, P. Z. S.* 1878, p. 121 (Cape York, N. Australia); *Tristr. Ibis*, 1889, p. 556.

*Podargus plumiferus*, *Gould, P. Z. S.* 1845, p. 104; *id. B. Austr.* ii. pl. vi. (1848); *id. Handb. B. Austr.* i. p. 93 (1865); *Bp. Consp.* i. p. 57 (1850); *Ramsay, Tab. List Austr. B.* p. 2 (1885).

*Adult male.* Above brownish grey, finely mottled with dark brown and grey, most of the feathers with more or less distinct black shaft-lines, generally broader on the scapulars; small white or whitish spots on the head and neck, with larger ones on the upper wing-coverts: near the rather uniform shoulder is a more or less distinct whitish stripe: a distinct but narrow whitish superciliary stripe; primaries deep brown or blackish, barred with pale buff or pale rufous; retrices brown banded with greyish, mottled with brown and blackish; lower parts lighter, ornamented with large white spots, most of the feathers having two spots of white and



a narrow blackish shaft-line; lower wing-coverts buffy whitish, spotted with brown near the bend of the wing. Total length about 21 inches, wing 11 to 12, central rectrices about 12, lateral ones nearly 5 inches shorter, tarsus 1.2, width of gape about 2.5 or even wider.

*Adult female.* The ground-colour above rusty rufous; scapulars partly uniform rufous on the outer webs; lower surface strongly shaded with rufous. Perhaps a trifle smaller than the male on the average.

*Nestlings* are covered with whitish down. The characters of the rufous and of the brown plumage are already visible in the first plumage after the downy stage.

The Museum possesses few properly sexed specimens, but Salvadori may be right in considering that the rufous specimens are females.

*Hab.* Papuasias and N.E. Australia, as far south as Rockingham Bay.

Dr. E. P. Ramsay considers *P. plumiferus* to be a distinct species, but I cannot distinguish it from *P. papuensis*; and if I am correct, the range of the latter species must be extended to the Richmond River district and to New South Wales.

a. ♀ ad. sk.	Port Moresby, April 27 ( <i>Dr. Tweeddale Coll.</i> <i>O. Finsch</i> ).	
b. Ad. sk.	Port Moresby, S.E. N. Guinea.	K. Broadbent [C.].
c. Ad. sk.	Salwatti.	Wallace Coll.
d, e. ♂ ad. st.	Cape York, N. Australia.	Capt. Owen Stanley [P.].
f, g. ♀ ad. sk.	Cape York.	Tweeddale Coll.
h. ♀ ad. sk.	Cape York.	Voy. H.M.S. 'Chal- lenger.'
i, k, l. Ad. sk.	Cape York.	Gould Coll.
m-r. Ad. et imm. sk.	Cape York ( <i>J. T. Cockerell</i> ).	Salvin-Godman Coll.
s-v. Ad. et imm. sk.	Somerset, Cape York ( <i>Cocke- rell</i> ).	Salvin-Godman Coll.
w, x. Ad. sk.	Port Albany.	Mr. Coxen [C.].
y. ♀ ad. sk.	[Adelaide, S. Australia.]	Adelaide Museum.

## 2. *Podargus strigoides* \*.

Strigoid Goatsucker, *Lath. Gen. Syn. Suppl.* ii. p. 262 (1801).

Caprimulgus strigoides, *Lath. Ind. Orn. Suppl.* p. lviii (1801); *Steph. Gen. Zool.* x. p. 143 (1817); *Viell. Nouv. Dict.* x. p. 232 (1817).

*Podargus strigoides.* *Gould, Haudb. B. Austral.* i. p. 84 (1865); *Ramsay, Ibis*, 1866, p. 326; *id. Tab. List Austr. B.* p. 2 (1888); *Gray, Hand-l.* i. p. 53 (1869); *North, Nests & Eggs Austral. B.* pl. vi. fig. 3 (egg) (1890).

\* The many names given above belong, in my opinion, to *Podargus strigoides*, but it is doubtful to which species of *Podargus* the "Wedge-tailed Goatsucker" and the "Cold-River Goatsucker" of *Lath. Gen. Hist. B.* vii. pp. 368, 369, are referable.

Latham's "Berbice Goatsucker" (*Gen. Hist. B.* vii. p. 359) is quite a mystery to me.

- Great-headed Goatsucker, *Lath. Gen. Syn. Suppl.* ii. p. 263 (1801).  
 Caprimulgus megacephalus, *Lath. Ind. Orn. Suppl.* p. lviii (1801).  
 Podargus megacephalus, *Gould, B. Austr.* i. Intr. p. xxviii (1848);  
*id. Handb. B. Austr.* i. p. 89 (1865); *Gray, Hand-l.* i. p. 54  
 (1869); *Pelz. Ibis*, 1873, p. 107.  
 Gracile Goatsucker, *Lath. Gen. Syn. Suppl.* ii. p. 263 (1801).  
 Caprimulgus gracilis, *Lath. Ind. Orn. Suppl.* p. lviii (1801); *Steph.*  
*Gen. Zool.* x. p. 145 (1817); *Vieill. Nouv. Dict.* x. p. 241 (1817).  
 Podargus cinereus, *Vieill. Nouv. Dict.* xxvii. p. 151 (1819); *id.*  
*Gal. Ois.* p. 196, pl. 123 (1825); *Gray, Gen. B.* p. 45 (1849).  
 Podargus cuvieri, *Steph. Gen. Zool.* xiii. pt. 2, p. 92 (1826).  
 Podargus cuvieri, *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 200 (1827);  
*Bp. Consp.* i. p. 57 (1850); *Gould, B. Austr.* ii. pl. 4 (1848); *id.*  
*Handb. B. Austr.* i. p. 87 (1865); *Gray, Hand-l.* i. p. 54 (1869);  
*Ramsay, Tab. List Austr. B.* p. 2 (1888); *North, Nests & Eggs*  
*Austr. B.* pl. vi, fig. 4 (egg) (1890).  
 Podargus stanleyanus, *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 199  
 (1827); *Bp. Consp.* i. p. 57 (1850).  
 Podargus humeralis, *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 198  
 (1827); *Jard. & Selby, Ill. Orn.* pl. 88 (1839); *Bp. Consp.* i. p. 57  
 (1850); *Pelz. Reise Novara, Vög.* p. 34 (1865); *Gould, B. Austr.*  
 ii. pl. 3 (1848).  
 Caprimulgus humeralis, *Koenig-Warth. J. f. O.* 1868, p. 383 (nidifi-  
 cation).  
 Podargus gouldi, *Masters, Pr. Linn. Soc. N. S. Wales*, i. p. 45 (1876)  
 (Gulf of Carpentaria); *Ramsay, Tab. List Austr. B.* p. 2 (1888).

*Adult.* Above grey, vermiculated and shaded with brown, most of the top of the head and neck, and back and rump tipped with tiny white spots, and larger spots of whitish mottled with greyish and brownish here and there, especially large and conspicuous on the wing-coverts; all the feathers of the upper surface with broad black shaft-stripes; outer webs of the scapulars whitish, vermiculated with tawny; a great deal of tawny colour on the shoulders and wings; primaries dusky blackish, the outer webs with tawny and whitish spots, the inner webs with irregular bands of pale buff; secondaries similarly banded on both webs; rectrices irregularly banded with brown, grey, and black, with tiny whitish tips and sub-terminal spots of black; lower parts whitish grey shading into tawny, all the feathers with narrow shaft-lines of black; some broader black stripes on the throat and breast, and some tiny whitish ones to the feathers of the abdomen and sides of the body; shafts of all the feathers of the lower surface white at base; part of webs near the white shafts pale grey, more conspicuously seen from below; wings and tail much paler from below. Total length about 18 to 19 inches, wing 10 to 11, tail 9, lateral rectrices about 1·2 shorter, tarsus 1·5, length of the bill from gape to tip 2·6, width of mouth at gape 2·3.

The female seems to be similar to the male in colour, but the few specimens examined by me are not conclusive.

The description is that of a typical large specimen in the ordinary coloration. The species, however, varies considerably in colour, many specimens being much lighter, others much darker,

others, again, more rufous. The variations in size are still greater. The smaller specimens have been distinguished under the name of *Podargus curvieri*. The measurements of the smallest specimens are:—Wing 9·3 to 9·8 inches, tail 7·3 to 7·8, tarsus 1·3, bill from gape to tip 2·5, width of gape 2.

Many intermediate specimens, however, form a complete link from the large to the small form, and the smaller form seems *not* to be confined to the southern parts of Australia, nor the larger form to the northern parts. These slight differences might in other families of birds be reckoned as specific characters, but they seem to be of little value in the genus *Podargus*. I therefore come to the conclusion that all these varieties belong to one species. It must be left to Australian field-ornithologists to study all these forms carefully. Should further investigations prove that I am wrong in uniting them, I still maintain that the smaller form is merely a subspecies, and at present I do not even admit that it is worthy of this recognition.

*Hab.* The greater part of Australia, and Tasmania.

a. Ad. sk.	Australia.	Linnean Society. (Type of <i>P. humeralis</i> .)
b. Ad. sk.	Australia.	Linnean Society. (Type of <i>P. stanleyanus</i> .)
c. Ad. (albino) sk.	Australia.	Gould Coll.
d, e. Ad. sk.	Australia.	Gould Coll.
f. Ad. sk.	Australia.	Purchased.
g, h, i. Ad. sk.	Australia.	Tweeddale Coll.
k. Ad. sk.	Australia.	R. Buller, Esq. [P.].
l. Ad. st.	Australia.	Zoological Society.
m. Ad. sk.	Australia.	Sir D. Cooper [P.].
n. Pull. st.	Australia.	Purchased.
o. ♀ ad. sk.	Tasmania.	Linnean Society. (Type of <i>P. curvieri</i> .)
p. Ad. sk.	Tasmania.	Ronald Gunn, Esq. [P.].
q. ♂ ; r, s. ♀ ad. sk.	Tasmania.	Antarctic Exped.
t. Ad. sk.	New South Wales.	Hume Coll.
u. Ad. sk.	Clarence River.	Gould Coll.
v, w, x. ♂ ad.; y, z, a'. Ad. sk.	Queensland ( <i>J. T. Cockerell</i> ).	Salvin-Godman Coll.
b'. Ad. sk.	Queensland.	Tweeddale Coll.
c'. Ad. sk.	Rockingham Bay, June 3.	Capt. Owen Stanley [P.].
d'. Ad. sk.	Cleveland Bay.	Gould Coll.
e'. ♀ ad. sk.	Somerset, Cape York, ( <i>Cockerell &amp; Thorpe</i> ).	Tweeddale Coll.
f', g'. ♀ ad. sk.	Cape Upstart, Dec.	J. B. Jukes, Esq. [P.].
h'. ♂ ad. sk.	N.W. Australia ( <i>T. H. Bowyer Bower</i> ).	Capt. Bowyer Bower [P.].
i'. Ad. sk.	Swan River.	Purchased.

3. *Podargus phalænoides* \*.

*Podargus phalænoides*, Gould, *P. Z. S.* 1845, p. 142; *Bp. Consp.* i. p. 57 (1850); Gould, *B. Austral.* ii. pl. v. (1848); *id. Handb. B. Austral.* i. p. 90 (1865); Gray, *Hand-l.* i. p. 54 (1869); Ramsay, *P. Z. S.* 1875, p. 581 (Queensland); Diggles, *B. Austral.* pl. 18 (1877).

*Adult female.* Upper surface dark rusty red, with narrow black shaft-lines and tiny white tips to many of the feathers, freckled with a little white here and there, more frequently on the scapulars, and with larger whitish markings to the upper wing-coverts; primaries deep brown, spotted with rufous and whitish on the outer webs, irregularly barred and freckled on the inner webs; rectrices distinctly or obscurely barred with whitish bands, vermiculated with black; lower parts greyish white, pervaded with a rufous tinge and with deep brown shaft-lines and brown vermiculations; abdomen sometimes uniform whitish with a few brown shaft-lines. Total length about 14.5 inches, wing 7.9 to 8.5, tail 7, tarsus 1.1, middle toe (without claw) 1.1 to 1.45, bill from angle of mouth 2 to 2.2.

Other specimens are more greyish, without a decidedly rufous tint, the lower surface light grey with whitish spots above and below, larger and more distinct. These are probably males.

This species is easily distinguished from *P. strigoides* by its beautiful delicate coloration and smaller size. The contrast between the yellow bill of *P. phalænoides* and the bluish-black bill of *P. cuvieri* in Gould's beautiful plates (*l. c.*), however, seems to be exaggerated.

*Hab.* Northern and Western parts of Australia.

a. Ad. sk.	N.W. Australia.	Sir G. Grey [P.].
b. Ad. sk.	N.W. Australia.	Capt. Bowyer Bower [P.].
c. ♀ ad. sk.	Rockingham Bay.	Gould Coll.
d. Ad. sk.; e. Ad. st.	Port Essington.	Capt. W. Chambers [P.].
f, g. Ad. sk.	Port Essington, Aug.	J. B. Jukes, Esq. [P.].
h, i. Ad. sk.	Victoria River, July.	J. R. Elsey, Esq.
k. Skeleton.	Port Essington.	Purchased.

4. *Podargus ocellatus*.

*Podargus ocellatus*, Quoy et Gaim. *Voy. Astrolabe, Ois.* pl. xiv. (1830); *Bp. Consp.* i. p. 57 (1850); Gray, *Hand-l.* i. p. 54 (1869);

\* *Podargus brachypterus*, Gould, *P. Z. S.* 1846, p. 163 (W. Australia); *id. B. Austr.* i. Intr. p. xxviii (1848); *id. Handb. B. Austr.* i. p. 89; Gray, *Hand-l.* i. p. 54. This seems to belong to *P. phalænoides*, but Gould appears to have also included under this name small specimens of *P. strigoides*. Gould's *P. macrorhynchus* is probably also referable to *P. phalænoides*.

*Cf.* also *P. vincendonii*, Hombr. & Jacq. *Voy. Pôle Sud*, pl. 21. fig. 1 (1846).

*A. B. Meyer, Sitzungsber. k. Ak. Wiss. Wien*, 1874, p. 8 (Dorey); *Salvad. Orn. Papuas*, i. p. 517 (1880); *A. B. Meyer, Zeitschr. ges. Orn.* 1884, p. 278; *Sharpe in Gould's B. New Guinea*, iv. pl. 40 (1888).

*Podargus marmoratus*, *Gray, P. Z. S.* 1859, p. 154 (Dorey); *Finsch, Neu-Guinea*, p. 162 (1865); *Salvad. Ibis*, 1879, p. 323 (New Guinea); *Ramsay, Tab. List Austr. B.* p. 2 (1888).

*Podargus superciliaris*, *Gray, P. Z. S.* 1861, p. 428 (Waigiou); *Finsch, Neu-Guinea*, p. 162 (1865); *Gray, Hand-l.* i. p. 54 (1869).

*Adult.* Upper parts rufous-brown, the feathers with very small pale buff terminal and somewhat larger subterminal black spots; a pale superciliary line; scapulars externally much lighter; wing-coverts with larger terminal whitish and subterminal blackish spots; primaries barred with dusky and pale rufous on the outer webs, inner webs dusky, mostly with pale rufous or buff bands, sometimes very distinct, often indistinct and often entirely uniform; innermost secondaries similar to the scapulars; rectrices coloured like the upper parts, more or less distinctly banded with lighter and darker bars; lower parts much lighter, the feathers with blackish shaft-stripes and smaller or larger pale buff spots; on both sides of the throat a rather distinct dark line; upper breast more boldly spotted with black. Total length about 13 inches, wing 7 to 7.5, tail generally about 6.5 (but in a few specimens a little longer, and in one from South-Eastern New Guinea fully 7.5 inches), tarsus 0.9.

Some specimens are entirely of a rufous coloration, while others are more greyish brown, the depth of coloration varying greatly. The rufous specimens are probably females, the males being browner above and lighter below.

*Nestling.* Entirely covered with white down, most of the lower surface with dark shaft-stripes, the down of the upper surface with dark brown shaft-stripes (*Mus. Rothschild*).

*Hab.* New Guinea and adjacent islands (Jobi, Salwatti, Waigiou, Aru Islands).

<i>a.</i> ♂ ad. sk.	Waigiou.	Wallace Coll.
		(Type of <i>P. superciliaris</i> , Gray.)
<i>b.</i> ♀ ad. sk.	Aru Islands.	Purchased.
<i>c.</i> Ad. sk.	Salwatti.	Purchased.
<i>d.</i> ♀ ad. sk.	Dorey.	Wallace Coll.
<i>e-h.</i> Ad. sk.	Astrolabe Mts., S.E. New Guinea.	Mr. Goldie [C.].
<i>i, k.</i> Ad. sk.	Astrolabe Mts. ( <i>Goldie</i> ).	Salviu-Godman Coll.
<i>l, m, n.</i> Ad. sk.	Astrolabe Mts.	Hon. Hugh Romilly [P.].
<i>o-t.</i> Ad. sk.	Sogeru district, S.E. New Guinea.	H. O. Forbes, Esq. [C.].
<i>u, v, w.</i> Ad. sk.	Port Moresby.	C. Hunstein [C.].

Subsp. *a.* *Podargus marmoratus*.

*Podargus marmoratus*, *Gould, App. MacGillivray's Voy. 'Rattlesnake'*, ii. p. 356 (1859; Cape York); *id. B. Austral. Suppl.*

pl. viii. (1855); *id.* *Handb. B. Austral.* i. p. 94 (1865); *Ramsay, P. Z. S.* 1875, p. 581 (N.E. Australia); *id.* *Tab. List Austr. B.* p. 2 (1888).

Birds from Australia have the tail fully an inch longer than in typical *P. ocellatus*, its length ranging from 7.5 to 8 inches. Otherwise they are entirely similar to specimens of *P. ocellatus* from Papuasia, and as a few specimens from New Guinea approach and equal them in the length of the tail, this form can only be regarded as a subspecies.

The specimens in rufous plumage seem to be females.

*Hab.* Northern, Eastern, and South-eastern parts of Australia.

<i>a-f.</i> Ad. sk.	Cape York, N. Australia.	Salvin-Godman Coll.
<i>g.</i> ♂; <i>h.</i> ♀ ad. st.	Cape York.	Capt. Owen Stanley [P.]. (Types of the species.)
<i>i, k.</i> Ad. sk.	Somerset, Cape York, Feb., March ( <i>Cockerell</i> ).	Salvin-Godman Coll.
<i>l.</i> Ad. sk.	Adelaide, S. Australia.	Adelaide Museum.

## 2. BATRACHOSTOMUS.

Type.

<i>Batrachostomus</i> , <i>Gould, Icon. Av.</i> ii. p. 13, pl. vii. (1838) . . . . .	<i>B. auritus</i> .
<i>Bombycistomas</i> , <i>Hay, Journ. As. Soc. Beng.</i> 1841, p. 574.	<i>B. auritus</i> .
<i>Otothrix</i> , <i>Gray, P. Z. S.</i> 1859, p. 100 . . . . .	<i>B. hodgsoni</i> .

In this genus the sexes in most of the species are very different in colour, and the female is much brighter coloured, the male duller. More or less obvious elongated ear-tufts, with bristles to the ends of the tuft-feathers. Chiefly differing from *Podargus* in the form of the tail and in the very remarkable nidification. The birds of this genus build a peculiar nest, viz. a soft pad, formed of down, taken from the powder-downs of the bird itself, and then completed by having the outside interwoven and covered with bits of bark and lichen, so that the nest entirely resembles the branch to which it is attached. The eggs are pure white, only one in number, but Mr. St. Baker informs me (*in litt.*) that he has also taken two.

*Range.* From the Eastern Himalayas to the Malay Peninsula, the Southern Philippines, Sumatra, Java, and Borneo.

### *Key to the Species.*

- a.* Of large size, wing more than 7 inches in length.
  - a'*. Paler and larger, wing more than 9 inches in length . . . . . *auritus*, p. 637.
  - b'*. Darker and smaller, wing less than 9 inches in length . . . . . *harterti*, p. 638.
- b.* Wing less than 7 inches in length.
  - c'*. Scapulars with obvious large patches of white or buff on the outer webs.
    - a''*. Wing 6 inches or more in length . . . . . *septimus*, p. 638.
    - b''*. Wing less than 6 inches in length.
    - a'''*. Upper wing-coverts obviously spotted with white or buff.

- a*<sup>4</sup>. Breast without obvious white spots . . . . . *stellatus*, p. 639.  
*b*<sup>4</sup>. Feathers of breast chiefly white . . . . . *poliophilus*, p. 638.  
*b*<sup>'''</sup>. No obvious spots of white or buff to the upper wing-coverts.  
*c*<sup>1</sup>. Wing more than 5 inches in length.  
*a*<sup>5</sup>. Bill larger and more swollen; bristles on forehead and ear-tufts shorter . . . . . *javensis*, p. 640.  
*b*<sup>5</sup>. Bill smaller and less swollen; bristles on forehead and ear-tufts longer . . . . . *hodgsoni*, p. 642.  
*d*<sup>1</sup>. Wing less than 5 inches in length . . . . . *affinis*, p. 643.  
*d*. No obvious white or buff patches on outer webs of scapulars . . . . . *moniliger*, p. 644.

1. *Batrachostomus auritus*.

*Podargus auritus*, *Gray in Griffith, ed. Curier's An. Kingd.* ii. p. 114, cum tab. (*ex Fig. MS.*) (1829); *Fig. App. Mem. Raffl.* p. 652 (1830; Sumatra).

*Batrachostomus auritus*, *Gould, Icon. Av.* ii. p. 13, pl. vii. (1838); *Gray, List Spec. B. Brit. Mus.* ii. pt. i. p. 3 (1848); *Bp. Consp.* i. p. 57 (1850); *Cass. Cat. Caprim. Mus. Philad.* p. 8 (1851); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 387 (1854); *Cab. et Heine, Mus. Hein.* ii. p. 123, footnote (1860); *Gray, Hand-l.* i. p. 54 (1869); *Sharpe, P. Z. S.* 1875, p. 99, 1879, p. 332; *Tweedd. Ibis*, 1877, p. 388; *id. P. Z. S.* 1877, p. 439; *Sharpe, Ibis*, 1879, p. 249 (Borneo); *Hume, Stray F.* viii. p. 48 (1879; Malay Penins.).

*Bombycistomas fullertoni*, *Hay, Journ. A. S. Beng.* 1841, p. 574, woodcut (Sumatra).

*Podargus fullertoni*, *Blyth, Journ. A. S. Beng.* 1842, p. 798 (Malacca).

*Adult.* General aspect of the upper surface chestnut-brown with dark vermiculations, and whitish bars bordered with blackish; a collar of buffy white, bordered with black, composed of several narrow but sharply defined bands across the hind neck; quills deep ashy brown, the outer webs banded with pale cinnamon and dark brown; greater wing-coverts with triangular buffy-white terminal spots, bordered on both sides with blackish lines; throat and breast brown, with whitish spots and bars; abdomen pale buff. Total length about 16 inches, wing 10·3, tail 8, width of gape 2·3, tarsus 0·9.

Some specimens are much darker and browner, while others are more reddish; these seem not to be sexual differences. The nification and the young of this bird are unknown.

*Hab.* Malay Peninsula, Sumatra, and Borneo.

<i>a.</i> Ad. sk.	Malacca ( <i>Cuntor</i> ).	India Museum.
<i>b.</i> Ad. st.	Malacca.	H. Cuming [C.].
<i>c, d.</i> Ad. sk.	Malacca.	Capt. Pinwill [P.].
<i>e-m.</i> Ad. sk.	Malacca ( <i>R. G. W. R. and Dr. Maingay</i> ).	Tweeddale Coll.
<i>n-s.</i> Ad. sk.	Malacca, July.	Hume Coll.
<i>t.</i> Ad. sk.	Labuan ( <i>Sir Hugh Low</i> ).	Sharpe Coll.
<i>u.</i> Ad. sk.	Trusan, Borneo.	A. H. Everett, Esq. [C.].

2. *Batrachostomus harterti*. (Plate XIV.)

*Batrachostomus harterti*, *Sharpe, Ibis*, 1892, p. 323.

*Adult male*. Similar to *B. auritus*, but much smaller and of a darker brown; top of the head and back of a deep chestnut-brown; a whitish-buff collar on the hind neck as in *B. auritus*; white tips of the greater wing-coverts less elongated than in *B. auritus*; scapulars with large round subterminal spots of black and narrow white tips; inner primaries with pale tips; breast much darker rufous-brown than in *B. auritus*; feathers of the abdomen pale vinaceous along the shaft and with irregular transverse markings of the same colour; lower abdomen more uniform pale vinaceous. Total length nearly 14 inches, wing 8·6, tail 6.

*Hab.* Mt. Dulit, North-west Borneo.

*a.* ♂ ad. sk. Mt. Dulit. C. Hoese, Esq. [C.]. (Type of species.)

3. *Batrachostomus septimus*.

*Batrachostomus septimus*, *Tweedd. P. Z. S.* 1877, p. 542, 1878, p. 944; *id. Voy. 'Challenger,'* p. 13, pl. ii. (Mindanao; 1880).

*Adult male*. Rufous-brown, a little darker above; the scapulars with the outer webs creamy white, narrowly bordered with dark brown; a white nuchal collar is very conspicuous, and much white is to be seen on the breast and abdomen, with fine black bars across the latter; the greater wing-coverts have large terminal white spots, chiefly on the outer webs, bordered internally by a blackish line; vent and under tail-coverts isabelline: "iris orange-yellow; bill light horn-brown; feet pale ochreous-yellow" (*Everett*). Total length about 10 inches, wing 6·2 to 6·5, tail 4·5, tarsus 0·68, width of gape 1·55, culmen 1 to 1·2.

*Adult female*. Similar to the male in its general colour, but different in its markings; the scapulars have no white, the spots on the wing-coverts are not so large. Wing 6·1 inches, tail 4·5.

This species is easily distinguished from its nearest allies, *B. javensis* and *B. moniliger*, by its larger size and comparatively much shorter tail, and by the sexes being similar in their general coloration.

*Hab.* S.W. Mindanao, Philippines.

*a.* ♀ ad. sk. Zamboanga, Mindanao. 'Challenger' Exped. (Type of the species.)

*b, c.* ♂; *d.* ♀ ad. sk. Zamboanga, April (*A. H. Everett*). Tweeddale Coll.

4. *Batrachostomus poliophus*.

*Batrachostomus poliophus*, *Hartert, Notes Leyd. Mus.* 1892, p. 63 (*ex Temm., MS.*)

*Adult female*. Top of the head, back and rump bright cinnamon



rufous; white bands across the feathers of the hind neck forming a semicollar; scapulars with large white patches, each of which is encircled by a brownish-black line; wing-coverts cinnamon rufous, with white tips; outer webs and tips of inner webs of primaries pale cinnamon, inner webs dusky; innermost secondaries uniform cinnamon; rectrices cinnamon, the lateral ones with narrow whitish spots at the tips, which, I believe, are remains of immaturity; feathers of the lower surface pure white, dusky at the extreme base, margined with rufous, narrower on the feathers of the throat, much broader and darker on those of the breast; bristles on the elongated ear-tufts and on the forehead extremely long, longest about 1.5 inches in length. Total length nearly 9 inches, wing 5.3, tail 3.8, culmen 0.8, tarsus 0.55, width of gape 1.2.

This very distinct species agrees with *B. stellatus* in the distinctly spotted wing-coverts, but differs from it in the white abdomen and the entirely unbarred rectrices; it has the long bristles and ear-tufts of *B. hodgsoni*, but is easily distinguished from the latter by the distinctly spotted wing-coverts.

*Hab.* Padang, W. Sumatra (*Leyden Museum*).

### 5. *Batrachostomus stellatus*.

*Podargus stellatus*, *Gould, P. Z. S.* 1837, p. 43.

*Batrachostomus stellatus*, *Gray, Gen. B.* i. p. 45 (1846); *id. List B. Brit. Mus.* ii. pt. i. p. 3 (1848); *id. Hand-l.* i. p. 45 (1869); *Cass. Cat. Caprim. Mus. Philad.* p. 8 (1851); *Horsf. & Moore, Cat. B. Mus. E. I. Comp.* i. p. 388 (1854); *Moore, P. Z. S.* 1854, p. 266; *Cab. & Heine, Mus. Hein.* ii. p. 123 (1860); *Scl. P. Z. S.* 1863, p. 212; *Salvad. Ucc. Borneo*, p. 113 (1874); *Tweedd. Ibis*, 1877, p. 389; *id. P. Z. S.* 1877, p. 436, pl. xlvii.; *Sharpe, Ibis*, 1879, p. 249 (Borneo); *Hume, Stray Feath.* viii. p. 48 (1879; Malay Pen.).

*Batrachostomus javensis*, *Blyth, J. As. Soc. Beng.* 1847, p. 1181, part. (*nec Horsf.*).

*Batrachostomus javanensis*, *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 81 (part.), spec. Malay. (1849).

*Podargus parvulus*, *Schleg. J. f. O.* 1856, p. 460 (Borneo and Malacca); *id. Handl. Dierk.* i. pp. 224, 481, *Atlas*, pl. ii. fig. 15 (1857); *Blyth, Ibis*, 1862, p. 304.

*Batrachostomus parvulus*, *Bp. Consp.* i. p. 57 (1850).

*Batrachostomus stictopterus*, *Cab. & Heine, Mus. Hein.* ii. p. 124 (1860; Malacca); *Gray, Hand-l.* i. p. 54 (1869); *Tweedd. Ibis*, 1877, p. 389.

*Adult male.* Upper surface deep brown; a collar on the hind neck formed by creamy-white bands across the nuchal feathers; scapulars and greater wing-coverts with buffy-white spots; tail brown, narrowly barred with dusky; feathers of the underparts buff, with blackish bases and brown margins, the latter much broader on the throat and breast and narrow on the abdomen, thus causing the breast to appear dark brown and the abdomen gradually lighter, lightest on the under tail-coverts. Total length about 10 inches, wing 5, tail 4.8, width of gape 1.3 to 1.4, much smaller in young birds, culmen 0.9.

*Adult female.* The female of this species is not so entirely different in colour from the male as in most of the other species of this genus, but is much more reddish and lighter. Of the same size as the male.

*Young.* Younger birds are, according to the sex, dark brown or reddish brown and much like the adult birds, but the characteristic whitish spots on the greater wing-coverts are only indicated and are obsolete in quite young birds. In this state they are very similar to the young of *B. affinis*, but the colour of the lower abdomen being almost like that of adult specimens, and generally, at least in females, the bars on the tail not reaching the shaft, as is generally the case in *B. affinis*, may serve to distinguish them.

*Hab.* Malay Peninsula, Sumatra, and Borneo. The type is said to be from Java, but this is very doubtful.

<i>a-t.</i> Ad. : <i>u, v, w.</i>	Malacca, Jan., Feb., July.	Hume Coll.
Imm. sk.		
<i>x-d'.</i> Ad. ; <i>e'.</i> Imm.	Malacca ( <i>R. G. W. R.</i> : sk. <i>Dr. Maingay</i> ).	Tweeddale Coll.
<i>f'-i'.</i> Ad. sk.	Malacca ( <i>Cantor</i> ).	India Museum.
<i>k', l'.</i> Ad. sk.	Malacca.	Wallace Coll.
<i>m'.</i> Ad. sk.	Malacca.	Pinwill Coll.
<i>n'.</i> Ad. sk.	Singapore.	Gould Coll.
<i>o'.</i> Ad. sk.	Penang ( <i>Cantor</i> ).	India Museum.
<i>p'.</i> Imm. ; <i>q'.</i> Ad.	Sumatra.	A. R. Wallace, Esq.
sk.		[C.]
<i>r'-u'.</i> Ad. sk.	Sarawak ( <i>A. H. Everett</i> ).	Tweeddale Coll.
<i>v'.</i> Ad. sk.	Lawas River.	H. Veitch, Esq.
		[C.]
<i>w'.</i> Ad. sk.	[Java?] ( <i>Gould</i> ).	Tweeddale Coll.
		(Type of the species.)
<i>x', y'.</i> Ad. sk.	No locality [? Malacca].	Gould and Tweeddale Colls.

## 6. *Batrachostomus javensis*.

- Podargus javensis*, *Horsf. Trans. Linn. Soc.* xiii. p. 141 (1821).  
*Podargus cornutus*, *Temm. Pl. Col.* 159 (1823; Sumatra); *Schleg. J. f. O.* 1856, p. 460; *id. Nederl. Tijdschr. Dierk.* iii. p. 341, part. (1866).  
*Podargus javanensis*, *Horsf. Zool. Res. Java*, pl. 37 (1824); *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 81 (1849); *Schleg. Handl. Dierk.* i. p. 224 (1857).  
*Batrachostomus javensis*\*, *Gray, Gen. B. i.* p. 45 (1846); *id. List B. Brit. Mus.* ii. pt. i. p. 3 (1848); *id. Hand-l.* i. p. 54 (1869); *Bp. Consp.* i. p. 57 (1850); *Cass. Cat. Caprim. Mus. Philad.* p. 7 (1851); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 112 (1854); *Cab. & Heine, Mus. Hein.* ii. p. 123 (1860); *Bernst. J. f. O.* 1860, p. 428 (Java: nesting); *Scl. P. Z. S.* 1863, p. 211 (Banjermassing); *Salvad. Ucc. Borneo*, p. 112 (1874); *Sharpe, P. Z. S.* 1875, p. 99, 1879, p. 332; *Tweedd. Ibis*, 1877, p. 389; *id. P. Z. S.* 1877, p. 435; *Hume, Stray Feath.* vii. p. 143, note (1878).  
*Batrachostomus cornutus*, *Gray, Gen. B. i.* p. 45 (1846); *Pelz. Reise*

\* Otten spelt *javanensis*.

*Novara*, *Vög.* p. 34 (1865; Borneo); *Twedd. Ibis*, 1877, pp. 298, 388; *id. P. Z. S.* 1877, p. 432, pl. xlvi.; *W. Blas. J. f. O.* 1884, p. 217 (S.E. Borneo); *Kutter, J. f. O.* 1885, p. 341, pl. iv. (nidif.); *Grabowsky, Ornith.* 1885, p. 157 (habits); *Sharpe, Ibis*, 1888, p. 198 (Palawan); *Whiteh. Ibis*, 1890, p. 46.

*Batrachostomus stellatus* (?), *Brüggem. Abh. naturw. Ver. Bremen*, v. p. 456 (1876).

*Batrachostomus adpersus*, *Brüggem. Ann. & Mag. Nat. Hist.* 1877, xx. p. 178; *id. Abh. naturw. Ver. Bremen*, v. p. 528 (1877; Int. Borneo).

*Rufous phase.* Deep reddish brown, with numerous fine black vermiculations; an indistinct white band across the neck, and large white spots on the scapulars; under surface deep reddish brown below, with a broad pure white band across the upper breast, the feathers of this part being white with dark terminal cross-bars, one distinct and one generally obsolete, the bases being dark. Many feathers of the breast have very large central spots of white, margined with a black line; abdomen mingled with blackish, brownish, and a good deal of isabelline.

*Brown phase.* Above dark brown, with many pale bars and vermiculations; a broad distinct band of whitish across the hind neck and much white on the scapulars; a good deal of creamy white on the lower surface.

*Blackish phase.* Several specimens from Borneo are black or blackish in colour, the vermiculations white or whitish.

The reddish specimens are probably females, the brown and the black ones being probably males in different phases or perhaps representing different ages.

The size of all is about the same, the total length being about 9 to 10 inches, wing 5·3, tail 5·2, tarsus 0·55, culmen 0·8, width of gape 1·3 to 1·4.

The specimens described above are all from Borneo. Two females in the British Museum from Sumatra, in reddish plumage, are lighter than those from Borneo, being rather of a cinnamon-rufous colour. The patches on the lower throat are cream-coloured, with a cinnamon-rufous border and a blackish subterminal bar, but without any further blackish bars.

These differences, however, seem to me not constant after comparing the material in the Leyden Museum; nevertheless, I have not yet heard of any blackish specimens from Sumatra, and it must therefore be left open to question at present whether it is possible to separate the Sumatran and Bornean specimens specifically or subspecifically.

Specimens from Java seem to be identical with those from Borneo, although some are rather small, the wing measuring 4·9 to 5·1 inches, tail 5·5, tarsus 0·55, width of gape 1·1 to 1·2, culmen 0·65 to 0·7. Specimens from Java are rare in collections, and I have examined a few only.

*Hab.* Java, Sumatra, and Borneo, north to Palawan.

a. Ad. st.	"Indian Archipelago."	Sir E. Belcher [P.].
b. ♀ ad. sk.	Java.	Tweddalle Coll.
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*Specimens from Borneo.*

<i>c-e.</i> ♂; <i>f.</i> ♀ ad. sk.	N.W. Borneo ( <i>Sir Hugh Low</i> ).	Sharpe Coll.
<i>g.</i> ♀ ad. sk.	Tumpussak R., N. Borneo.	W. Pretyman, Esq. [P.].
<i>h.</i> ♂; <i>i, k.</i> ♀ ad. sk.	Lumbidan, Borneo.	Ussher Coll.
<i>l.</i> Ad.; <i>m.</i> ♀ imm. sk.	Banjermassing, Borneo.	J. Motley, Esq. [P.].
<i>n, o.</i> Ad. sk.	Banjermassing, Borneo ( <i>J. Motley</i> ).	Tweeddale Coll.

*Specimens from Sumatra.*

<i>a.</i> ♂ ad. sk.	Sumatra.	Wallace Coll.
<i>b.</i> ♀ ad. sk.	Sumatra, Oct. ( <i>Carl Bock</i> ).	Tweeddale Coll.
<i>c.</i> ♀ ad. sk.	Lampung, S.E. Sumatra ( <i>E. C. Buxton</i> ).	Tweeddale Coll.

**7. *Batrachostomus hodgsoni*.**

- Podargus affinis*, *Blyth (nec Horsf.)*, *Cat. B. Mus. As. Soc.* p. 81, part. (1849; Darjiling).
- Otothrix hodgsoni*, *Gray*, *P. Z. S.* 1859, p. 101, pl. clii.; *Jerd. B. Ind.* i. p. 190 (1862); *id. Ibis*, 1871, p. 356; *Hume*, *Stray F.* ii. p. 349 (1874); *id. Ibis*, 1878, p. 122.
- Batrachostomus castaneus*, *Hume*, *Stray F.* ii. p. 349 (1874; Darjiling), iv. p. 376; *Blanf. Ibis*, 1877, p. 251; *Tweedd. Ibis*, 1877, p. 388; *Hume, Ibis*, 1878, p. 120.
- Batrachostomus hodgsoni*, *Blyth & Walden*, *B. Burm.* p. 83 (1875); *Blanf. Ibis*, 1877, p. 252; *Hume & Davis. Stray F.* vi. p. 52 (1878; Tenasserim); *Hume, Stray F.* viii. p. 85 (1879), ix. p. 34 (1888; Manipur); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 39 (1890).
- ? *Batrachostomus javensis*, *Godw.-Aust. J. As. Soc. Beng.* xlvii. pt. 2, p. 13 (1878; Naga Hills).

*Adult male.* General aspect mottled with blackish and greyish; a more or less conspicuous white nuchal collar formed by most of the nuchal feathers being traversed by a white band; scapulars with more or less white; quills dark brown, with large pale rusty spots on the outer webs and with some tawny spots on the outer margin of the inner webs; lower surface much more whitish than the upper surface; the upper breast with a good deal of blackish brown, above which colour is a white band, generally very conspicuous; the forehead and the ear-coverts are ornamented with long, hair-like feathers with lateral filaments. Total length about 10.5 inches, wing 5.3, tail 5.8, tarsus 0.6, width of gape 1.2, culmen 0.65 to 0.7.

*Adult female.* Of the same size as the male. Plumage bright cinnamon-rufous, paler and mixed with whitish buff on the lower abdomen; the nuchal feathers are traversed by a pure white band, which is bounded above and below by a black line; thus a more or less evident white and black band is formed across the hind neck; some of the scapulars also have a long bold white mark, bordered

by black lines; the quills are blackish with only the outer webs cinnamon-rufous; the rectrices are not quite uniform, but traversed by darker bands at almost equal intervals and finely vermiculated with black; on the lower surface the throat and breast exhibit large white rounded spots, separated from the rufous tips by a black line; these white spots form two bands, one across the lower throat and one across the lower breast with a perceptible one between them, but all of them are somewhat irregular.

*Nestling* (Sikkim). The upper surface is pale rufous-brown with subterminal dark brown bars; above and before the eyes and on the scapulars appears a good deal of white; under surface whitish, with dark transverse bands. It is probably a male, and I believe that the different coloration of the sexes in adult birds is already foreshadowed in that of the young birds.

All the Himalayan specimens in the British Museum belong without doubt to one species; but from notes made by Mr. C. S. Baker in Cachar, it becomes obvious to me that a second species inhabits the hills south of the Brahmaputra, which is very likely a new form, allied to *B. moniliger*.

*Hab.* Eastern Himalayas, Sikkim, and probably farther to the east; Cachar and Manipur, probably reaching through the adjacent hill-tracts into Burma, as a specimen obtained in Karenné by Major Wardlaw-Ramsay belongs to this species.

<i>a.</i> ♂ ad. ; <i>b.</i> Pull. sk.	Sikkim.	Hodgson Coll.
<i>c.</i> ♂ imm. ; <i>d.</i> , <i>e.</i> ♀ ad. sk.	Sikkim.	(Types of the species.) Hume Coll.
<i>f-k.</i> ♂ ; <i>l-o.</i> ♀ ad. sk.	Nat. Sikkim, Jan. to Nov.	Hume Coll.
<i>p.</i> ♀ ad. sk.	( <i>L. Mandelli</i> ). Darjiling.	Hume Coll. (Type of <i>B. castaneus</i> , Hume.)
<i>q.</i> ♀ ad. sk.	Manipur, April 24 ( <i>A. O. H.</i> ).	Hume Coll.
<i>r.</i> ♂ ad. sk.	Karenné, April 2 ( <i>R. G.</i> <i>W. R.</i> ).	Tweeddale Coll.

### S. *Batrachostomus affinis*.

*Batrachostomus affinis*, *Blyth, Journ. As. Soc. Beng.* 1847, p. 1180, 1849, pp. 806, 807; *id. Cat. B. Mus. As. Soc. p.* 81, part. (1849; Malacca); *Wald. Ibis*, 1876, p. 355; *Blayf. Ibis*, 1877, p. 351; *Tweedd. Ibis*, 1877, p. 388; *id. P. Z. S.* 1877, p. 426, part.; *Hume, Ibis*, 1878, p. 120; *id. Stray F.* vi. p. 53 (1878); *id. op. cit.* viii. p. 47 (1879; Malay Peninsula); *Bingham, Stray F.* ix. p. 149 (1880; Tenasserim); *Oates, B. Burma*, ii. p. 15, part. (1883).

*Adult male.* Similar to the male of *B. hodgsoni*, but smaller; the general aspect of the upper parts not so blackish; besides the more or less distinct whitish band on the hind neck there is a reddish-brown one before the latter, and the back and rump are more of a rufous tint; the under surface is also similar to that of *B. hodgsoni*, but the upper breast is not so black, being more of a rufous-brown, forming a rather pronounced band across the lower surface. Total length

about 8·5 inches, wing 4·5, tail 4·5, tarsus 0·5, width of gape 1 to 1·2, culmen 0·7 to 0·8.

*Adult female.* Similar to the female of *B. hodgsoni*, but smaller, of the same size as the male of *B. affinis*. Colour of the upper parts of a much darker reddish brown. Lower parts also darker, rather of a dark cinnamon-rufous colour, the white spots less numerous and smaller, the lower abdomen not so whitish.

*Young.* I have not seen any properly determined young birds, but one before me is dark foxy brown with blackish bars and undulations, and with the white markings of the adult. It is probably a male.

*Hab.* The Malay Peninsula and North-western Borneo. (Probably occurring in Eastern Sumatra.)

a. ♂; b, c. ♀ ad. et imm. sk.	Malacca, March, July.	Hume Coll.
d. ♀ ad.; e. ♂ ad. sk.	Malacca.	J. Harvey, Esq. [P.], and Purchased.
f, g, h. ♂ ad.; i. ♀ ad. sk.	Malacca ( <i>Dr. Maingay</i> ).	Tweeddale Coll.
k. Ad. sk.	Mt. Dulit, N.W. Borneo.	C. Hose, Esq. [C.].

### 9. *Batrachostomus moniliger.*

*Batrachostomus moniliger*, *Blyth, Journ. As. Soc. Beng.* 1849, p. 806, ♀ (Ceylon); *Jerd. B. Ind.* p. 189 (1862; S. India); *Blyth, Ibis*, 1862, p. 304, note (Ceylon); *id. Ibis*, 1867, p. 311; *Gray, Hand-l.* i. p. 54 (1869); *Holdsw. P. Z. S.* 1872, p. 420 (Ceylon); *Legge, Ibis*, 1874, p. 12; *Hume, Stray Feath.* iii. p. 198 (1875), iv. p. 376 (1876); *Tweedd. Ibis*, 1877, p. 389; *id. P. Z. S.* 1877, p. 439, pls. xlviii., xlix.; *Blanf. Ibis*, 1877, p. 251; *Hume, Ibis*, 1878, p. 120; *Legge, B. Ceylon*, p. 331 (1880); *Davison, Ibis*, 1888, p. 147; *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 38 (1890).

*Batrachostomus punctatus*, *Hume, Stray Feath.* i. p. 432 (1873; Ceylon); *Blanf. Ibis*, 1877, p. 251; *Tweedd. Ibis*, 1877, p. 388; *Hume, Ibis*, 1878, p. 120.

*Adult male.* Above, head and neck greyish brown with subterminal blackish spots; a white collar, generally very distinct, on the hind neck; the rest of the upper parts brown and greyish, with many black vermiculations and very perceptible subterminal black spots, and with much white on the scapulars; quills dark smoky brown, with the outer webs cinnamon-rufous for their greater part; lower parts mixed brown, grey, and black, with a more or less indistinct white band, and much white on the abdomen; vent and under tail-coverts paler brown, often nearly uniform isabelline. Total length about 9 inches, wing 4·6 to 4·85, tail 4·5, culmen 0·78, width of gape 1·3 to 1·4.

*Adult female.* Reddish brown; an indistinct white collar on the hind neck; pale tips and narrow subterminal black spots to the scapulars; greater wing-coverts with terminal white spots, separated by a black line; below reddish brown like the upper surface, the abdomen much paler; an indistinct white band across the breast;

large terminal whitish spots, which are separated from the reddish-brown colour by a black line, to the feathers of the abdomen. Size like that of the male.

Younger males seem to be not so reddish as older birds.

*Nestling.* A nestling from Mynall, S. Travancore, is in the reddish plumage, but the back, wing-coverts, and abdomen are more greyish brown.

Some male specimens are very much darker than others. One specimen, marked as a young male, is in a plumage which only partly resembles that of the adult male, the wing-coverts, throat, and breast being of the reddish colour of the female. The type of Hume's *B. punctatus* is exceptionally small, the wing measuring only 4.3 inches, but in plumage it quite agrees with other larger specimens.

The reddish bird agrees with *B. stellatus* in the white spots on the greater wing-coverts, but is easily distinguished by the colour of the lower parts. Besides this it has the characteristic narrow sub-terminal spots to the scapulars, which do not show the large whitish spots to be seen in *B. stellatus*.

*Hab.* Ceylon and Travancore hills.

a. ♂ ; b, c, d. ♀ ad. sk.	Ceylon, Feb. ( <i>H. Nevill</i> ).	Tweeddale Coll.
e. ♂ imm. sk.	Ceylon.	Legge Coll.
f, g. Sk.	Kandy, Ceylon ( <i>A. Whyte</i> ).	Sharpe Coll.
h. ♂ ; i. ♀ sk.	Ceylon.	Hume Coll.
	(♂. Type of <i>B. punctatus</i> , Hume.)	
k. ♂ ad. sk.	Ceylon.	H. Cuming [C.].
l. ♂ ; m. ♀ ; n. Imm. sk.	Mynall, S. Travancore, Dec., Feb., Mar. ( <i>F. W. Bourdillon</i> ).	Hume Coll.
o. ♂ ad. sk.	Madras.	Brenchley Coll.
p. ♂ ad. sk.	[Ceylon ?]	Gould Coll.

## Subfamily II. ÆGOTHELINÆ.

The species of the genus *Ægotheles* differ in such important points from those of the genus *Podargus* and *Batrachostomus* that they must be separated as a subfamily. They have also five phalanges in the outer toe and the claw of the middle toe not pectinated; but they have a very different bill and a different mode of nidification. The Australian species lays white eggs in hollow trees, but those of the *Ægotheles wallacei* (A. B. Meyer, Zeitschr. ges. Orn. 1884, pl. xvii., and in the collection of Mr. Crowley) are marked with pale striations.

*Range.* Australia and Papuasia.

3. *ÆGOTHELES*.

Type.

<i>Ægotheles</i> , <i>Vig. &amp; Horsf. Trans. Linn. Soc.</i> xv. p. 194 (1825) .....	<i>Æ. novæ-hollandiæ.</i>
<i>Oegotheles</i> , <i>Less. Traité d'Orn.</i> p. 263 (1831) ..	<i>Æ. novæ-hollandiæ.</i>

There are few groups of birds about which our knowledge is less complete than the genus *Ægotheles*. We do not know whether one species possesses a greyish and a rufous phase, and we do not know the changes in plumage which are produced by season and age. Besides this the collections of most of the Museums are rather poor in specimens from New Guinea, and the genus is poorly represented in the British Museum except as regards the Australian species. I am therefore obliged to recognize almost all the species that have been described from New Guinea, and even to describe two specimens under a new name; but I think it is quite possible that several of these forms may not stand as distinct species when our knowledge of this genus has increased.

*Key to the Species* \*.

- a. Bright cinnamon-rufous; wing much more than 6 inches ..... *crinifrons*, p. 646.  
 b. Chestnut-rufous above.  
 a'. Larger; wing about 6 inches ..... *insignis*, p. 647.  
 b'. Smaller; wing less than 5 inches ..... *albertisi*, p. 648.  
 c. Dusky or brown above, more or less barred or vermiculated with whitish.  
 c'. With more or less distinct pale nuchal collar.  
 a''. Wing more than 6 inches ..... *savasi*, p. 652.  
 b''. Wing less than 6 inches.  
 a'''. Tail with 12 or more bars; markings on breast and upper parts finer . . . . *novæ-hollandiæ*, p. 651.  
 b'''. Tail with 10 or less bars; pale markings above and dusky markings on breast broader and less numerous . . *bennetti*, p. 650.  
 d. Without nuchal collar.  
 Larger ..... *loriæ*, p. 650.  
 Smaller ..... *wallacci*, p. 650.

1. *Ægotheles crinifrons*.

- Batrachostomus crinifrons*, *Bp. Consp.* i. p. 57 (1850, *ex Temm. MS.*; Halmahera); *Cab. & Heine, Mus. Hein.* iii. p. 123 (1860); *Scl. P. Z. S.* 1863, p. 212; *Gray, Hand-l.* i. p. 54 (1869).  
*Podargus crinifrons*, *Schl.g. J. f. O.* 1856, p. 460; *id. Ned. Tijdschr. Dierk.* iii. p. 340 (1866).  
*Batrachostomus psilopterus*, *Gray, P. Z. S.* 1860, p. 345 (Batchian); *id. Hand-l.* i. p. 54 (1869); *Scl. P. Z. S.* 1863, p. 212.

\* *Æ. salvadorii* is larger than *Æ. albertisi* and less rufous. I have not seen *Æ. dubius* and *Æ. affinis*, and could not place them in the Key satisfactorily. Cf. descriptions.



*Caprimulgus psilopterus*, *Finsch, Neu-Guinea*, p. 162 (1865).

*Ægotheles crinifrons*, *Salvad. Ann. Mus. Genov.* vii. p. 766 (1875),  
x. p. 309 (1877); *id. Orn. Papuas.* i. p. 521 (1880).

*Adult.* Above bright cinnamon-rufous; before and behind the eye some more or less pure white feathers with blackish tips; some of the scapulars and upper wing-coverts with round spots of white, encircled by a black ring; quills cinnamon-rufous, inner webs dusky; rectrices with indistinct dusky bars, especially near the base; lower surface of the same cinnamon-rufous colour as the back, sometimes a little paler; chin whitish buff; feathers in the middle of the throat and breast and large portions of the abdomen white, with deep brown margins or spots near the shafts; lower tail-coverts and lower wing-coverts mixed whitish and cinnamon-rufous: upper mandible brown, lower mandible and feet pale yellowish in skins. Total length about 11·5 inches, wing 6·6, tail 5·9, tarsus 0·8 to 1, width of mouth at gape 1·35.

The plumage described above is that of adult specimens. Other specimens, which are no doubt immature, are somewhat deeper coloured above; the crown has large rufous-buff spots and bars, the whole upper surface is more or less distinctly vermiculated with blackish; outer webs of quills pale rufous, spotted with dusky; lower surface cinnamon-buff, with paler and darker markings. They gradually assume the plumage of the adult bird, as shown by a specimen in an intermediate state of plumage.

*Hab.* Moluccan Islands: Halmahera and Batchian.

a. ♀ ad. ; b. Imm. sk.	Batchian.	Wallace Coll. (Types of <i>Batrachostomus psilopterus</i> .)
c. Ad. sk.	Halmahera.	Wallace Coll.
d. Fere ad. sk.	Halmahera.	Tweeddale Coll.

## 2. *Ægotheles insignis*.

*Ægotheles insignis*, *Salvad. Ann. Mus. Civ. Gen.* vi. p. 916 (1875; Arfak Mts.); *id. op. cit.* x. p. 309 (1877); *id. Orn. Papuas.* i. p. 523 (1880).

*Adult.* Chestnut-rufous; lores, superciliaries, and throat rufescent whitish; gape, sides of the forehead, and auriculars beset with long bristles of black colour with rufescent whitish bases; back with small rufous-white spots, some margined with black; upper tail-coverts barred with dark brown and rufous; breast and abdomen chestnut-rufous, spotted with white, these spots margined with brown, sometimes occupying the whole of the feathers, sometimes the outer or inner web only; middle of the abdomen rufous without large white spots, varied with small brown and black spots; under tail-coverts whitish, rufescent towards the tips; scapulars similar in colour to the back, but the outer ones with two or three spots of white, margined with black; wings similar to the back, but paler; upper wing-coverts barred with fuscous, narrowly tipped with white; under wing-coverts dark brown, some of the median ones

punctulated with whitish, the others with rufous; primaries dark brown, vermiculated with rufous; outer webs spotted with the same colour, nearly uniform below; tail rufous, irregularly barred with dark brown, more narrowly on the central pair, more broadly on the lateral ones; outer web of lateral pair of rectrices with a pale rufous spot; upper mandible dark brownish; lower mandible and feet pale. Total length about 10 inches, wing 6·1, tail 4·5, tarsus 0·85.

*Hab.* Arfak Mountains, New Guinea.

### 3. *Ægotheles albertisi*.

*Ægotheles albertisi*, *Sel. P. Z. S.* 1873, p. 696 (Arfak Mts.); *id. Ibis*, 1874, p. 416; *A. B. Meyer, Sitzungsber. Ak. Wiss. Wien*, lxx. p. 128 (1874); *Salvad. Ann. Mus. Civ. Gen.* x. pp. 130, 309 (1877); *id. Orn. Papuas.* i. p. 524 (1880).

*Adult female* (Arfak Mountains). Above chestnut-rufous; forehead chestnut-buff, crown shaded and spotted with black and with some whitish terminal spots; some whitish bars across the feathers of the hind neck, forming a semicollar; some whitish spots and some dusky markings to the feathers of the back and rump; upper wing-coverts deep brown laterally, spotted and shaded with chestnut-rufous and largely tipped with whitish; primaries dusky; outer webs spotted with pale brownish rufous; two outermost pairs of rectrices dusky, with pale buffy spots to the outer webs and pale rufous bars to the inner webs; two following pairs barred with chestnut-rufous, more distinct on the outer webs; central pair chestnut-rufous, barred with dusky; wing and tail paler below; lower parts rufous isabelline, chin and throat more brownish, terminal spots of deep brown to the feathers; lower abdomen and lower tail-coverts almost uniform; under wing-coverts brown. Total length about 7½ inches, wing 4·7, tail 3·9, tarsus 0·75. Upper mandible deep brown; feet pale. (*Mus. W. Rothschild.*)

*Hab.* Arfak Mountains, New Guinea.

### 4. *Ægotheles dubius*.

*Ægotheles dubius*, *A. B. Meyer, Sitzungsber. Ak. Wiss. Wien*, lxx. p. 75 (1874; Arfak Mts.); *id. op. cit.* lxx. p. 128 (1874, note); *Salvad. Ann. Mus. Civ. Gen.* x. p. 310 (1877); *id. Orn. Papuas.* i. p. 527 (1880).

Above brownish, distinctly marbled with black and white; some yellowish-brown feathers on the top of the head; primaries dusky; outer webs barred with black and white; rectrices blackish grey with narrow light rufous bars, outer pair with white markings; chin whitish buff; throat and breast blackish, irregularly barred with brownish and white; abdomen paler. Total length about 7·86 inches, wing 4·52, tail 4·13.

I have not seen this species, but according to Dr. A. B. Meyer,

who has kindly compared it for me with a specimen of *Æ. albertisi*, it is similar to the latter in size and proportions, but differs in the more marbled upper surface and the less rufous coloration. It must remain doubtful at present whether the two are really distinct species or not.

*Hab.* Arfak Mountains, New Guinea.

### 5. *Ægotheles salvadorii*.

Above dark brown; forehead and sides of the crown with brownish-white mottlings, centre and hinder part of crown nearly uniform; a distinct whitish collar on the hind neck, whitish transverse mottlings on all the upper parts, some few larger pale spots to the upper wing-coverts and scapulars; quills spotted with buff on the outer webs, uniform deep brown on the inner webs; rectrices with narrow pale bars across both webs, these being more distinct on the outer webs: lower parts buff, each feather with blackish shaft-stripes and spots near the shaft; throat and breast more spotted and darker; lower abdomen and lower tail-coverts more uniform; under wing-coverts dark brown, spotted with buffy white; upper mandible brown; feet pale. Total length about 8 inches, wing 4.6 to 4.8, tail 4.22, tarsus 0.79.

Another specimen is more rufous above, the bars on the tail dark rufous-brown, the lower parts similar.

I have found it necessary to give a new name to these two specimens, as they do not agree with any of the species that I have seen, nor with the descriptions of those that I have not seen. It may after all belong to *Æ. albertisi*, but I greatly doubt it.

*Hab.* Astrolabe Mountains, S.E. New Guinea.

a. Ad. sk.	Morocco district, Astrolabe Mountains, Nov.	H. O. Forbes, Esq. [C.]
b. Ad. sk.	Astrolabe Mts.	H. O. Forbes, Esq. [C.]

### 6. *Ægotheles affinis*.

*Ægotheles affinis*, *Salvad. Ann. Mus. Civ. Gen.* vii. p. 917 (1875);  
*id. op. cit.* x. p. 310 (1877); *id. Orn. Papuas.* i. p. 525 (1880).

Above dark brown; rictal and loreal bristles black, rufous at base; forehead, superciliary stripe, and auricular spot rufescent; spot on the occiput and collar on the neck rufous white; back and upper wing-coverts dark brown, narrowly barred with whitish grey; throat and breast rufescent; feathers of the breast with a dark brown longitudinal shaft-line and spots and bars of the same colour; abdomen and lower tail-coverts uniform white; quills dark brown, spotted with reddish white on the outer webs; tail brown, central and lateral pairs of rectrices with spotted bars of whitish on both webs, the others on the outer webs only; bill and feet dark brown. Total length about 9 inches, wing 5.4, tail 4.3, tarsus 0.9.

I have not seen this species.

*Hab.* Arfak Mountains, New Guinea.

7. *Ægotheles wallacei*.

*Ægotheles wallacei*, Gray, *P. Z. S.* 1859, p. 154 (Dorey, New Guinea); *id.* *P. Z. S.* 1861, p. 433; *Finsch, Neu-Guinea*, p. 162 (1865); *Schleg, Nederl. Tijdschr. Dierk.* iii. p. 340 (1866); *Gray, Hand-l.* i. p. 55 (1869); *Scl. P. Z. S.* 1873, p. 696; *A. B. Meyer, Zeitschr. ges. Orn.* i. p. 278, pl. xvii. fig. 4 (Aru I., egg) (1884); *Salvad. Ann. Mus. Civ. Gen.* x. p. 310 (1877); *id.* *P. Z. S.* 1878, p. 94; *id.* *Orn. Papuas.* i. p. 526 (1880); *id.* *Rep. Voy. 'Challenger,'* p. 77 (1882); *Guillem. P. Z. S.* 1885, p. 630; *Sharpe in Gould's B. New Guinea*, pt. xxi. pl. 4 (1886).

*Caprimulgus brachyurus*, *Schl. Nederl. Tijdschr. Dierk.* iii. p. 340 (1866, ex *Rosenb. MS.*) (Aru); *Rosenb. Nat. Tijdschr. Nederl. Ind.* xxix. p. 143 (1867); *id.* *Reis naar Zuidoostereil.* p. 37 (1867); *Hartl. Archiv f. Naturg.* 1868, p. 188.

*Adult.* Above black, reticulated with whitish, here and there blotched with white, especially on the upper wing-coverts; forehead and crown of head blotched with pale rufous; no indication of a collar on the neck; tail black, with irregular and narrow reticulated bands of white; lower parts whitish pervaded with pale rufous, darker on the throat and breast, reticulated and spotted with blackish; chin rufous white; under wing-coverts dusky and whitish. Total length about 8 inches, wing 4·8, tail 1·2.

*Young individuals* are much more narrowly reticulated and barred with white above, and the lower parts less clearly marked; spots on the wing-coverts rather distinct and larger.

This very distinct species cannot be confounded with any of those allied to *Æ. bennetti*.

*Hab.* New Guinea (Dorey) and Aru Islands.

a. Ad. sk.	Dorey, New Guinea.	Wallace Coll. (Type of the species.)
b. Imm. sk.	Aru Islands.	Voy. H.M.S. 'Challenger.'

8. *Ægotheles lorixæ*.

*Ægotheles lorixæ*, *Salvad. Ann. Mus. Civ. Gen.* xxix. p. 564 (1890).

Similar to *Æ. wallacei*, but much larger; under wing-coverts darker, hardly whitish, the larger ones entirely greyish black, without white to the tips. Total length about 10 inches, wing 5·1, tail 4·7, tarsus 0·85, culmen 0·45.

*Hab.* Rigo, S.E. New Guinea.

9. *Ægotheles bennetti*.\*

*Ægotheles bennetti*, *Salvad. S. d'Alb. Ann. Mus. Civ. Gen.* vii. p. 816

\* *ÆGOTHELES PLUMIFERA*, Ramsay, Proc. Linn. Soc. N. S. Wales, viii. p. 21 (1883); *Salvad. Ibis*, 1884, p. 354.

Differs from *Æ. bennetti* in having the face, throat, chest, and flanks washed with rufous-brown, barred distinctly with black; an ashy spot at the angle of the mouth; head also washed with rufous; collar ashy white, freckled and barred with black; tail with 12 to 14 narrow broken bars. Wing 4·5 inches, tail 4·2, tarsus 0·8.

This is probably a distinct species, but possibly may belong to *Æ. bennetti*.

(1875); *Salvad. Ann. Mus. Civ. Gen.* x. p. 310 (1877); *id. Orn. Papuas.* i. p. 525 (1880); *Ramsay, Proc. Linn. Soc. N. S. Wales,* iii. p. 264 (1878), iv. pp. 88, 97 (1879); *Sharpe, Journ. Linn. Soc., Zool.* xvi. p. 430.

*Adult.* Above deep blackish brown, nearly black in freshly-moulted specimens, top of the head uniform, with two greyish mottled portions laterally, and two mostly indistinct crescents on the hinder part of head and neck; back, rump, upper wing-coverts, and upper tail-coverts mottled with irregular bars of greyish white; primaries dusky, outer webs spotted with pale brownish grey; tail dusky black, with not more than ten whitish mottled bars; throat, chin, and breast grey, indistinctly barred and mottled with blackish brown, becoming more or less uniform towards the lower abdomen and under tail-coverts: bill dusky, feet pale. Total length nearly 9 inches, wing 4·8, tail 5·4, tarsus 0·8.

*Hab.* South-eastern parts of New Guinea.

a. Ad. sk.	S.E. New Guinea, April.	Gould Coll.
b. Ad. sk.	S.E. New Guinea ( <i>Goldie</i> ).	Tweeddale Coll.
c. Ad. sk.	S.E. New Guinea.	H. O. Forbes, Esq. [C.]
d, e. Ad. sk.	Astrolabe Mts.	A. Goldie [C.]
f. Ad. sk.	Astrolabe Mts.	Hon. H. Romilly [P.]
g, h. Ad. sk.	Port Moresby.	A. Goldie [C.]

### 10. *Ægotheles novæ-hollandiæ*.

*Caprimulgus novæ-hollandiæ*, *Lath. Ind. Orn.* ii. p. 588 (1790); *id. Gen. Syn. Suppl.* ii. p. 261 (1801); *Steph. Gen. Zool.* x. p. 170 (1817); *Viëll. Nouv. Dict.* x. p. 234; *id. Enc. Méth.* p. 537 (1823); *Less. Traité d'Orn.* p. 265 (1831); *Thienem. Fortyfl. ges. Vög.* pl. xlii. fig. 22 (1854; eggs); *Koenig-Warth. J. f. O.* 1868, p. 383 (nidification).

Banded Goatsucker, *Lath. Gen. Syn. Suppl.* ii. p. 262, pl. 136 (1801); *id. Gen. Hist. B.* vii. p. 342, pl. cxv. (1823).

*Caprimulgus vittatus*, *Lath. Ind. Orn. Suppl.* p. lviii (1801); *Steph. Gen. Zool.* x. p. 152 (1817); *Viëll. Nouv. Dict.* x. p. 232 (1817); *id. Enc. Méth.* p. 545 (1823).

*Caprimulgus cristatus*, *Shaw in White's Voy.* p. 241, pl. 29 (1790).

*Ægotheles cristatus*, *Gray, List Gen. B.* p. 7 (1840).

*Ægotheles novæ-hollandiæ*, *Fig. & Horsf. Trans. Linn. Soc.* xv. *Zool.* p. 194 (1825); *Blyth, Cat. B. Mus. As. Soc.* p. 81 (1849); *Bp. Consp.* i. p. 58 (1850); *Gould, B. Austral.* ii. pl. i.; *id. Handb. B. Austral.* i. p. 79 (1865); *Gray, Hand-l.* i. p. 55 (1869); *Pelz. Ibis*, 1873, p. 107; *Diggle, B. Austral.* p. 17, pl. 17 (1877); *North, Nests & Eggs Austral. B.* pl. xiv. fig. 11 (1890).

*Oegotheles novæ-hollandiæ*, *Less. Tr. d'Orn.* p. 263 (1831).

*Ægotheles australis*, *Suain. Class. B.* ii. p. 338 (1837).

*Ægotheles lunulatus*, *Jard. & Selby, Ill. Orn.* pl. 149 (1839).

*Ægotheles leucogaster*, *Gould, P. Z. S.* 1844, p. 106 (Port Essington); *Bp. Consp.* i. p. 58 (1850); *Gould, B. Austral.* ii. pl. 2; *id. Handb. B. Austr.* i. p. 81 (1865); *Gray, Hand-l.* i. p. 55 (1869).

*Adult.* Top of the head deep brown, with two longitudinal stripes

and two crescents on the hinder part whitish; back, rump, upper wing- and upper tail-coverts dusky, vermiculated with pale grey, each feather with some irregular bars; quills dusky, outer webs with pale grey margins and spots; tail dusky, with twelve or more whitish-grey bars, indistinct or absent on the inner webs of all but the central feathers; sides of the head whitish, often tinged with rufous: lower parts whitish, vermiculated with dusky, more or less uniform towards the lower abdomen and lower tail-coverts; under wing-coverts whitish, more or less barred with dusky: bill dusky; feet brownish yellow (in skin). Total length about 8·5 inches, wing 5 to 5·3, tail 4·8, tarsus 0·9.

I cannot make out whether the female differs from the male or not, but the sexes are probably alike. Some specimens are darker, some paler, the characteristic markings of the head are often indistinct; in other specimens the pale parts of the head and breast are strongly tinged with rufous. As the rufous colour varies greatly, I am inclined to believe that it is independent of age and sex, and merely an individual character.

The figures of *Ægotheles novæ-hollandiæ* and the supposed *Æ. leucogaster* in Gould's 'B. of Australia' are much exaggerated.

*Hab.* Greater portion of Australia.

<i>a-g.</i> Ad. sk.	Australia.	Gould & Tweeddale Colls.
<i>h-k.</i> ♂; <i>l, m.</i> ♀ ad. sk.	Australia.	J. R. Elsey, Esq. [P.].
<i>n, o.</i> Ad. sk.	N.E. Australia.	Sir T. Mitchell [P.].
<i>p, q.</i> Ad. sk.	Queensland ( <i>J. T. Cockerell</i> ).	Salvin-Godman Coll.
<i>r, s.</i> ♂ ad. sk.	Murray River, Oct.	Sir G. Grey [P.].
<i>t.</i> Ad. sk.	Moreton Bay.	Gould Coll.
<i>u.</i> Ad. sk.	New South Wales.	Gould Coll.
<i>v.</i> Ad.; <i>w.</i> ♀ ad. sk.	South Australia.	Sir G. Grey [P.].
<i>x, y.</i> ♂ sk.	South Australia.	Tweeddale Coll.
<i>z.</i> Part of skele- ton.	Australia.	Purchased.

### 11. *Ægotheles savei*.

*Ægotheles savei*. *Layard & Tristr. Ibis*, 1881, p. 132, pl. iv.;  
*Layard, Ibis*, 1882, p. 502 (New Caledonia).

*Adult male.* Above and below brownish black, undulated with white, or rather greyish white, each feather having several irregular transverse bars of whitish; the bars are wider on the lower parts, and less numerous on the tail; inner webs of primaries uniform: feet brown, upper mandible deep brownish black (in skin). Total length about 12 inches, wing 6·4, tail 6·1, tarsus 1·2, middle toe with claw 1·3, culmen 0·6.

(Description from the type and unique specimen in Canon Tristram's collection.)

*Hab.* New Caledonia.

## Family STEATORNITHIDÆ.

(By ERNST HARTERT.)

The *Guácharos* resemble the *Podargidæ* in the desmognathous palate and many other respects, but they differ in so many important characters, that it becomes difficult to place them in the system. The plumage is not so soft as that of the *Caprimulgidæ* and *Podargidæ*. The bill resembles somewhat that of the *Coraciidæ*; the number of rectrices is ten; the form of the wing is more like that of a *Coracias* than that of a *Caprimulgus*, the third and fourth primary longest. Basipterygoid processes are present. The tarsus is naked and short, only about half as long as the middle toe (cf. p. 434).

The nidification is singular. The eggs are said to be four in number, and are pure white.

They inhabit caves, and are crepuscular in their habits.

*Range.* Mountainous districts of northern and western parts of South America (Guiana to Peru).

## 1. STEATORNIS.

Type.

Steatornis, *Humboldt, Bull. Soc. Philom. Paris, sér. 3,*  
xvii. p. 295 (1810) ..... S. caripensis.

*Range.* That of the family.

## 1. Steatornis caripensis.

Caprimulgus sp., *Humboldt, Journ. de Phys.* liii. p. 57 (1801);  
*Humb. et Bonpland, Voy. aux Rég. Equinoct. Obs. Astron.* i.  
p. 295 (1810) (Venezuela).

Steatornis caripensis, *Humboldt, Bull. Soc. Philom. Paris, sér. 3,*  
xvii. p. 295 (1810) (Venezuela).

Trinidad Goatsucker, *Lath. Gen. Hist. B.* vii. p. 365 (1823)  
(Trinidad).

Nyctibius steatornis, *Steph. Gen. Zool.* xiii. pt. 2, p. 91 (1825).

Steatornis caripensis, *Humb. et Bonpl. Rev. d'Obs. Zool.* ii. p. 141,  
pl. 44 (1833); *L'Herménieur, Nouv. Ann. Mus. d'Hist. Nat. Paris,*  
iii. p. 321, pl. 15 (1834) (Venezuela); *id. Compt. Rendus,* iii. p. 67  
(1836), vii. p. 474 (1838); *Hautessier, Rev. Zool.* i. p. 164 (1838);  
*Müll. Monatsbr. Berlin Ac.* 1841, p. 172; *id. Archiv f. Naturg.*  
1842, p. 1; *Des Murs, Rev. Zool.* vi. p. 33 (1843); *id. Traité*  
*d'Ool. Orn.* p. 260 (1860); *Funck, Bull. Ac. R. Bruxelles,* xi.  
pt. 2, p. 371 (1844); *Gray, Gen. Birds,* i. p. 44 (1846) (Guade-  
loupe, errore!); *Bp. Consp.* i. p. 57 (1850); *Thienem. Fortpflanz.*  
*ges. Vög.* pl. xlii. fig. 24 (1854) (eggs fig.); *Scl. P. Z. S.* 1855,  
p. 135 (Bogotá), 1866, pp. 125, 130, 145, 1868, p. 73 (egg),  
1869, p. 467; *Blanchard, Ann. Sci. Nat.* sér. 4, xi. p. 105, pl. iv.  
fig. 30 (1859) (anatom.); *Cab. & Heine, Mus. Heïn.* iii. p. 95  
(1860); *Taylor, Ibis,* 1864, p. 88 (Trinidad); *Léotaud, Ois.*

*Trinidad*, p. 65 (1866); *Koenig-Warth. J.f. O.* 1868, p. 384 (egg); *Sci. et Salv. P. Z. S.* 1868, p. 165, 1870, p. 779 (Merida), 1878, p. 139 (Catamarca), 1879, p. 532 (Antioquia); *Goering, Vargasia*, i. p. 124 (1869); *Gray, Hand-l. i.* p. 55 (1869); *Garrod, P. Z. S.* 1873, pp. 463, 526, 630 (anatom.); *Murie, Ibis*, 1873, p. 81; *Brown, Canoe & Camp Life in Brit. Guiana*, p. 386 (1876); *Taczan. P. Z. S.* 1880, p. 208, 1882, p. 40; *id. Orn. Pérou*, i. p. 200 (1884); *Stolzmann, Bull. Soc. Zool. France*, v. p. 198 (1880); *Salv. Ibis*, 1885, p. 439; *Sci. Ibis*, 1890, p. 335.

*Steatornis caripensis peruvianus*, *Taczan. P. Z. S.* 1885, p. 106.

*Adult.* Upper surface chestnut; head and neck with small triangular white spots; back, rump, scapulars, and secondaries with darker and paler cross-bars; the median upper wing-coverts with large rounded white spots, bordered by a black ring; some white spots on the lateral upper tail-coverts; shafts and inner webs of the primaries dark brown, lighter towards their tips; outer webs chestnut with white spots, bordered laterally with dark brown; rectrices chestnut, with narrow black bars and vermiculations; lower surface pale chestnut, generally more or less greyish, and with two, or sometimes three, more or less distinctly rhomboid white spots surrounded with black on each feather.

These birds vary greatly in size and depth of colour, but I cannot make out any local races or sexual differences. Small specimens occur elsewhere than in Peru.

Total length about 17 to 20 inches, wing 11.5 to 12.5, tail 8 to 10, tarsus 0.6 to 0.7, culmen 1.2 to 1.4.

*Hab.* Venezuela, Trinidad, Guiana, Colombia, Ecuador, and Peru. Gray erroneously gave the island of Guadeloupe as one of the localities inhabited by the Guácharo.

<i>a, b, c.</i> Ad. sk.	S. America.	Tweeddale Coll.
<i>d, e, f.</i> Ad. sk.	Trinidad.	Sclater Coll.
<i>g.</i> Ad. st.	Trinidad.	Hon. Arthur Gordon [P.].
<i>h.</i> Ad. st.	Trinidad.	Mrs. Wright [P.].
<i>i, k.</i> Ad. sk.	Roraima, Oct., Nov. ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
<i>l.</i> ♀ ad. sk.	Bogotá ( <i>G. Crouther</i> ).	Salvin-Godman Coll.
<i>m.</i> ♀ sk.	Santa Helena, Colombia ( <i>T. K. Salmon</i> ).	Salvin-Godman Coll.
<i>n.</i> Ad. sk.	Sarayacu, Ecuador ( <i>C. Buckley</i> ).	Salvin-Godman Coll.
<i>o.</i> ♂ (ad.) sk.	Ninabamba, Peru ( <i>Taczanowski</i> ).	Sclater Coll.



## ADDENDA.

### UPUPÆ.

Add:— Page 13. **Upupa somalensis.**  
Upupa somalensis, *Salv. Ann. & Mag. N. H.* 1891, vii. p. 374.

Add:— Page 22. **Scoptelus notatus.**  
Scoptelus notatus, *Salv. Ann. & Mag. N. H.* 1891, vii. p. 375.

### TROCHILI.

The following additions have been made to the collection of Humming-birds since the sheets relating to that Suborder were printed off in May 1891.

Add:— Page 32. **Heliothrix barroti.**  
*q', r'. ♂ ad. sk.* La Libertad, Chontales, Nicar- Salvin-Godman Coll.  
agua, Jan. (*W. B. Richardson*).

Add:— Page 39. **Hemistephania ludovicæ.**  
*r, s, t. ♂ ad. sk.* Environs of Bogota, 8500-9000 Salvin-Godman Coll.  
ft. (*T. H. Wheeler*).  
*u. ♂ ad. sk.* Llanos of R. Meta, Colombia Salvin-Godman Coll.  
(*T. H. W.*).

Add:— Page 40. **Hemistephania johannæ.**  
*x-a'. ♂ ad.; b'-* Llanos of R. Meta, Colombia Salvin-Godman Coll.  
*e'. ♀ ad. sk.* (*T. H. Wheeler*).

Add:— Page 41. **Glaucis hirsuta.**  
*η-κ. Ad.; λ-ο.* Llanos of R. Meta, Colombia Salvin-Godman Coll.  
Juv. sk. (*T. H. Wheeler*).

- Add:— Page 46. **Chlorostilbon caniveti**.  
 $\omega, \alpha'$ . ♂ ad.;  $\beta'$ . V. de San Miguel, Salvador, Salvin-Godman Coll.  
 ♂ juv. sk. March (*W. B. Richardson*).  
 $\gamma'$ . ♂ juv.;  $\delta'$ . La Libertad, Salvador, Feb. Salvin-Godman Coll.  
 ♀ ad. sk. (*W. B. R.*).  
 $\epsilon'$ . ♂ ad.;  $\zeta', \eta'$ . Chinandega, Nicaragua, May Salvin-Godman Coll.  
 ♀ ad. sk. (*W. B. R.*).  
 $\theta'$ . ♂ ad. sk. El Volcan, Chinandega, April Salvin-Godman Coll.  
 (*W. B. R.*).

- Add:— Page 67. **Microchera parvirostris**.  
 $o$ . ♂ juv. sk. Matagalpa, Nicaragua, Sept. Salvin-Godman Coll.  
 (*W. B. Richardson*).

- Add:— Page 69. **Panychlora poortmanni**.  
 $j'-r'$ . ♂ ad.;  $s'$ . Llanos of R. Meta, Colombia Salvin-Godman Coll.  
 $t'$ . ♂ juv.;  $u'$ . (*T. H. Wheeler*).  
 $v'$ . ♀ ad. sk.

- Add:— Page 70. **Panychlora euchloris**.  
 $f, g$ . ♂ ad.;  $h$ . Environs of Bogota, 8500– Salvin-Godman Coll.  
 $i$ . ♀ ad. sk. 9000 feet (*T. H. Wheeler*).

- Add:— Page 71. **Panychlora micans**.  
*Panychlora micans*, *Salv. Ann. & Mag. N. H.* 1891, vii. p. 375.

- Add:— Page 72. **Eupherusa eximia**.  
 $s$ . ♂ ad.;  $t$ . ♀ Matagalpa, Nicaragua, July, Salvin-Godman Coll.  
 ad. sk. Aug. (*W. B. Richardson*).

- Add:— Page 79. **Thalurania columbica**.  
 $l$ . ♂ ad.;  $\kappa, \lambda$ . Fusagasugá, Colombia (*T. H.* Salvin-Godman Coll.  
 ♀ ad. sk. *Wheeler*).  
 $\mu-o$ . ♂ ad.;  $\pi$ . Llanos of R. Meta, Colombia Salvin-Godman Coll.  
 $\rho$ . ♂ juv.;  $\sigma$ . (*T. H. W.*).  
 $\tau$ . ♀ ad. sk.  
 $v-\psi$ . ♂ ad. sk. La Libertad, Chontales, Nicar- Salvin-Godman Coll.  
 agua, Jan. (*W. B. Richard-*  
*son*).

- Add:— Page 88. **Hypuroptila cæruleiventris**.  
 $l-p$ . ♂ ad.;  $q, r$ . Llanos of R. Meta, Colombia Salvin-Godman Coll.  
 ♀ ad. sk. (*T. H. Wheeler*).

- Add:— Page 92. *Lampornis violicauda*.  
*s'-v'*. ♂ ad.; *w'*,  
*x'*. ♂ juv.; *y'*,  
*z'*, *a''*. ♀ ad. sk. Llanos of R. Meta, Colombia Salvin-Godman Coll.  
 (T. H. Wheeler).
- Add:— Page 107. *Petasophora iolata*.  
*m'*, *n'*, *o'*. ♂ ad. Environs of Bogota, Colombia, Salvin-Godman Coll.  
 sk. 8500-9000 ft. (T. H. Wheeler).
- Add:— Page 109. *Petasophora thalassina*.  
*j'*. Juv. sk. Toliman, Guatemala, Dec. (W. Salvin-Godman Coll.  
*B. Richardson*).
- Add:— Page 110. *Petasophora cyanotis*.  
*n'*, *o'*, *p'*. Ad. sk. Environs of Bogota, Colombia, Salvin-Godman Coll.  
 8500-9000 ft. (T. H. Wheeler).  
*q'-t'*. Ad. sk. Llanos of R. Meta, Colombia Salvin-Godman Coll.  
 (T. H. W.).
- Add:— Page 111. *Petasophora delphinæ*.  
*k'*, *i''*. Ad. sk. Fusagasugá, Colombia (T. H. Salvin-Godman Coll.  
*Wheeler*).  
*j'-m'*. Ad. sk. Llanos of R. Meta, Colombia Salvin-Godman Coll.  
 (T. H. W.).
- Add:— Page 113. *Chrysolampis moschitus*.  
*d'-g'*. ♂ ad. sk. Prado in Tolima, Colombia Salvin-Godman Coll.  
 (T. H. Wheeler).  
*h'*, *i'*. ♂ ad.; *j'*,  
*k'*. ♂ juv.; *l'*,  
*m'*. ♀ ad. sk. Llanos of R. Meta, Colombia Salvin-Godman Coll.  
 (T. H. W.).  
*n'*. ♂ ad. sk. Aunai, Brit. Guiana, July (H. Salvin-Godman Coll.  
*Whiteley*).  
*o'*. ♀ ad. sk. Ourumee, Brit. Guiana, Oct. Salvin-Godman Coll.  
 (H. W.).
- Page 117. For 52. *ARIANA* read 52. *ARINIA*.  
 „ For 63. *HELIOPEDICA* read 63. *BASILINNA*.
- Add:— Page 118. *Pterophanes temminckii*.  
*c'*, *d'*. Ad. sk. Environs of Bogota, Colombia, Salvin-Godman Coll.  
 8500-9000 ft. (T. H. Wheeler).

- Add :— Page 124. **Helianthea typica.**  
*u, v.* ♂ ad.; *w,* Gacheta, Colombia (*T. H.* Salvin-Godman Coll.  
*x.* ♀ ad. sk. *Wheeler*).
- Add :— Page 124. **Helianthea bonapartii.**  
*q, r, s.* ♂ ad.; Environs of Bogota, Colombia, Salvin-Godman Coll.  
*t, u, v.* ♀ ad. 8500-9000 ft. (*T. H.*  
 sk. *Wheeler*).
- Add :— Page 130. **Bourcieria torquata.**  
*y-a'.* Ad. sk. Environs of Bogota, Colombia, Salvin-Godman Coll.  
 8500-9000 ft. (*T. H.*  
*Wheeler*).
- Add :— Page 135. **Lampropygia columbiana.**  
*p.* Ad. sk. Fusagasugá, Colombia (*T. H.* Salvin-Godman Coll.  
*Wheeler*).
- q.* Ad. sk. Llanos of R. Meta, Colombia Salvin-Godman Coll.  
 (*T. H. W.*).
- Add :— Page 137. **Cyanolesbia gorgo.**  
*c'-f'.* ♂ ad. sk. Environs of Bogota, Colombia, Salvin-Godman Coll.  
 8500-9000 ft. (*T. H.*  
*Wheeler*).
- These adult males all belong to the form which has the central  
 rectrices more or less glittering green.
- Add :— Page 146. **Lesbia victoriae.**  
*a'-e'.* ♂ ad.; *f'.* ♂ Environs of Bogota, Colombia, Salvin-Godman Coll.  
 juv.; *g'.* ♀ ad. 8500-9000 ft. (*T. H.*  
 sk. *Wheeler*).
- Add :— Page 149. **Lesbia gouldi.**  
*i'-k'.* ♂ ad.; *l'.* ♀ Environs of Bogota, Colombia, Salvin-Godman Coll.  
 ad. sk. 8500-9000 ft. (*T. H.*  
*Wheeler*).
- Add :— Page 152. **Metallura tyrianthina.**  
*u'-w'.* ♂ ad.; *x'.* Environs of Bogota, Colombia, Salvin-Godman Coll.  
 ♂ juv. sk. 8500-9000 ft. (*T. H.*  
*Wheeler*).

Page 156. *Eustephanus galeritus*.

Add :—		
<i>r-y</i> . ♂ ad. ; <i>z-d'</i> . ♀ ad. sk.	Central Chili.	H. Berkeley James [P.]
<i>e'</i> . ♀ ad. sk.	Corral, Chili, Oct.	H. Berkeley James [P.]
<i>f'</i> . ♂ ad. sk.	Maquhua, Chili, Aug.	H. Berkeley James [P.]
<i>g'</i> . ♂ ad. sk.	La Posada, Chili, July.	H. Berkeley James [P.]

Add :— Page 157. *Eustephanus fernandensis*.

<i>w-b'</i> . ♂ ad. ; <i>c', d'</i> . ♀ ad. sk.	Juan Fernandez I.	H. Berkeley James [P.]
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Add :— Page 160. *Heliangelus clarissæ*.

<i>s</i> . ♂ ad. sk.	Gacheta, Colombia ( <i>T. H. Wheeler</i> ).	Salvin-Godman Coll.
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Add :— Page 160. *Heliangelus laticlavus*.

*Heliangelus laticlavus*, *Salv. Ann. & Mag. N. H.* 1891, vii. p. 376.

Add :— Page 162. *Heliangelus violicollis*.

*Heliangelus violicollis*, *Salv. Ann. & Mag. N. H.* 1891, vii. p. 376.

Add :— Page 165. *Heliotrypha exortis*.

<i>i-k'</i> . ♂ ad. ; <i>l'</i> . ♂ juv. ; <i>m, n'</i> . ♀ ad. sk.	Envirois of Bogota, Colombia, 8500-9000 ft. ( <i>T. H. Wheeler</i> ).	Salvin-Godman Coll.
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Add :— Page 167. *Heliotrypha speciosa*.

*Heliotrypha speciosa*, *Salv. Ann. & Mag. N. H.* 1891, vii. p. 376.

Add :— Page 169. *Adelomyia melanogenys*.

<i>a'-d'</i> . Ad. sk.	Environs of Bogota, Colombia, 8500-9000 ft. ( <i>T. H. Wheeler</i> ).	Salvin-Godman Coll.
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Add :— Page 174. *Polytmus thaumantias*.

<i>y, z</i> . Ad. sk.	Llanos of R. Meta, Colombia ( <i>T. H. Wheeler</i> ).	Salvin-Godman Coll.
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Add :— Page 180. *Agyrtria niveipectus*.

<i>γ-l</i> . ♂ ad. sk.	Aunai, Brit. Guiana, June ( <i>H. Whitely</i> ).	Salvin-Godman Coll.
<i>m, n</i> . ♀ ad. sk.	Quonga, Brit. Guiana, Sept., Oct. ( <i>H. W.</i> ).	Salvin-Godman Coll.

- Add:— Page 182. *Agyrtria milleri*.
- m-s.* ♂ ad. ; *t-x.* ♀ ad. sk. Llanos of R. Meta, Colombia Salvin-Godman Coll.  
(*T. H. Wheeler*).
- Add:— Page 189. *Agyrtria apicalis*.
- g-t.* Ad. sk. Llanos of R. Meta, Colombia Salvin-Godman Coll.  
(*T. H. Wheeler*).
- Add:— Page 190. *Agyrtria candida*.
- b'.* ♀ ad. sk. Matagalpa, Nicaragua, Sept. Salvin-Godman Coll.  
(*W. B. Richardson*).
- c', d'.* ♂ ad. ; *e'.* ♀ ad. sk. La Libertad, Chontales, Nicaragua, Jan. (*W. B. R.*) Salvin-Godman Coll.
- f'.* ♀ ad. sk. Santo Domingo, Chontales, Jan. (*W. B. R.*) Salvin-Godman Coll.
- Add:— Page 198. *Cyanomyia guatemalensis*.
- r.* ♂ ad. sk. Panajachel, Guatemala, Dec. Salvin-Godman Coll.  
(*W. B. Richardson*).
- s-u.* ♂ ad. ; *v-x.* ♀ ad. sk. Matagalpa, Nicaragua, Aug. to Oct. (*W. B. R.*) Salvin-Godman Coll.
- Add:— Page 199. *Cyanomyia franciæ*.
- o-g.* ♂ ad. sk. Fusagasugá, Colombia (*T. H. Wheeler*) Salvin-Godman Coll.
- Add:— Page 207. *Amazilia cinnamomea*.
- b<sup>3</sup>.* ♂ ; *c<sup>3</sup>.* ♀ ad. sk. Retalhuleu, Guatemala, Jan. Salvin-Godman Coll.  
(*W. B. Richardson*).
- d<sup>3</sup>-h<sup>3</sup>.* ♂ ad. sk. La Libertad, Salvador, Feb. Salvin-Godman Coll.  
(*W. B. R.*).
- i<sup>3</sup>.* ♂ ; *j<sup>3</sup>.* ♀ ad. sk. Chinandega, Nicaragua, May Salvin-Godman Coll.  
(*W. B. R.*).
- k<sup>3</sup>, l<sup>3</sup>.* ♂ ; *m<sup>3</sup>.* ♀ ad. sk. El Volcan, Chinandega, April Salvin-Godman Coll.  
(*W. B. R.*).
- n<sup>3</sup>.* ♂ ad. sk. Momotombo, Nicaragua, May Salvin-Godman Coll.  
(*W. B. R.*).
- Add:— Page 211. *Amazilia devillii*.
- n-s.* ♂ ; *t-v.* ♀ ad. sk. La Libertad, Salvador, Feb. Salvin-Godman Coll.  
(*W. B. R.*).
- w-c'.* ♂ ad. sk. Volcan de San Miguel, Salvador, March, April (*W. B. R.*) Salvin-Godman Coll.

Add:— Page 212. *Amazilia cyanura*.

- r, s.* ♂; *t.* ♀ ad. sk. Retalhuleu, Guatemala, Jan. Salvin-Godman Coll.  
(*W. B. Richardson*).  
*u, v.* ♂; *w, x.* ♀ ad. sk. El Volcan Chinandega, Nicaragua, April (*W. B. R.*). Salvin-Godman Coll.  
*y, z, a'.* ♂ ad. sk. Matagalpa, Nicaragua, Sept. Salvin-Godman Coll.  
(*W. B. Richardson*).

Add:— Page 213. *Amazilia sumichrasti*.

*Amazilia sumichrasti*, *Salv. Ann. & Mag. N. H.* 1891, vii. p. 376.

Add:— Page 215. *Amazilia lawrencii*?

- a-h.* Ad. sk. Llanos of R. Meta, Colombia Salvin-Godman Coll.  
(*T. H. Wheeler*).

These specimens all have a more chestnut-coloured tail than *A. viridiventris* and the under tail-coverts are cinnamon. I refer them at present to *A. lawrencii*, but they should be compared with authentic specimens of that bird to prove the correctness of this determination.

Add:— Page 216. *Amazilia riefferi*.

- y'', z'', a<sup>3</sup>.* ♂ ad.; Matagalpa, Nicaragua, Sept. Salvin-Godman Coll.  
*b<sup>3</sup>, c<sup>3</sup>.* ♀ ad. sk. (*W. B. Richardson*).  
*d<sup>3</sup>-f<sup>3</sup>.* ♂ ad. sk. La Libertad, Chontales, Nicaragua, Jan. Salvin-Godman Coll.  
(*W. B. R.*).

Add:— Page 219. *Amazilia viridiventris*.

- j-a'.* Ad. sk. Llanos of R. Meta, Colombia Salvin-Godman Coll.  
(*T. H. Wheeler*).

Add:— Page 229. *Floricola longirostris*.

- n''.* ♂ ad. sk. Retalhuleu, Guatemala, Jan. Salvin-Godman Coll.  
(*W. B. Richardson*).  
*o''.* ♂ ad.; *p'', q''.* ♂ juv. sk. La Libertad, Salvador, Feb. Salvin-Godman Coll.  
(*W. B. R.*).  
*r''.* ♂ ad. sk. V. de San Miguel, Salvador, March (*W. B. R.*). Salvin-Godman Coll.  
*s''-w''.* ♂ ad.; *x''.* ♂ juv.; *z''.* ♀ ad. sk. Llanos of R. Meta, Colombia Salvin-Godman Coll.  
(*T. H. Wheeler*).

Add:— Page 231. *Floricola constanti*.

- j-n.* ♂ ad.; *o-r.* ♂ juv.; *s.* ♀ ad. sk. La Libertad, Salvador, Feb. Salvin-Godman Coll.  
(*W. B. Richardson*).

- t, u.* ♂ ad.; *v.* ♀ ad. sk. Volcan de San Miguel, Salvador, March, April (*W. B. R.*). Salvin-Godman Coll.
- w, x.* ♂ ad.; *y, z.* ♂ juv. sk. Momotombo, Nicaragua, May (*W. B. R.*). Salvin-Godman Coll.
- a'.* ♂ juv. sk. Matagalpa, Nicaragua, Sept. (*W. B. R.*). Salvin-Godman Coll.

Add:— Page 238. **Polyerata decora.**

*Polyerata decora*, *Salv. Ann. & Mag. N. II.* 1891, vii. p. 377.

Add:— Page 248. **Chrysuronia œnone.**

- f'-k'.* ♂ ad.; *l'-p'.* ♀ ad. sk. Llanos of R. Meta, Colombia (*T. H. Wheeler*). Salvin-Godman Coll.

Add:— Page 251. **Chrysuronia elicixæ.**

- p, q.* ♂ ad.; *r, s, t.* ♀ ad. sk. La Libertad, Salvador, Feb. (*W. B. Richardson*). Salvin-Godman Coll.
- u.* ♂ ad. sk. La Libertad, Chontales, Nicaragua, Jan. (*W. B. R.*). Salvin-Godman Coll.
- v.* ♀ ad. sk. Santo Domingo, Chontales, Jan. (*W. B. R.*). Salvin-Godman Coll.

Add:— Page 252. **Basilinna leucotis.**

- u<sup>3</sup>-f<sup>1</sup>.* Sk. Matagalpa, Nicaragua, June-Oct. (*W. B. Richardson*). Salvin-Godman Coll.

Add:— Page 261. **Eutoxeres aquila.**

- g, h.* Ad. sk. Fusagasugá, Colombia, May (*T. H. Wheeler*). Salvin-Godman Coll.
- i, j.* Ad. sk. Medina, Llanos of R. Meta, Colombia (*T. H. W.*). Salvin-Godman Coll.

Add:— Page 265. **Threnetes cervinicauda.**

- l-o.* Ad.; *p-v.* Juv. sk. Llanos of R. Meta, Colombia (*T. H. Wheeler*). Salvin-Godman Coll.

Add:— Page 268. **Phaethornis emiliæ.**

- c'.* ♂ ad.; *d', e'.* Juv. sk. Llanos of R. Meta, Colombia (*T. H. Wheeler*). Salvin-Godman Coll.

Add:— Page 270. **Phaethornis superciliosus.**

- q'.* Ad.; *r'-w'.* Juv. sk. Llanos of R. Meta, Colombia (*T. H. Wheeler*). Salvin-Godman Coll.



Add :— Page 272. **Phaethornis longirostris.**

- g', h'. ♂ ad.*; *i'. ♀ ad. sk.* Matagalpa, Nicaragua, Aug., Salvin-Godman Coll.  
 Sept. (*W. B. Richardson*).  
*j', k', l'. ♂ ad.*; Santo Domingo, Nicaragua, Salvin-Godman Coll.  
*m', n'. ♀ ad. sk.* Jan. (*W. B. R.*).

Add :— Page 273. **Phaethornis hispidus.**

- n, o. Ad.*; *p-v. Juv. sk.* Llanos of R. Meta, Colombia Salvin-Godman Coll.  
 (*T. H. Wheeler*).

Page 277. Add :—

11 *a. Phaethornis rupurumii.*

*Phaethornis rupurumii*, *Boucard, The Humming Bird*, ii. p. 1  
 (Jan. 1892).

Upper surface golden green, crown dark brown, upper tail-coverts edged with rufous; under surface grey; throat black, each feather edged with pale fawn-colour; superciliary and malar stripes pale fawn-colour; ear-coverts black; central rectrices dull green, passing into white at the tips, rest darker and tipped with white; under tail-coverts white: bill black, basal half of the mandible yellow. Total length about 4·3 inches, wing 1·7; tail—central rectrices 1·75, lateral 0·8; bill 1·05.

*Hab.* British Guiana.

A distinct species, of about the size of *P. squalidus*, from which it differs not only by its greyer under surface, but by the different graduation of the rectrices, the middle pair being only ·4 inch longer than the next pair, instead of ·8 inch.

- a, b. ♂ ad. sk.* Rupurumi R., Brit. Guiana, Salvin-Godman Coll  
 March, April (*H. Whitely*).

Add :— Page 280. **Pygmornis griseigularis.**

- t-e'. Ad. sk.* Llanos of R. Meta, Colombia Salvin-Godman Coll.  
 (*T. H. Wheeler*).

Add :— Page 282. **Pygmornis adolphi.**

- u. Ad. sk.* La Libertad, Chontales, Nicara- Salvin-Godman Coll.  
 agua, Jan. (*W. B. Richardson*).

Add :— Page 284. **Pygmornis episcopus.**

- l. ♂ ad. sk.* Aunai, Brit. Guiana, Feb. (*H. Salvin-Godman Coll.*  
*Whitely*).

Add :— Page 291. **Campylopterus hemileucurus.**

- y'*. ♂ ad. sk. Volcan de San Miguel, Salvador, April (*W. B. Richardson*). Salvin-Godman Coll.  
*z'*. ♀ ad. sk. Matagalpa, Nicaragua, Sept. (*W. B. R.*). Salvin-Godman Coll.

Add :— Page 292. **Campylopterus lazulus.**

- s, t.* ♂ ad. sk. Environs of Bogota, 8500–9000 ft. (*T. H. Wheeler*). Salvin-Godman Coll.  
*u, v, w.* ♂ ad.; *x.* ♂ juv.; *y.* ♀ ad. sk. Llanos of R. Meta, Colombia (*T. H. W.*). Salvin-Godman Coll.

Add :— Page 294. **Campylopterus rufus.**

- m.* ♂ ad. sk. Volcan de San Miguel, Salvador, March (*W. B. Richardson*). Salvin-Godman Coll.

Add :— Page 308. **Oreopyra pectoralis.**

*Oreopyra pectoralis*, *Salv. Ann. & Mag. N. H.* 1891, vii. p. 377.

Add :— Page 310. **Delattria viridipallens.**

- x.* ♂ ad. sk. Toliman, Guatemala, Dec. (*W. B. Richardson*). Salvin-Godman Coll.

## Page 310. Add :—

**3a. Delattria sybillæ.**

*Delattria sybillæ*, *Salv. & Godm. Ibis*, 1892, p. 327.

Similar to *D. viridipallens*, but with the breast and flanks pale shining green like the throat and not white; under tail-coverts and tail pale grey; lower back green without coppery tinge. Total length about 4.5 inches, wing 2.6; tail—middle rectrices 1.3, lateral 1.7.

*Hab.* Nicaragua.

- α-f.* ♂ ad. sk. Matagalpa, Nicaragua, Aug. (*W. B. Richardson*). Salvin-Godman Coll. (Types of the species.)

Add :— Page 315. **Docimastes ensiferus.**

- z-c'*. ♂ ad. sk. Environs of Bogota, Colombia, 8500–9000 ft. (*T. H. Wheeler*). Salvin-Godman Coll.

Add :— Page 317. **Heliodoxa leadbeateri.**

- u'*. ♂ juv. sk. Llanos of R. Meta, Colombia (*T. H. Wheeler*). Salvin-Godman Coll.

- Add:— Page 319. *Heliodoxa jacula*.  
*y, z.* ♂ ad.; *a'* ♀ Llanos of R. Meta, Colombia Salvin-Godman Coll.  
 ad. sk. (*T. H. Wheeler*).
- Add:— Page 325. *Phæolæma cervinigularis*.  
*Phæolæma cervinigularis*, *Salv. Ann. & Mag. N. H.* 1891, vii.  
 p. 377.
- Add:— Page 326. *Lafresnaya flavicaudata*.  
*q-s.* ♂ ad.; *t, u.* Environs of Bogota, Colombia, Salvin-Godman Coll.  
 ♂ juv.; *v, w.* 8500-9000 ft. (*T. H. Wheeler*).  
 ♀ ad. sk.
- Add:— Page 329. *Florisuga mellivora*.  
*s''-v''.* ♂ ad.; Llanos of R. Meta, Colombia Salvin-Godman Coll.  
*w''*, *x''.* ♂ juv.; (*T. H. Wheeler*).  
*y''*, *z''*, *a'''.* ♂  
 ad. sk.  
*b'''-e'''.* ♂ ad.; La Libertad, Chontales, Ni- Salvin-Godman Coll.  
*f'''.* ♀ ad. sk. caragua, Jan. (*W. B.*  
*Richardson*).  
*g'''.* ♀ ad. sk.' Santo Domingo, Chontales, Jan. Salvin-Godman Coll.  
 (*W. B. R.*).
- Add:— Page 336. *Oreotrochilus leucopleurus*.  
*s, t.* ♂ ad.; *u.* ♂ Central Chili. H. Berkeley James [P.].  
 juv.; *v-v.* ♀  
 ad. sk.  
*y, z.* ♀ ad. sk. Prov. Tarapaca, Chili. H. Berkeley James [P.].
- Add:— Page 340. *Oxypogon guerini*.  
*o-r.* ♂ ad. sk. Environs of Bogota, Colombia, Salvin-Godman Coll.  
 8500-9000 ft. (*T. H. Wheeler*).
- Add:— Page 342. *Rhamphomicron microrhynchum*.  
*b'.* ♂ ad.; *c'.* ♀ Environs of Bogota, Colombia, Salvin-Godman Coll.  
 ad. sk. 8500-9000 ft. (*T. H. Wheeler*).
- Add:— Page 343. *Rhamphomicron heteropogon*.  
*q, r.* ♂ ad. sk. Environs of Bogota, Colombia Salvin-Godman Coll.  
 8500-9000 ft. (*T. H. Wheeler*).

- Add:— Page 348. **Patagonia gigas.**  
*v-r*. Add.; *y, z*. Juv. sk. Central Chili. H. Berkeley James [P.]
- Add:— Page 350. **Aglæactis cupreipennis.**  
*x, y*. ♂ ad.; *z*. Environs of Bogota, Colombia, Salvin-Godman Coll.  
 Juv. sk. 8500-9000 ft. (*T. H. Wheeler*).
- Add:— Page 358. **Abeillia typica.**  
*j*. ♀ ad. sk. Toliman, Guatemala, Dec. (*W. B. Richardson*). Salvin-Godman Coll.  
*k, l*. ♂ juv. sk. Matagalpa, Nicaragua, Sept. Salvin-Godman Coll.  
 (*W. B. R.*).
- Add:— Page 359. **Klais guimeti.**  
*j'-l'*. ♂ ad.; La Libertad, Chontales, Ni- Salvin-Godman Coll.  
*m'*. ♂ juv. caragua, Jan. (*W. B. Richardson*).  
 sk. *Richardson*).  
*n'-p'*. ♂ juv.; Llanos of R. Meta, Colombia Salvin-Godman Coll.  
*q'*. ♀ ad. sk. (*T. H. Wheeler*).
- Add:— Page 363. **Eriocnemis vestita.**  
*v-y*. ♂ ad.; Environs of Bogota, Colombia, Salvin-Godman Coll.  
*z-a'*. ♀ ad. 8500-9000 ft. (*T. H. Wheeler*).  
 sk.
- Add:— Page 364. **Eriocnemis ventralis.**  
*Eriocnemis ventralis*, *Salv. Ann. & Mag. N. H.* 1891, vii. p. 378.
- Add:— Page 367. **Eriocnemis cupreiventris.**  
*r-t*. ♂ ad. sk. Environs of Bogota, Colombia, Salvin-Godman Coll.  
 8500-9000 ft. (*T. H. Wheeler*).
- Add:— Page 370. **Eriocnemis aureliæ.**  
*s*. Ad. sk. Fusagasugá, Colombia (*T. H. Salvin-Godman Coll.*  
*Wheeler*).  
*t-v*. Ad. sk. Llanos of R. Meta, Colombia Salvin-Godman Coll.  
 (*T. H. W.*).
- Add:— Page 374. **Panoplites flavescens.**  
*z-c'*. Ad. sk. Environs of Bogota, Colombia, Salvin-Godman Coll.  
 8500-9000 ft. (*T. H. Wheeler*).

- Add :— Page 375. **Spathura underwoodi**.  
*e'-h'*. ♂ ad. ; Environs of Bogota, Colombia, Salvin-Godman Coll.  
*i', j'*. ♂ juv. ; 8500-9000 ft. (*T. H. Wheeler*).  
*k', l'*. ♀ ad. sk.
- Add :— Page 381. **Doricha enicura**.  
*r*. ♂ ad. sk. Panajachel, Guatemala, Dec. Salvin-Godman Coll.  
 (*W. B. Richardson*).  
*s-u*. ♀ ad. sk. Atitlan, Guatemala, Dec. (*W. B. R.*).
- Add :— Page 385. **Tilmatura duponti**.  
*u'*. ♂ ad. ; *v'*. ♀ Matagalpa, Nicaragua, Aug. Salvin-Godman Coll.  
 ad. sk. (*W. B. Richardson*).
- Add :— Page 399. **Trochilus colubris**.  
*f<sup>3</sup>, g<sup>5</sup>*. ♂ juv. ; Panajachel, Guatemala, Dec. Salvin-Godman Coll.  
*h<sup>5</sup>, j<sup>5</sup>*. ♀ ad. (*W. B. Richardson*).  
 sk.  
*k<sup>5</sup>*. ♀ ad. sk. La Libertad, Salvador, Feb. Salvin-Godman Coll.  
 (*W. B. R.*).
- Add :— Page 406. **Acestrura mulsanti**.  
*s'*. ♂ ad. sk. Fusagasugá, Colombia (*T. H. Salvin-Godman Coll.*  
*Wheeler*).  
*t'*. ♀ ad. sk. Environs of Bogota, Colombia, Salvin-Godman Coll.  
 8500-9000 ft. (*T. H. Wheeler*).  
*u'*. ♂ juv. sk. Llanos of R. Meta, Colombia Salvin-Godman Coll.  
 (*T. H. W.*).
- Add :— Page 408. **Acestrura heliodori**.  
*b'-d'*. ♂ ad. sk. Environs of Bogota, Colombia, Salvin-Godman Coll.  
 8500-9000 ft. (*T. H. Wheeler*).  
*e', f'*. ♂ ad. sk. Fusagasugá, Colombia (*T. H. Salvin-Godman Coll.*  
*Wheeler*).  
*g'-j'*. ♂ ad. sk. Llanos of R. Meta, Colombia Salvin-Godman Coll.  
 (*T. H. W.*).
- Add :— Page 412. **Atthis eliotti**.  
*y*. ♂ ad. sk. Atitlan, Guatemala, Dec. (*W. Salvin-Godman Coll.*  
*B. Richardson*).
- Add :— Page 420. **Lophornis ornatus**.  
*o*. ♀ ad. sk. Ourumee, Brit. Guiana, Oct. (*H. Salvin-Godman Coll.*  
*Whitely*).

- Add:— Page 423. *Lophornis delatirii*.  
*v, w.* ♂ ad. sk. Prado in Tolima, Colombia (*T. Salvin-Godman Coll. II. Wheeler*).
- Add:— Page 424. *Lophornis stictolophus*.  
*p-t.* ♂ ad.; *u-* Medina, Llanos of R. Meta, Salvin-Godman Coll.  
*x.* ♂ juv.; Colombia (*T. H. Wheeler*).  
*y, z.* Juv. sk.
- Add:— Page 427. *Lophornis verreauxi*.  
*q-z.* ♂ ad.; *a'-c'*. Medina, Llanos of R. Meta, Salvin-Godman Coll.  
 ♂ juv.; *d', e'*. Colombia (*T. H. Wheeler*).  
 ♀ ad.; *f', g'*.  
 Juv. sk.
- Add:— Page 428. *Prymnacantha popelairii*.  
*o-u.* ♂ ad. sk. Medina, Llanos of R. Meta, Salvin-Godman Coll.  
 Colombia (*T. H. Wheeler*).

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The following species have been described as new by M. Boucard in "The Humming Bird, A Monthly Scientific, Artistic, and Industrial Review," vol. i. 1891:—

<i>Phaethornis gounellei</i> ,	p. 17.	Brazil.
,, <i>columbianus</i> ,	p. 17.	Colombia.
,, <i>guianensis</i> ,	p. 17.	Demerara.
,, <i>whitelyi</i> ,	p. 18.	Roraima.
<i>Aphantoehroa alexandri</i> ,	p. 18.	Demerara.
<i>Florisuga salli</i> ,	p. 18.	S. Mexico.
<i>Eustephanus burtoni</i> ,	p. 18.	Chili.
<i>Lafresnaya cinereorufa</i> ,	p. 25.	Colombia.
<i>Heliangelus henrici</i> ,	p. 26.	Ecuador.
<i>Bellona superba</i> ,	p. 43.	St. Vincent.
<i>Lesbia boliviana</i> ,	p. 43.	Bolivia.
<i>Calliphlox roraimæ</i> ,	p. 52.	Brit. Guiana.
<i>Hylöcharis guianensis</i> ,	p. 52.	Brit. Guiana.

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*Upupa somalensis.*



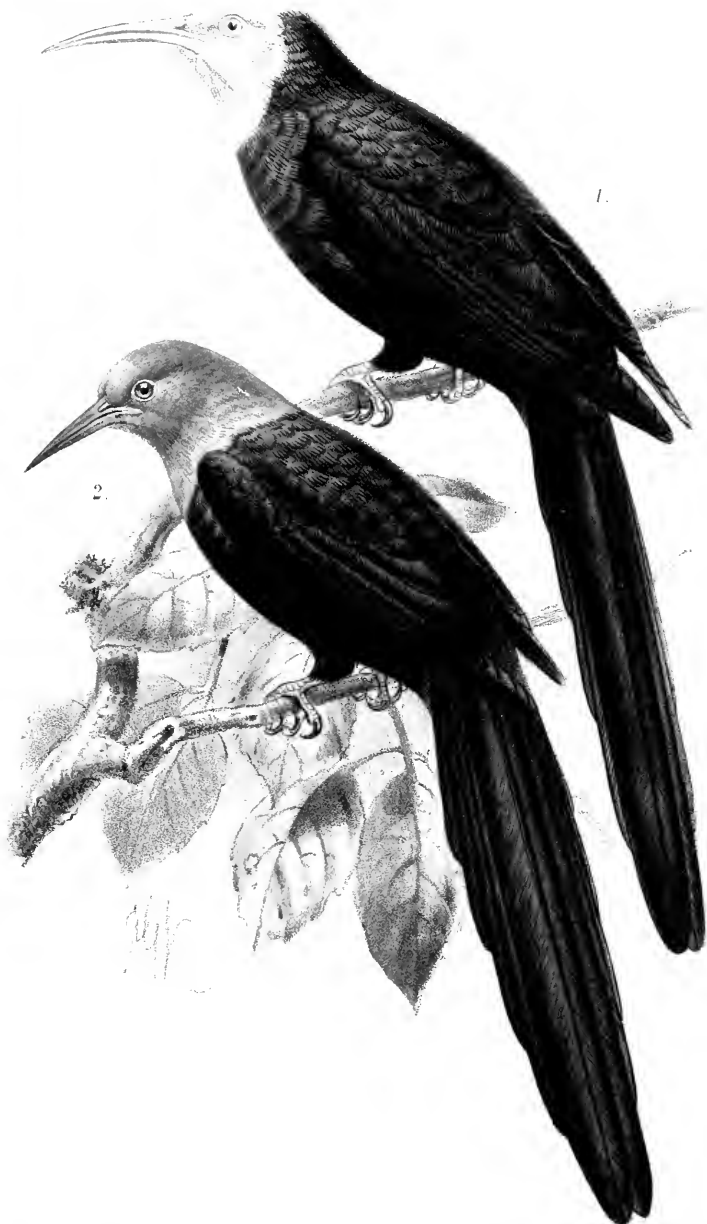


J. G. Keulemans del et lith

*Ibis or bollü.*

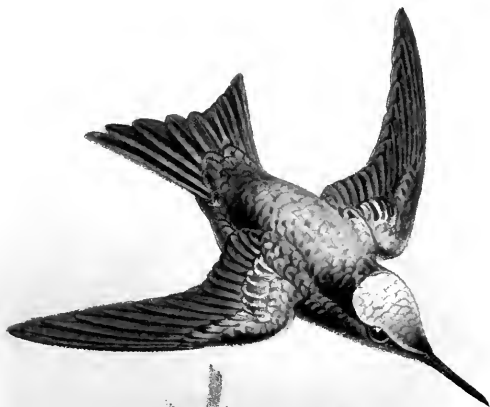
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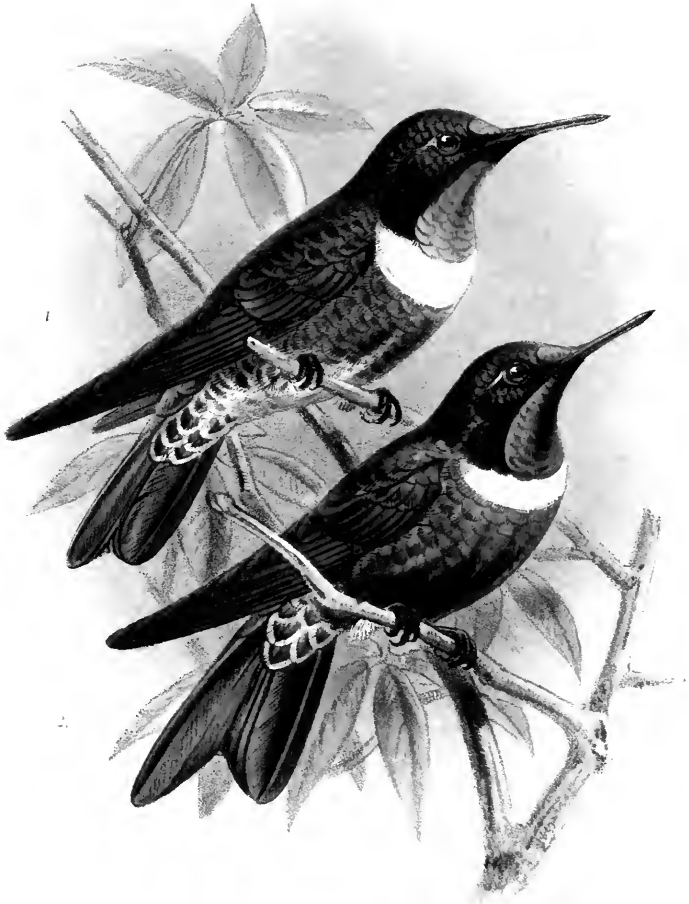


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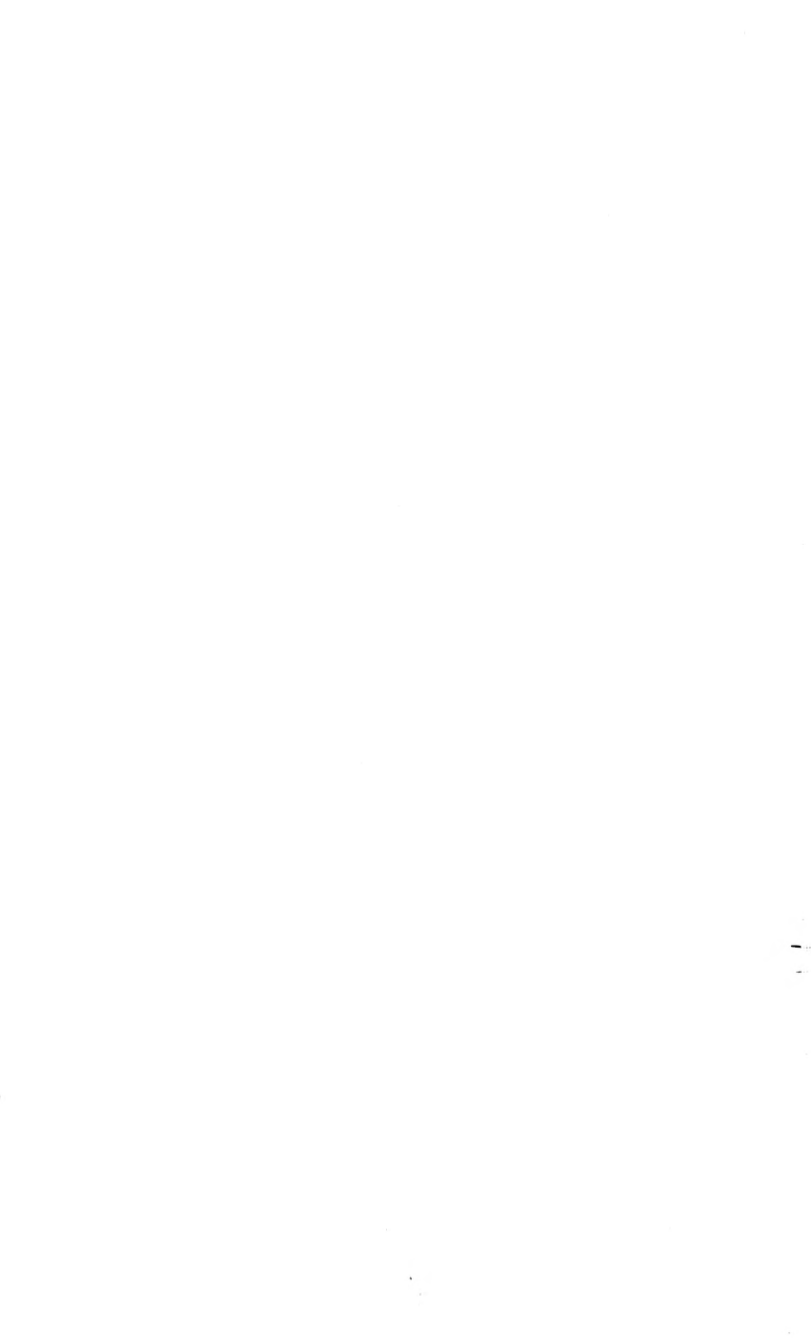
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1 *Helianthus laticlavus*. 2 *Helianthus viciicollis*









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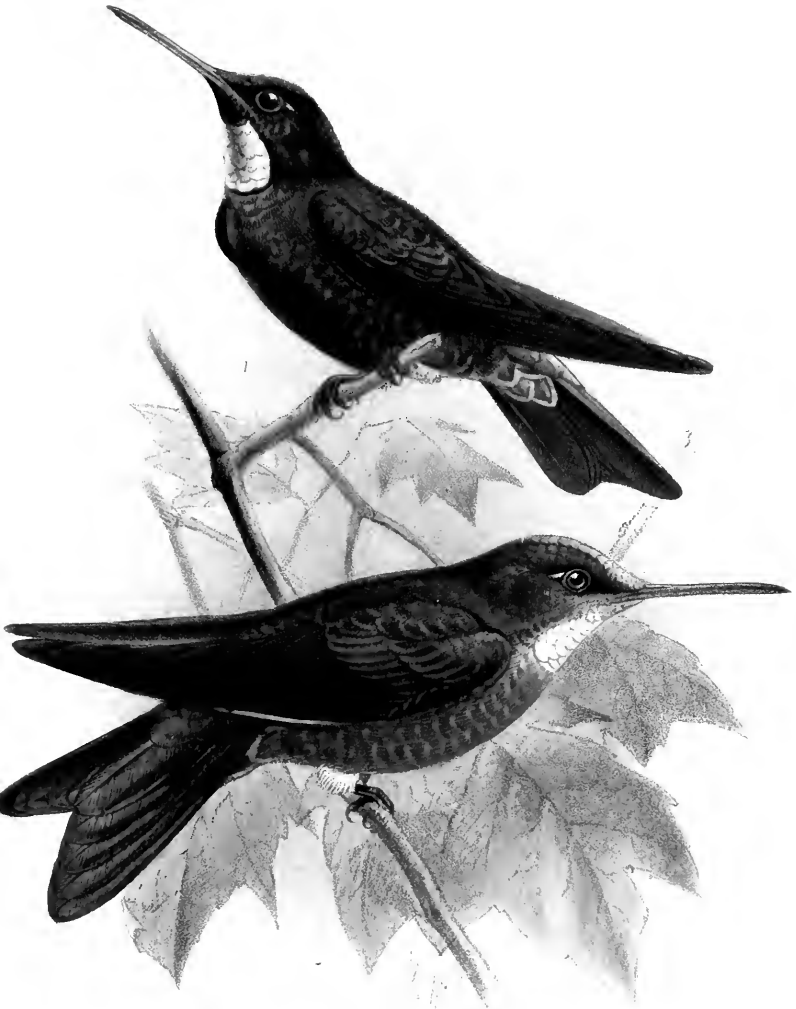
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1. *Agyrtria ceruleiceps*

2. *Amazilia sumichrasti*







1 Phrylosoma sp.

2 Phrylosoma sp.

*Phrylosoma luminosa*

*Phrylosoma cerviniocularis*









*Chaetura ussheri.*

Minton, from Chrys.





*Caprimulgus vociferans*, ♂

Musgrave del.

W. H. Burdett sculp.







J. G. Reichenow del. et lith.

*Caprimulgus whiteleyi*, ♀.

Illustration of a bird, likely a species of falcon or hawk, perched on a rocky surface.





1871

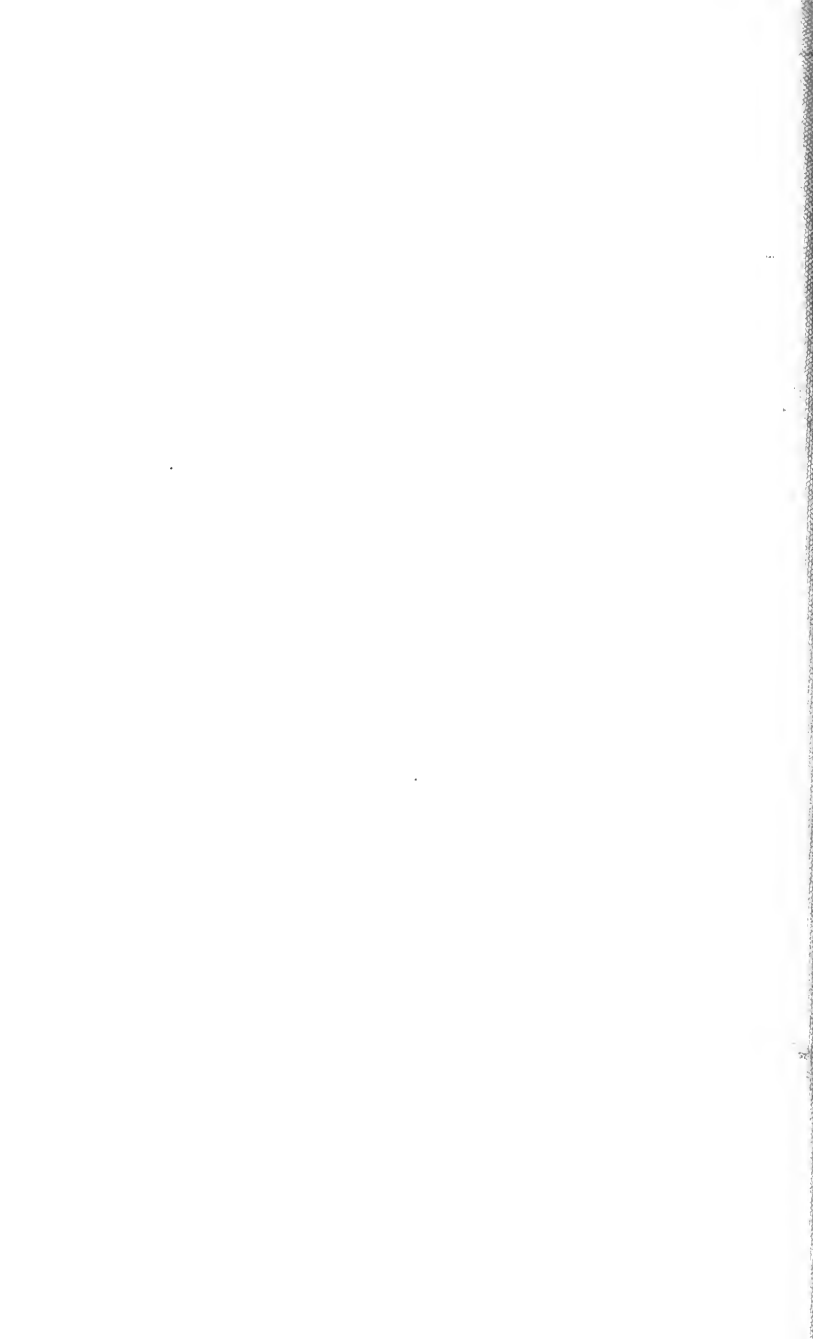




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*Batrachostomus harterti*, ♂.

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- Catalogue of the Palæozoic Plants in the Department of Geology and Palæontology, British Museum (Natural History). By Robert Kidston, F.G.S. Pp. viii., 288. [With a list of works quoted, and an Index.] 1886, 8vo. 5s.

## GUIDE-BOOKS.

*(To be obtained only at the Museum.)*

- A General Guide to the British Museum (Natural History), Cromwell Road, London, S.W. [By W. H. Flower.] With 2 Plans, 2 views of the building, and an illustrated cover. Pp. 74. 1891, 8vo. 3d.
- Guide to the Galleries of Mammalia (Mammalian, Osteological, Cetacean) in the Department of Zoology of the British Museum (Natural History). [By A. Günther.] 3rd Edition. Pp. 125. 57 Woodcuts and 2 Plans. Index. 1887, 8vo. 4d.
- A Guide to the Gould Collection of Humming Birds, British Museum (Natural History). [By A. Günther.] 5th Edition. Pp. 22. With Map showing the distribution of Humming Birds. 1889, 8vo. 2d.
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- A Guide to the Exhibition Galleries of the Department of Geology and Palæontology in the British Museum (Natural History), Cromwell Road, London, S.W. [By Henry Woodward. New Edition.]—
- Part I. Fossil Mammals and Birds. Pp. xii., 103. 119 Woodcuts and 1 Plan. 1890, 8vo. 6d.
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- A Guide to the Mineral Gallery of the British Museum (Natural History). [By L. Fletcher.] Pp. 32. Plan. 1889, 8vo. 1*d*.
- An Introduction to the Study of Minerals, with a Guide to the Mineral Gallery of the British Museum (Natural History), Cromwell Road, S.W. [By L. Fletcher.] Pp. 120. Diagrams. Plan of the Mineral Gallery. Index. 1889, 8vo. 6*d*.
- The Student's Index to the Collection of Minerals, British Museum (Natural History). New Edition. Pp. 27. With a plan of the Mineral Gallery. 1890, 8vo. 2*d*.
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London, S.W.

August 1st, 1891.

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LONDON: Printed by EYRE and SPOTTISWOODE,  
Printers to the Queen's most Excellent Majesty,  
For Her Majesty's Stationery Office.  
[7144.--3000 & 250.-- 8/91.]









