

Leuckart, Alder, Diesing, and Keferstein); but I have distributed its species in the sections of the great genus *Sipunculus*. I admit, however, that the latter must be sooner or later broken up; but, in the present state of science, I do not yet know exactly what organs would furnish readily appreciable characters for this division. This is the smallest portion of the task which I leave for my successors.

XIV.—*A Synopsis of the Species of the Genus Collocalia, with Descriptions of new Species.* By GEORGE ROBERT GRAY, F.R.S., F.L.S. &c.

THE object of this synopsis is to exhibit the number of the species at present known, and at the same time to show their relative position in a geographical point of view.

a. MALAY GROUP. India.

Collocalia nidifica.

Hirundo esculenta (Osbeck?), Horsf.

— *fuciphaga*, Thunb.

— *esculenta*, var., Lath.

Collocalia nidifica, G. R. Gr.

— *fuciphaga*, Bp.

Top of head, wings, and tail greenish metallic fuscous black; back deep bronzy brown, slightly lighter on rump; beneath the body and sides of the neck brownish mouse-colour, tinted with rusty; tail rather forked, and immaculate.

Length 4" 10"', wings 4" 9"', tail 2" 3"'.
 Java, Sumatra, and other islands of the Eastern Archipelago.

It is probably the nest of this species that was noticed by Bontius in 1568, Kæmpfer in 1712, Osbeck in 1750, and Hoogman in 1780, as it is much employed for culinary purposes.

Var. *a*. With the rump of a lighter colour; beneath the body greyish mouse-colour.

Length 5", wings 4" 6" to 4" 9", tail 2" 3"'.
Hirundo brevirostris, M'Clell.

— *unicolor*, Jerd.

Cypselus unicolor, Jerd.

— *concolor*, Bl.

Cotyle brevirostris, Boie.

— *concolor*, Boie.

Collocalia brevirostris, Strickl.

— *nidifica*, p., Bl.

— *fuciphaga*, p., Bp.

Neilgherries, Himalaya, Sikkim, Assam, Ceylon, and western coast of the Indian peninsula, &c.

The nest represented by Olearius in 1674 was found in Coromandel, and probably belonged to this variety.

Var. *b*. Smaller, with the rump scarcely lighter than the back. Length 4" 3"', wings 4" 7"', tail 2".

Borneo.

It is probably the nest of this variety that was referred to by Beeckman in 1718.

Collocalia Linchi.

Hirundo fuciphaga, Horsf.

Collocalia fuciphaga, G. R. Gr.

— *Linchi*, Horsf.

Cypselus (Collocalia) esculenta, Bernstein.

Hemiprocne fucivora, Streub.!

Upper surface metallic black; throat, cheeks, sides of neck and breast brownish fuliginous, with each feather slightly margined with white; abdomen white; tail metallic black and immaculate; under tail-coverts metallic black, with the smaller ones margined with white.

Length 3" 6"', wings 3" 11"', tail 1" 6"'.
Java, Malacca, Nicobar Islands, Archipelago of Mergui, &c.

The nest of this species, like that of the former, is much used for culinary purposes.

b. PHILIPPINE GROUP.

Collocalia troglodytes.

Collocalia troglodytes, G. R. Gr.

Upper surface bronzy black; beneath the body fuliginous, with the feathers of the throat, abdomen, and vent broadly margined with greyish white; a narrow transverse band of white on the rump, with the shaft and a patch at the tip of each feather fuscous black; tail and upper tail-coverts black, with the former rather pale at the base; under tail-coverts fuscous black.

Length 3" 3"', wings 3" 11"', tail 1" 6"'.
Philippine Islands.

The edible nest of the Philippine Islands was noticed by Camel in 1702, and may probably be referred to this species.

c. PAPUAN GROUP. Celebes?

Collocalia nidifica, var.

Collocalia nidifica, var., G. R. Gr.

Var. *c*. Beneath the body very pale brownish mouse-colour, especially on the throat.

Length 5", wings 4" 10"', tail 2" 3"'.
Louisiade Islands; Celebes?

*Collocalia hypoleuca.**Collocalia hypoleuca*, G. R. Gr.— *esculenta*, p., Wall.

Upper surface metallic black; sides of head, throat, and breast fuscous black, with the feathers margined with white; abdomen pure white; tail metallic black, with a prominent white space on the inner web of each lateral feather near the base; under tail-coverts metallic black, with the smaller ones broadly margined with white.

Length 4", wings 4" 1", tail 1" 9".

Aru Islands, island of Mysol, coast of New Guinea, and Celebes?

The Mysol specimens exhibit the white space on the first three tail-feathers, and a spot only on the fourth. This latter spot I am unable to find in the Aru example, as the tail is imperfect.

It may be observed that the white space on the tail-feathers of the Celebes specimen appears to be further removed from the tip of the feather; but the tail is imperfect in the single specimen contained in Mr. Wallace's collection. When lent to me on a former occasion, I had remarked that it differed from the Aru example, and I had therefore written on the label "n. sp. *viridinitens*;" but I did not adopt it at the time, as I thought it might be better to await the arrival of other examples before describing it. At present I have placed it, with a doubt, with the Aru example.

*d. MOLUCCA GROUP.**Collocalia nidifica*, var.

Upper surface darker, especially on top of head, with a purplish tint; and altogether of a smaller size than any of the other varieties.

Length 4" 5", wings 4", tail 2".

Morty Islands.

*Collocalia spilura.**Collocalia hypoleuca*, p., G. R. Gr.— *esculenta*, Wall. (nec L.).— *spilura*, G. R. Gr.

Upper surface metallic black; cheek, sides of neck, and throat deep fuliginous; breast and beneath the body fuliginous, with the feathers broadly margined with greyish white; tail metallic black, with a white spot on each of the lateral feathers near the middle of the inner web, that on the outer feather very small; under tail-coverts metallic black, the smaller ones margined with white.

Length 3" 6", wings 3" 9", tail 1" 9".

Batchian, and probably on the other Molucca Islands.

The spot on the first and fourth feathers is not so prominent as that on the second and third. Sometimes it is hardly visible on the first feather.

e. TIMOR GROUP.

Collocalia nidifica, var.

Upper surface like that of *C. nidifica*, but the lower surface appears to be of a greyish colour.

Length 4'' 9''', wings 4'' 3''', tail 2'' 3''.

Timor (Coupang).

Collocalia neglecta *.

Hirundo esculenta, var., Less.

Collocalia esculenta, Bp.

— —, p., Wall.

— *neglecta*, G. R. Gr.

Upper surface æneous plumbeous, with the shafts of the feathers darker; feathers of the rump narrowly margined with white; upper tail-coverts metallic black; throat and cheeks fuliginous; breast and abdomen white, especially the latter; tail metallic black, with a lengthened white space at the base of the inner web of each lateral feather; under tail-coverts metallic black, with the smaller ones white, having the shafts black.

Length 4'', wings 3'' 10''', tail 1'' 8''.

East Timor.

* Mr. Wallace having, since the above characters of the three small species *C. hypoleuca*, *C. spilura*, and *C. neglecta* were drawn up, kindly lent me his specimens of this interesting group, I have been enabled to verify the correctness of the views I had formed on the four specimens from three localities that I had the opportunity of examining, viz. that the white extends in a lengthened form on the inner web of the lateral tail-feathers, in the Aru, Mysol, and Timor (and it is also the case in that of Celebes) examples, while the white forms only a small spot on the inner web of the lateral feathers, somewhat removed from the base, in those of Batchian and Matabello, and probably also of the other Molucca Islands.

The specimens of Mr. Wallace also exhibit the same characters, proving I was right in considering that there existed at least two, if not three, species, and I am therefore still induced to refrain from following him in placing all the examples from various localities (Celebes, Timor, Moluccas, and Aru Islands) under what I consider to be the erroneous name of *esculenta*.

Mr. Wallace's example of the Timor bird is like in all points to the two specimens previously examined. In its upper surface it is totally different from those of the other localities, and it is also of a more pure white on the under surface.

f. MASCARENHAS GROUP. Madagascar?

*Collocalia francica.**Hirundo francica*, Gmel.*Collocalia francica*, G. R. Gr. & Bp.*Hirundo virescens*, Vieill.*Cotyle francica*, Boie.*Collocalia spodiopygia*, p. ? Cass.— *fuciphaga*, p., Wall.

Top of head, wings, and tail shining æneous black; upper part of back deep bronzy brown; rump with a broad band of brownish white; beneath the body pale mouse-colour, growing lighter on the abdomen; sides of head and back of neck dark æneous brown; under tail-coverts pale æneous brown.

Length 4'' 6''', wing 4'' 5''', tail 2'' 1'''.

Isle of France; Madagascar.

g. FEEJEE AND SAMOAN GROUPS.

*Collocalia spodiopygia.**Macropteryx spodiopygius*, Peale.*Collocalia spodiopygius*, Cass.*Hirundo francica*, Cass.?*Cypselus spodiopygius*, Bp.

Upper surface æneous black; cheeks and sides of neck fuliginous; mentum fuliginous, with the feathers slightly margined with white; rump very pale brownish mouse-colour, slightly varied with white, and with the shafts of the feathers fuliginous black; beneath the body pale greyish mouse-colour, lighter on the abdomen; under tail-coverts dark mouse-colour, slightly margined with greyish white.

Length 4'' 7''', wings 4'' 6''', tail 1'' 1'''.

Feejee and Samoan Islands.

This species appears to be represented in Ellis's unpublished 'Icones,' 96 (which were made during the third voyage of Capt. Cook, between the years 1776 and 1779), from an example obtained at the Friendly Islands.

h. NEW-CALEDONIA GROUP.

*Collocalia leucopygia.**Collocalia Linchi*, Verr. & Murs.— *trogodytes*, Bp.— *leucopygia*, Wall.

Upper surface black, with the top of head, wings, and tail shining æneous black; a broad band of white across the rump, with the shaft of each feather fuscous black; throat and sides of neck fuscous; beneath the body ashy white, with a fuscous

line down the shaft of each feather; under tail-coverts fuscous, margined with white.

Length 4", wings 4" 6", tail 1" 9".

New Caledonia.

i. SANTA-CRUZ GROUP.

? *Collocalia vanikorensis*.

Hirundo vanikorensis, Quoy & Gaim.

Cotyle vanikorensis, Boie.

Atticoria? *vanikorensis*, G. R. Gr.

Collocalia fuciphaga, p.? Bp.

— *vanikorensis*, G. R. Gr.

Black, with the throat greyish brown; abdomen fuliginous.

Length 5" (wings 4" 5", tail 2" 1" ex fig.).

Santa Cruz Islands (Vanikoro).

I only know this bird by the above specific description and figure, which induce me to suppose that it must be distinct from any of the other species of *Collocalia*, in which genus it was first placed by Prince Bonaparte.

The figure in the 'Voyage de l'Astrolabe' represents the bird as fuliginous, with the head, upper part of back, wings, and tail shining metallic black. The habits of this bird and the formation of its nest are unknown, which is also the case with the next three species.

j. NEW-HEBRIDES GROUP.

Collocalia uropygialis.

Collocalia leucopygia, p., Wall.

— *uropygialis*, G. R. Gr.

Upper surface metallic black, with a broad band of pure white on the rump; throat and breast greyish white; abdomen pure white; under tail-coverts greenish metallic black, with the smaller ones margined with white; quills and tail-feathers above greenish metallic black, the latter with a white spot on the inner web of each of the three lateral feathers, that on the first and third less in size, sometimes only found on the second and third lateral feathers; under wing-coverts greenish metallic black, with the larger ones margined with white.

Length 4", wings 3" 9", tail 1" 9".

New Hebrides (Aneiteum, where it is called by the natives "Nahawpgap"). It is perfectly distinct from the species named *leucopygia*.

k. SOCIETY GROUP.

? *Collocalia Forsteri*.

Hirundo peruviana, p., Forst.

— *cinerea*, p., Gmel.

Hirundo cinerea, Licht.

Herse peruviana, Hartl.

— *Forsteri*, Hartl.

Salangana fuciphaga, p., Bp.

Upper surface shining black; beneath the body and rump ashy fuliginous; quills and tail-feathers tipped with obscure white; tail rather bifid.

Length 4'' 9'', wings 4'' 6'', tail 2'' 6''.

Otaheite, where it is called "Hopèā," while in the Marquesas it is known as "Kopeha."

The above specific description is taken from Forster's 'Descriptions;' otherwise I am unacquainted with the bird. It differs materially from the following description of Mr. Peale.

? *Collocalia leucophæa*.

Macropteryx leucophæus, Peale.

Collocalia cinerea, Cass.

Cypselus leucophæus, Bp.

Collocalia fuciphaga, p., Wall.

Upper surface pale soot-colour, beneath lighter; crown, wings, and tail darkest; webs of the greater wing-coverts undulated; tail slightly forked.

Length $5\frac{1}{10}$, wings $5\frac{3}{10}$, tail $2\frac{4}{10}$ inches.

Island of Tahiti (Otaheite).

Until specimens are obtained, it is difficult to say whether these two specific descriptions can refer to the same Otaheitan bird. Prince Bonaparte and Mr. Wallace considered the species of this locality to be the same as *C. nidifica* (*fuciphaga*); but I think this idea wants further confirmation before it can be adopted.

Distribution of the Species of Collocalia.

Indian regions	<i>Collocalia nidifica</i> , var. (<i>brevirostris</i> , M'Cl.)
Malay regions	<i>Collocalia nidifica</i> (<i>gelatinosa</i> , Streub.??) <i>Collocalia Linchi</i> . (<i>malaisia</i> , Streub.??)
Philippine group	<i>Collocalia troglodytes</i> . (<i>philippina</i> , Streub.??)
Celebes	<i>Collocalia nidifica</i> , var. — <i>hypoleuca</i> ?
Molucca group	— <i>nidifica</i> , var. — <i>spilura</i> .
Papuan ,,	— <i>nidifica</i> , var. — <i>hypoleuca</i> .
Timor ,,	— <i>nidifica</i> , var. — <i>neglecta</i> .

Distribution of the Species of Collocalia (continued).

Micropolynesian regions. Caroline Islands	<i>Collocalia nidifica?</i> (apud Garnot). (<i>ualensis</i> , Streub.??)
Marianne Island	<i>Collocalia nidifica?</i> (apud Freycinet).
Polynesian regions. Santa-Cruz group	<i>Collocalia vanikorensis.</i>
New-Hebrides group	— <i>uropygialis.</i>
New-Caledonia ,,	— <i>leucopygia.</i>
Feejee group	— <i>spodiopygia.</i>
Samoan ,,	— .
Society group	— <i>Forsteri.</i>
Marquesas ,,	— <i>leucophæa.</i>
Mascarenhas group	<i>Collocalia francica.</i>

A species is also said to be found in the Sooloo archipelago (*apud* Forster).

This table shows that they are chiefly found within the tropics, except in North India and Madagascar.

I have refrained from adopting the specific name of *esculenta* for any of the preceding species, as has been proposed by some authors; and I subjoin the following history of this specific name in explanation of my reasons for its non-adoption.

It is to be observed, in the first place, that the name of *Hirundo esculenta* was only founded (as was pointed out by the late Mr. Strickland) by Osbeck in 1750 on an edible nest obtained in China, to which country they are generally taken from the Malay Islands.

The name was also employed by Linnæus in the 10th edition of the 'Systema Naturæ,' published in 1758. He refers to the works of Bontius (1568), Olearius (1674), and Rumphius (1750). The first authors described the nest only, while the last referred both to a bird and nest.

It appears that Linnæus overlooked the first published description and figure of the Swallow and edible nest, which were given by Valentyn in 1726, in his 'Oud en nieuw Oost-Indien' iii. Diel, p. 328, pl. opp. p. 300, f. W. This author speaks of a bird between 4 and 5 inches in length; of an entirely bluish black, with the tail of a lighter colour, and having a white spot before the eye as large as the eye itself. He further tells us that it was obtained at Ternate; but he refers to other

localities for similar birds, as Gilolo, Celebes, and Oma in Amboina.

In 1750, Burman's edition of Rumphius contains the nest and a rather more defined account of the bird than that which was published in Valentyn's work. He says, in reference to the bird, "Ipsarum color plerumque niger et cum cæruleo fulgore, sique caudæ plumæ separantur, in quavis penna alba conspicitur macula. Pectus et albo et nigro colore variegatus et maculatus est."

This author enters much into the general history of the Edible Swallows, and he records many more localities for this kind of bird than does Valentyn, viz. Java, Madura, Baley, Borneo, islands of Sean and Sanger, Siam, Cambodia, CochinChina, China; and he also refers to Ternate, Amboina, and Ceram*.

If we are to regard the remark which Thunberg made in 1772 as well-founded, there seems to be some confusion between the description just quoted and the figure given in the same work. He says that the former meant *esculenta*, and that Rumphius's son, who drew the figure, had *fuciphaga* for his pattern.

Dr. Horsfield observes "that the only authority for the specific character of Linnæus was that of Rumphius," which one might easily suppose if we take into consideration that it was the only work referred to by Linnæus that contained the description of a bird in conjunction with the edible nest.

Mr. Wallace, in 1863, adopts Dr. Horsfield's view, and endeavours to show that Rumphius's description and the characters of Linnæus refer to one and the same bird; and he further states, they "are so clear and precise that there can be no doubt whatever about the identification of the species." But I cannot agree that this identification of the description with any of the known species is as yet "so satisfactorily determined," because Rumphius speaks of the concealed white spots on the tail-feathers

* It will be seen by this arrangement of habitats that Rumphius does not imply that his bird was from Ternate (as Valentyn does), nor, in fact, does he give any peculiar locality, but rather seems to record a number of places as the abode of this kind of Swallow. He appears to give the preference to the Malay Islands, &c., and then after them he records three of the Molucca Islands. Now the small bird of the Malay Islands is not furnished with spots, as is mentioned in the description, but has a uniform-coloured tail. It is probable, therefore, that Rumphius may have had in view that of the Moluccas, as spots are only found on the tails of those birds obtained from the last three localities mentioned by him.

Though Valentyn states that his example was obtained at Ternate, yet he appears to have overlooked the spots; for they are not mentioned in his description.

With regard to the other localities mentioned, I believe it may be right to state that the birds have not been recorded of late as found in Siam, Cambodia, CochinChina, and China, but that the nests have been carried to those places from the Malay Islands as an article of commerce.

as if there were one on each ; and the same conclusion is exemplified by the characters promulgated in the 'Systema Naturæ,' viz. "rectricibus omnibus macula alba notatis;" while in every one of the known species of *Collocalia* which have white spots on the tail-feathers, they exist only on the *lateral* feathers, the *central* feathers being without any sign of them. We may therefore safely conclude that the supposed "long-lost bird" which was laid before the Zoological Society was not in reality the *Hirundo esculenta* of Linnæus.

On the other hand, I may remark that Brisson in 1760 gave a description and figure of a bird (from a drawing of M. Poivre) that has been considered by some writers equally to be the *Hirundo esculenta* of Linnæus. In this figure *all* the tail-feathers are spotted (at the top) with white, thus agreeing with that author's characters. But Brisson's description and figure could not have been the one referred to, as it was not published until two years after the 10th edition of the 'Systema Naturæ' had appeared. It was in the 12th edition, which appeared in 1766, that Linnæus first referred to Brisson's work. Yet we find Thunberg in 1772, Latham in 1783 and 1823, Boie in 1844, and other authors regarding Brisson's description and figure as the typical representation of the Linnæan species. Latham, however, notices that the figure in Brisson "represents the ends of wings reaching but a little further than the rump;" and we also find that the late Mr. Strickland considered this figure "to belong to some other family than the Swifts or Swallows, or to be grossly inaccurate;" and lately Mr. Wallace has pronounced decidedly "that the figure is not a *Collocalia* at all, not even a Swift or a Swallow."

In 1855 the late Prince Bonaparte applied the specific name of *esculenta* to the bird obtained at Timor and the more remote oceanic islands; while in 1857 Bernstein, in an interesting anatomical paper on *Collocalia*, says of *C. esculenta* et *C. nidifica* (= *fuciphaga*) "op Java gevonden worden." We may suppose, I think, from this remark, that he refers the first name to the species called *C. Linchi* by the late Dr. Horsfield.

After the various opinions expressed, I may still venture to consider the *Hirundo esculenta* of Linnæus to be enveloped in much doubt as to its typical representative among the known species of *Collocalia*; and therefore I think myself justified in not employing this name (first used by Osbeck) for any of the species noticed in this synopsis, and right in bestowing the new name *hypoleuca* on one of the species, which bird, or even the other allied examples, cannot certainly be reconciled with any of the descriptions published by the older authors.

I may observe before closing these remarks, that the name of *esculenta* has been changed by Streubel into that of *salangana*,

as it is not the bird, but the nest, that is applied to culinary purposes. Some part of the description that he gives, however, of his *salangana* (which he implies is equal to the *H. esculenta* of Linnæus) conveys a doubt as to the bird described by him being really a *Collocalia*, on the very same ground as Brisson's bird, viz. the shortness of its wings, as M. Streubel remarks that "the wings almost overreach the extremity of the tail." This character alone makes it difficult to reconcile it with what is thought to be the *C. esculenta*, or indeed with any of the species mentioned in the foregoing Synopsis.

XV.—On the Menispermaceæ.

By JOHN MIERS, F.R.S., F.L.S. &c.

[Continued from vol. xiv. p. 374.]

25. CISSAMPELOS.

This extensive and cosmopolitan genus is one of the oldest of the *Menispermaceæ*. The plants, for the most part, are slender climbers, with woody branches; but among the South American species there are several low shrubs with erect stems, scarcely more than 1 or 2 feet high, covered with imbricated leaves. The leaves seldom exceed a mediocre size, and are sometimes small; they are generally more or less orbicular, often reniformly cordate, and are either peltate or palate, rarely quite glabrous, with petioles either elongated or very short. The male inflorescence is usually in slender axillary panicles, variously divided, often 3 or 4 fasciculated in each axil, where they are frequently accompanied by an elongated raceme with alternate axils, each bearing similar, but much shorter, fasciculated panicles, and bare of leaves, or having only a minute bract in their place: this raceme-like development is, properly speaking, a young floriferous branch with abortive leaves, as is proved by the frequent presence of regular leaves diminishing gradually to the size of minute bracts. The female raceme is elongated, generally solitary, or geminate in each axil, with a number of approximated large orbicular bracts (appearing like young leaves as they really are), each bearing in its axil from three to ten fasciculated pedicellated flowers; sometimes, however, these leaflets are wanting, when their place is supplied by diminutive bracteoles. The male flowers, always minute in size, consist of four, rarely five or six, oblong sepals, a single cup-shaped petal, and a single stamen in the centre, with its anther usually 4-lobed, or where the lobes are constricted and 2-celled it appears 8-lobed, or by suppression of some of them 5-6-lobed, all the lobes fixed on the margin of a peltiform connective supported on a short slender filament. The female flower, also minute in size, has only one