

be seen from the description given by myself (Colubr. Sn. p. 227), and from the figures (*antè*, p. 17), where fig. *a* represents the head-shields of *Pseudonaia nuchalis*, and fig. *b* those of *Diemennia superciliosa*.

The synonymy of this species, therefore, would be :—

DIEMENNIA SUPERCILIOSA.

a. *Adult.*

1856. *Pseudoëlaps superciliosus*, Fischer in Abhandl. Geb. Naturwiss. iii. p. 107, taf. 2. fig. 3 (head, not quite correct).

1859. *Pseudoëlaps sordellii*, Jan in Rev. & Mag. Zool. 1859, pl. C (head).

1859. *Pseudoëlaps kuingii*, Jan, *l. c.* (founded on an accidental variety).

b. *Young.*

1858. *Diemansia annulata*, Günth. Colubr. Snak. p. 213.

1862. *Furina textilis*, Krefft, P. Z. S. 1862, p. 149.

4. LIST OF BIRDS COLLECTED IN THE ISLAND OF BOURU (ONE OF THE MOLUCCAS), WITH DESCRIPTIONS OF THE NEW SPECIES. BY ALFRED R. WALLACE, F.Z.S.

(Plates IV., V., VI.)

This collection of birds was made by myself during two months of the year 1861. It consists of *sixty-six* species, among which were no less than *seventeen* new ones. Of these, *three* were found about the same time in the Island of Sula, and, with a new *Pitta*, have already been described in the Society's 'Proceedings,' leaving *thirteen* to be described in the present paper.

In my paper "On the Birds of the Sula Islands," read before the Society at their last Meeting, I pointed out that the large proportion of purely Celebes forms found there forced us to the conclusion that a closer connexion had once existed between those islands and Celebes, and required us to class them as forming a single zoological group. The Island of Bouru must, on the contrary, be classed with the Moluccas; for, leaving out about *twenty* species of rather wide distribution, the remaining *forty-six* are all either identical with, or most nearly allied to, Moluccan species. Not a single characteristic Celebes form is found in Bouru; and there are only *three* birds in the island whose affinities seem rather with the Indian than the Australian region, viz. *Alcedo moluccensis*, *Hirundo javanica*, and *Treron aromatica*.

Bouru is therefore the western limit of the Moluccan fauna, and is the poorest portion of it, having several very remarkable deficiencies. *Lorius*, found in every other island of the Moluccas and New Guinea, is absent; *Cacatua*, found in every island of the Australian region, is also absent; and, stranger still, *Buceros* and *Corvus*, found in almost every large island of the archipelago, are both wanting.

With these exceptions, most of the Moluccan types are represented either by identical or allied species.

The following is a list of the new species now described, and of a few others which seem confined to Bouru:—

<i>Tanygnathus affinis</i> , n. s., Bouru and Ceram.	<i>Mimeta bouruensis</i> (H. & J.).
<i>Accipiter rubricollis</i> , n. s., Bouru and Ceram.	<i>Criniger mysticalis</i> , n. s.
<i>Athene hantu</i> , n. s.	<i>Monarcha loricata</i> , n. s.
<i>Tanysiptera acis</i> , n. s.	<i>Rhipidura bouruensis</i> , n. s.
<i>Ceyx cajeli</i> , n. s.	<i>Tropidorhynchus bouruensis</i> , n. s.
<i>Pitta rubrinucha</i> , Wallace.	<i>Campephaga marginata</i> , n. s.
<i>Cisticola rustica</i> , n. s.	<i>Dicæum erythrothorax</i> , Less.
	<i>Nectarinea proserpina</i> , n. s.
	<i>Gallinula frontata</i> , n. s.

All but the two first species in this list are confined to Bouru only, and they are mostly representative species of Moluccan forms. Besides these, the three species of *Pachycephala* are also, as far as the Moluccas are concerned, peculiar to Bouru; for though they are found also in Sula, they have evidently emigrated there, the Celebes group, to which Sula belongs, not possessing any species of the genus. The Island of Bouru may therefore be considered to have added *seventeen* new species, but not any new forms or genera, to the Moluccan avifauna.

GEOFFROIUS PERSONATUS.

Psittacus personatus, Shaw.

P. bataviensis, Wagl. Mon. Psitt. p. 624.

Hab. Bouru, Amboyna, Ceram, Goram, Ké and Aru Islands.

Remarks.—The specimens from Bouru, and some from Ceram, are $12\frac{1}{2}$ inches long; that from the Aru Islands 9 inches; but I have a series of intermediate sizes, and can discover no differences of form or in the distribution of the colours. I must therefore consider Mr. G. R. Gray's *Psittacus aruensis* (P. Z. S. 1858, p. 183) as only a small variety of this species, and his *P. capistratus*, from the Ké Islands (*ibid.* p. 183), as a young male bird of the same species.

ECLECTUS MAGNUS.

Psittacus magnus, Gm. S. N. i. p. 344.

Hab. Bouru and the other islands of the Moluccas and New Guinea.

ECLECTUS PUNICEUS.

Psittacus puniceus, Gm.? (et auct.) Pl. Enl. 518.

Hab. Bouru, Amboyna, and Ceram.

Remarks.—This bird is sufficiently distinct from the *Psittacus grandis*, Gm., which is confined to the Gilolo group, in its smaller size, duller red colour, red under tail-coverts, and tail only orange-tipped, in place of the yellow under tail-coverts and larger yellow tail-band of *E. grandis*. Great confusion exists in the synonymy of the *Psittaci*, owing, I believe, to the fact of so many of these birds

having been described from specimens which have lived a long time in confinement, and have acquired abnormal colours in various parts of their plumage. The production of such coloured variations is, in fact, an art practised by the native tribes both in South America and in the Eastern Islands. Another cause of error is from young birds having been described; and a third, from the deficiencies of badly prepared native skins having been made up by the addition of parts (often the wings and tail) of other birds. In the present case I have little doubt that this bird is the *P. puniceus* of Gmelin, and the *Lorius amboinensis* of Brisson, whose description, generally so eminently accurate, appears to apply to a young bird which had lost its primary quills. I cannot agree to the revolution in nomenclature proposed by Mr. G. R. Gray, in using the names of Boddaert, which have been considered of no authority by every other author from the time of Gmelin to that of Prince Bonaparte.

TANYGNATHUS AFFINIS.

Viridis, subtus flavescens; capite saturate viridi; dorsi plumis cæruleo marginatis; crisso cæruleo; tectricibus alarum minoribus et mediis obscure viridibus, flavo marginatis, versus marginem et flexuram alarum viridi-cæruleis; majoribus cæruleo-viridibus, flavo-viridi marginatis; cauda subtus lutescente; culmine rostri versus basin biangulato.

Near *T. macrorhynchus*, Wagl.; but the under surface, and especially the sides of the breast and belly, have much less yellow; the shoulders and wing-coverts are dull greenish and blue instead of deep black, and only a few of the lesser wing-coverts are of a greenish black; the greater wing-coverts nearest the body are all green, and the yellow margins are much less conspicuous than in the allied species; the outer webs of the primaries and of the greater and middle wing-coverts are green, instead of blue as in *T. macrorhynchus*. The bill also differs, the culmen being much flattened in its basal half, with distinct angular edges, whereas in the allied species it is regularly rounded. Bill deep red; feet dusky olive; iris olive-yellow, with an outer ring nearly white.

Total length 17 inches; wing $9\frac{1}{2}$ inches; bill, to base, ♂ $2\frac{1}{8}$ inches, ♀ $1\frac{7}{8}$ inch.

Hab. Bouru, Amboyna, and Ceram.

Remarks.—The Amboyna and Ceram specimens have the wing-coverts a little darker than those from Bouru, but they are still sufficiently distinct from *T. macrorhynchus*.

TRICHOGLOSSUS CYANOGRAMMUS.

T. cyanogrammus, Wagl. Mon. Psitt. p. 554.

T. nigrogularis, G. R. Gray, P. Z. S. 1858, p. 183.

Hab. Bouru, Ceram, and all the Papuan Islands.

Remarks.—On examining specimens from the above-mentioned localities, I can find only slight individual variations among them, not confined to any given locality. The specimens from the Aru Islands (*T. nigrogularis*, G. R. Gray) exactly agree with the rest.

EOS RUBRA, var.

Psittacus borneus, L.*P. ruber*, Gm., Wagl. Mon. Psitt. p. 558.*Hab.* Bouru, Amboyna, Ceram, and Matabello Islands.

The specimens are rather smaller than those from Amboyna, and have more blue on the wing-coverts, and often a greenish tinge on the wings and tail, which makes them agree with the descriptions of *P. borneus* of the old authors. Might not Bouru have been mistaken for Borneo, and thus led to the erroneous name?

Note.—Besides the preceding five species of *Psittaci*, Bouru possesses also the *Aprosmictus amboinensis*; but as a specimen was not obtained by me, I have not included it in the present list.

HALIASTUR LEUCOSTERNUS.

Haliastur leucosternus, Gould, B. of Austr. i. pl. 4.*Hab.* Bouru and the countries eastward.

BAZA REINWARDTII.

Lophotes reinwardtii, Schleg. & Müll. Verh. Ned. t. 5.*Hab.* Bouru, the Moluccas, and Timor.

ACCIPITER RUBRICOLLIS. (Pl. IV.)

Supra nigro-plumbeus, subtus albo-cinereus; nucha et colli lateribus late et intense rufis; genis cinereo-plumbeis; gula ventreeque albescentibus; remigibus rectricibusque obscure fasciatis.

Above slaty black; beneath very pale ash, shading into nearly pure white on the throat, belly, and under tail-coverts. Back and sides of the neck extending between the shoulders deep red-brown, a lighter shade of which covers the sides of the breast; the wings and tail are crossed by obscure black bands, which on the lighter undersides of the feathers become distinct blackish bands, less visible on the outer tail-feathers. The under wing-coverts and the base and margins of all the quills beneath are of a light rufous-buff. Bill black, at the base plumbeous; cere, orbits, and feet yellow; iris golden yellow.

Length 14 inches; wing $8\frac{1}{4}$ inches; tail $6\frac{1}{4}$ inches; tarsus $2\frac{1}{8}$ inches; middle toe and claw $2\frac{1}{8}$ inches.

The young bird is dusky above, with the feathers rufous-margined; beneath creamy white, with broad dusky stripes down each feather.

Hab. Bouru, Ceram, and Gilolo.

Remark.—This bird resembles on its upper surface *A. erythrauchen*, G. R. Gray (P. Z. S. 1860, p. 344), but is very much larger. As the dimensions of that bird are wrongly printed, I will here correct them. Instead of "length 11' 9", wing 8' 9", as given, it should be, "length 10' 9", wing 6' 9" "*.

* Since reading this paper, I have seen Professor Schlegel's 'Catalogue of the Birds in the Leyden Museum,' part 1, in which (Astures, p. 39) he describes this bird under the name of *Nisus cirrhocephalus ceramensis*, which seems to be equivalent to making it a variety of *N. cirrhocephalus*. Considering, however, the

ACCIPITER CRUENTUS.

Astur cruentus, Gould, Birds of Austr. i. pl. 18.

Hab. Bouru and Timor.

ATHENE HANTU.

Rufa, supra rufo-brunnea; gula pallidiore; fronte genisque albescentibus; corpore subtus, cum cauda, rufescente et albescente indistinctissime fasciato; tectricibus alarum inferioribus rufis; remigibus fuscis, pogonio externo rufo; digitis tarsisque setulosus.

Above dark, beneath bright rufous; tail with very indistinct, narrow, paler bars; forehead, cheeks, and chin whitish; under surface indistinctly banded with narrow fasciæ of darker and lighter rufous or whitish; the under tail-coverts barred with rufous and whitish; quills not barred, except close to their bases; under wing-coverts rufous, not barred; third, fourth, and fifth quills equal; tarsi and toes densely clothed with bristles; bill whitish horn-colour; iris yellow; feet (in the living bird) white.

Length 12 inches; wing $8\frac{3}{4}$ inches; tail 5 inches.

This species resembles *A. squamipila*, Bp., in its hairy tarsi, but differs in its coloration and proportions; it is one of the "burong hantus" (ghost-birds) of the natives.

Hab. Bouru.

SCOPS LEUCOSPILUS.

Ephialtes leucospila, G. R. Gray, P. Z. S. 1860, p. 344.

Hab. Bouru and Gilolo.

CAPRIMULGUS MACROURUS.

C. macrourus, Horsf. Linn. Trans. xiii. p. 142.

Hab. Bouru and the whole archipelago.

DENDROCHELIDON MYSTACEUS.

Cypselus mystaceus, Less. Voy. Coquille, Ois. t. 22.

Hab. Bouru, Moluccas, and New Guinea.

Remark.—This is the limit of the range of this fine Tree-Swift to the westward. In the Sula Islands and Celebes it is replaced by *D. wallacii*, Gould.

CACOMANTIS ASSIMILIS.

Cuculus assimilis, G. R. Gray, P. Z. S. 1858, p. 184.

Hab. Bouru.

This specimen seems to agree with that named and described as

bird to be a very good species, I should at once have adopted Professor Schlegel's name *ceramensis*, had I not obtained the bird in other localities than Ceram. The *Raptors* having so generally an extensive range renders the application of territorial specific names less advisable in their case than in that of the *Passeres*. My own rule is only to apply the name of a country as specific name when the surrounding districts are known to possess their peculiar representative species, in which case it amounts almost to a certainty that the new bird is similarly restricted in range.

above; but these small Cuckoos vary so much in their plumage as to render it very difficult to decide. My specimens seem to show that the same species extends over Celebes, the Moluccas, and New Guinea; and it may be probably the same as *C. tymbonomus*, Müll.

EUDYNAMIS RANSOMI.

E. ransomi, Bp. Consp. Gen. Av. p. 101.

Mas ad. *nigro-violaceo nitens; rostro pallide viridi-olivaceo; pedibus plumbeis.*

The female and young male were described by Bonaparte. The adult male is, like others of the genus, entirely shining blue-black; iris crimson.

Total length 18–19 inches; wing 8–8½ inches; bill, to front, 1½ inch.

Hab. Bouru and Ceram.

CENTROPUS MEDIUS.

C. medius, Bp. Consp. Gen. Av. p. 108.

Bill black; feet blackish lead; iris olive-brown. In the immature bird the plumage above is pale rufous, banded and spotted with black; the tail bronzy black, with about sixteen rufous bands; the under surface yellowish, with small dark spots; the thighs and vent dusky; and the bill pale horn.

Length 18–19 inches; wing 7½–8 inches; bill, from gape, 1½ inch.

Hab. Bouru, Ceram, and Gilolo.

TODIRAMPUS COLLARIS.

Alcedo collaris, Scop.; Sw. Zool. Ill. t. 57.

Hab. Bouru and the whole archipelago.

TODIRAMPUS SANCTUS.

Halcyon sancta, Vig. & Horsf.; Gould, Birds of Austr. ii. pl. 21.

Hab. Bouru and the islands eastward.

TANYSIPTERA ACIS.

Supra nigra, subtus albo-rufescens, plumis tenuiter nigro marginatis; plumis pilei cæruleo marginatis, superciliis et corona occipitali magis cæruleis; tectricibus alarum minoribus cæruleis; uropygio albo; tectricibus caudæ superioribus albis, rufo tinctis et nigro marginatis; rectricibus mediis elongatis cæruleis, ad basin fusco et albo maculatis, spatulis albis cæruleo marginatis; aliis albis, externe fusco-cæruleo marginatis, interne albo et nigro maculatis; gula albescente; tectricibus caudæ inferioribus albis.

Forehead and crown black, with the feathers blue-margined; a band over the eyes and round the nape brighter blue; ear-coverts, back, and wings deep black, with the lesser wing-coverts blue-margined, margin of the wing blue-tinged; primaries with the outer webs pale-edged towards the tips; under surface of the body pale

buff, nearly white on the throat; the feathers of the breast and flanks with blackish lateral edges; rump white, feathers black-edged, the black increasing to the tail-coverts, the last of which have the outer web black; middle tail-feathers blue, with the bases irregularly white-striped, and the spatulate ends white, with bluish margins; lateral tail-feathers white, with blue margins to the outer webs, and irregular dusky markings on the inner webs. Bill orange-red; feet olive; iris dark.

Total length $14\frac{1}{2}$ inches; wing 4 inches.

Hab. Bouru.

Remarks.—This interesting addition to the genus *Tanysiptera* is blacker on the upper surface than any of its allies. It is also remarkable for the buffy tint and black-edged feathers of the under surface,—characters which in the other species are confined to the young birds. My specimen is, however, in fine plumage and condition, and I have little doubt that these characters are distinctive of the adult bird.

Nine species of the genus have now been described; and a careful examination of the fine series of specimens in my collection having convinced me that they can all be clearly characterized, I will add a table of the species.

Table of the Species of Tanysiptera.

	Species.	Habitats.
I. With a white dorsal spot.		
1. Beneath cinnamon-red	1. <i>sylvania</i>	N. Australia.
2. Beneath white.		
A. Tail and upper tail-coverts blue-margined...	2. <i>doris</i>	Morty Island.
B. Tail and upper tail-coverts white	3. <i>sabrina</i>	Kaioa Island.
II. No dorsal spot.		
1. Rump red.....	4. <i>nympha</i>	New Guinea.
2. Rump white.		
A. Ear-coverts and nape black.		
a. Outer tail-feathers black, blue-edged...	5. <i>hydrocharis</i> ...	Aru Island.
b. Outer tail-feathers white, blue-edged...	6. <i>acis</i>	Bouru.
B. Ear-coverts and nape dark blue.		
a. Eyebrows and nape lighter blue than the crown, terminal tail-coverts black.	7. <i>isis</i>	Batchian and Gile
b. Head uniform blue, tail-coverts all white.		
a. Back blue-spotted	8. <i>nais</i>	Amboyna, Ceram
b. Back uniform	9. <i>galatea</i>	New Guinea and Waigiou.

In this table I have altogether left out the Linnæan *Alcedo dea*, because it is possible we may yet obtain certain evidence as to which species it was applied to. The figure in the 'Planches Enluménées' and the careful description of Brisson agree best with *T. sabrina*, G. R. Gray; and I should have little hesitation in placing that name under *T. dea* as a synonym, but that specimens may yet arrive from Ternate—the locality given by the old authors. It is to be remarked, however, that Kaioa Islands, where I obtained *T. sabrina*, is the southernmost of a chain of islets extending up to Ternate, and nowhere more than eight or nine miles apart; so that it is very improbable there should be another species in that island. There can be

therefore, I think, but little doubt that *T. sabrina* is but an individual or local variety of the true *Alcedo dea*.

ALCEDO MOLUCCENSIS.

Alcedo moluccensis, Blyth, Journ. As. Soc. Bengal, 1847.

Hab. Bouru, Celebes, and Gilolo.

CEYX CAJELI. (Pl. V.)

Nigra, subtus rufo-lutea; capite et tectricibus alarum punctis parvis cæruleis ornatis; dorso et caudæ tectricibus pallide cæruleis; gula late alba; genis nigris aut tenuiter cæruleo striatis; flexura et margine alarum, colli et frontis maculis lateralibus rufis; rostro pedibusque dilute corallinis.

Above black; beneath rufous yellow; each feather on the head marked with a very small, subtriangular, light-blue spot; on the back and upper tail-coverts the outer half of each feather is whitish blue; chin and throat pure white; a frontal spot over each nostril, a patch behind the ears, and the bend and margin of the wing rufous; ear-coverts black, and the space below them either black or very finely striated with blue; bill and feet pale coral-red; iris dark.

Length 6 inches; wing $2\frac{3}{8}$ inches; bill, from front, $1\frac{3}{8}$ inch.

Hab. Bouru.

Remarks.—This species is very like *C. lepida*; but differs in the very small spots on the head and the stripe on the back being of quite a different blue colour, and also in the scapulars being entirely black, whereas in the other species they are tipped with rich blue. I have named this species after the town or fort of Cajeli in Bouru, to which island this pretty bird is most probably strictly confined.

EURYSTOMUS PACIFICUS.

Coracias pacifica, Lath.

Eurystomus australis, Gould, B. of Austr. ii. pl. 17.

Hab. Bouru and the islands eastward.

PITTA RUBRINUCHA.

Pitta rubrinucha, Wallace, P. Z. S. 1862, p. 187.

Hab. Bouru.

ACROCEPHALUS AUSTRALIS.

Acrocephalus australis, Gould, Birds of Austr. iii. t. 38.

Hab. Bouru.

Remarks.—My specimen agrees exactly with Gould's figure and description. I did not meet with the species in any other of the islands.

CISTICOLA RUSTICA.

Luteo-rufa; supra plumis medialiter nigris; subtus gula et abdomine medio albescentibus; rectricibus subtus rufo terminatis, macula subapicali nigra.

Rufous yellow; feathers of the head with a black stripe, of the

back and wing-coverts black with a rufous margin; quills dusky, the primaries narrowly, the secondaries and tertiaries more broadly rufous-margined; tail pale, rufous-tipped; the two middle feathers rufous, with the central part and towards the apex blackish, the rest black; beneath with the sides of the neck, the breast, the flanks, and the under wing-coverts and tail-coverts pale chestnut, becoming nearly pure white on the throat and the middle of the belly; quills beneath brownish black, narrowly margined with pale rufous towards the base; tail beneath dusky, the feathers with narrow margins and broader tips of pale rufous, and each with a large subapical black spot; bill dusky above, pale beneath; feet and claws pale yellowish; iris pale olive.

Total length 4 inches; wing $1\frac{7}{10}$ inch; tarsus $\frac{5}{8}$ inch.

Hab. Bouru.

Remark.—Very near *C. lineocapilla*, Gould, with which I had at first placed it; but comparison with a specimen in the British Museum has convinced me of its distinctness from any of the Australian species.

MIMETA BOURUENSIS.

Philedon bouruensis, Quoy & Gaimard, Voy. de l'Astrol. t. 8. f. 2.
Tropidorhynchus buruensis, Bp. Consp. Gen. Av. p. 390.

Cinereo-brunnea, subtus pallidior; facie et auriculis fusco-nigris; capite et gula substriatis; torque nuchali indistincto fulvo-cinereo.

Earthy brown; beneath whitish brown; head a little paler, the feathers marked with a central blackish stripe, and on the nape a narrow paler rufescent band; ear-coverts dusky black; lores and cheeks blackish, mixed with whitish; chin and sides of the throat with a dusky stripe on each feather; primaries outwardly edged with pale rufous; under wing-coverts and margins of all the quills beneath towards the base pale rufous or buff; under tail-coverts with a tinge of buff; rectrices, all but the middle pair, tipped on the inner web with the same colour; bill horny black; feet lead-colour; iris dull red.

Length 9 inches; wing $5\frac{5}{8}$ inches; tail $4\frac{3}{4}$ inches; bill, to front, $1\frac{1}{2}$ inch.

Hab. Bouru (Moluccas).

Remarks.—This curious bird resembles so closely a Honeysucker of the genus *Tropidorhynchus* that it has been figured and described as such, and even escaped the acute eye of Prince Bonaparte, who has given it that place in his 'Conspectus.' But, more singular still, there is a species of true *Tropidorhynchus* inhabiting the same island of Bouru, which so closely resembles this bird that the two can hardly be distinguished, except by a close comparison of the generic characters that separate them. We have here, in fact, a case among birds of that *mimicry* of one species by another belonging to a different group, which Mr. Bates has so well illustrated among the Lepidoptera of S. America (see Linn. Trans. vol. xxiii. p. 495). In this case the Oriole has imitated the Honeysucker; for it has de-

parted from the usual gay colouring of its allies, and is actually the duller-coloured of its family, while the Honeysucker very much resembles in its coloration other species of the group to which it belongs. The imitation is carried to the minutest particulars: the bare black orbits of the *Tropidorhynchus* are copied by a patch of dusky feathers in the *Mimeta*; the rigid lanceolate feathers on the head of the former are imitated by dark stripes on the broader feathers of the latter; and even the very peculiar ruff of recurved feathers on the nape of the *Tropidorhynchus* has its general effect imitated by a collar of a pale colour in the *Mimeta*. The under and upper surfaces of the two birds are as near as possible of the same tint respectively; and, stranger still, the Oriole has closely copied the mode of flight and the voice of its model; so that in a state of nature the two birds are practically undistinguishable. Most of the species of *Tropidorhynchus* have an elevated keel or protuberance at the base of the bill. In the Bouru bird this is altogether wanting; yet in the *Mimeta* which copies it there is a slight protuberance at the base of the bill, which does not occur in any other species of its genus—almost making us think that some ancestors of the present bird had mimicked a species of *Tropidorhynchus* which possessed the protuberance, and that their descendant, finding himself in the company of a bird without this ornament, was gradually losing it, but had not yet quite done so. It has been observed by Mr. Bates, and is no doubt generally true, that mimicking species are much less abundant than those they copy. In the present instance it seems to be different; for I obtained many specimens of the *Mimeta* before I saw a single *Tropidorhynchus*, though in other islands the latter was generally the most abundant. Perhaps in this case it has carried the imitation to such an extent as actually to gain an advantage over its model in the struggle for existence. This curious instance of mimicry does not stand alone; for in the adjacent island of Ceram, two allied but very distinct species (*Mimeta forsteni* and *Tropidorhynchus subcornutus*) resemble each other with equal accuracy. What peculiar immunity from danger the *Tropidorhynchi* possess, which makes it advantageous for other birds to imitate them, it is not very easy to see. In the case of insects, it seems probable that it is the odour or taste of the imitated species which is unpalatable to insect-eating birds; or, in other cases, like the clear-winged Moths which mimic Hymenoptera, the mimicked species are armed with a sting. In birds it is evident that the bravest, strongest, and best-armed groups should be the subjects of mimicry, and the weakest and most defenceless those which obtain some advantage by imitating them. Now this is certainly the case, for the *Raptores* are the most frequent subjects of imitation—a Parrot (*Strigops*) imitating an Owl, some Curassows of the genus *Ibycter* resembling Hawks (Ibis, vol. ii. p. 223), and Cuckoos frequently resembling Hawks. A species was named by Temminck *Falco cuculoides*; and in all parts of the world the larger grey and banded Cuckoos are mistaken by the natives for Hawks. Cuckoos, however, which are certainly among the weakest and most defenceless of birds, imitate several

other groups, especially Gallinaceæ,—for example, *Centropus phasianus* in Australia, and *Carpococcyx radiatus* in Borneo, which latter is terrestrial in its habits, and much resembles the *Euplocami* of the same island. *Eudynamis* also frequently resembles Pigeons, especially the females and young birds, which are banded like *Macropygia*. Among the small Cuculinæ some are very like *Campephagæ*; and *Chrysococcyx* has put on the metallic plumage of *Lamprotornis*.

Returning now to *Mimeta* and *Tropidorhynchus*, we have to observe that the former is a smaller, weaker, less active, less noisy, and less pugnacious bird; the feet have a less powerful grasp, and the bill is less acute. The latter has a great variety of loud and piercing notes, which bring its companions to the rescue in time of danger; and I have observed them drive away crows and even hawks which had ventured to perch on a tree where two or three of them were feeding. The *Tropidorhynchus* knows how to take care of himself, and make himself both respected and feared; it would therefore evidently be to the advantage of the more defenceless *Mimeta* to be mistaken for him.

In this instance, as in most others, the imitation is far closer in the living bird than in the dead specimens, and it is a far more satisfactory case of mimicry than any of those which I have alluded to as occurring among birds, and which are more or less general resemblances to another group; while here we have two *species*, each confined to a single island, and each accurately imitated by a bird of a distinct family, with which it has no direct affinities.

I therefore cannot doubt that this is a true case of mimicry, exactly analogous to that so common among insects, and which my friend Mr. Bates has the honour of having first brought under the same general laws which have regulated all variation in the organic world.

CRINIGER MYSTICALIS.

Viridi-olivaceus; subtus flavo-virens; gula crissoque flavescentibus; mento, loris et palpebris flavis; remigum pogonio interno fusco-nigro; cauda immaculata.

Entirely olive-green, more yellow-tinged beneath, especially on the throat and under tail-coverts; the lores, chin, and eyelids are pure yellow, and also the basal half of the gape-bristles; bill horny black; feet lead-colour; iris red.

Total length 9 inches; wing $4\frac{1}{2}$; bill to gape 1 inch.

Hab. Bouru.

Remarks.—This species is nearest to *Criniger simplex*, from Gilolo (*Ibis*, 1862, p. 350); but is at once distinguished by the markings of the face and the remarkable half-yellow gape-bristles.

ARTAMUS LEUCOGASTER.

Lanius leucogaster, Val. Ann. Mus. H. Nat. iv. t. 7. f. 2.

Hab. Bouru and the whole archipelago, from Sumatra to New Guinea.

Remarks.—From the large specimens of N. Celebes to the small ones of Timor and New Guinea there is such a gradation of size in

the various islands that it is impossible to separate birds which otherwise agree exactly in form and coloration. *A. papuensis*, Bp. Consp. p. 344, will have to be considered as a very slight local variety of the present bird.

HIRUNDO JAVANICA.

Hirundo javanica, Lath., Temm. Pl. Col. 83. f. 2.

Hab. Bouru and the islands westward.

MYIAGRA GALEATA.

Myiagra galeata, G. R. Gray, P. Z. S. 1860, p. 352.

Hab. Bouru and the Moluccas.

Remarks.—The only two specimens procured are ashy above, with faint signs of glossy blue and rufous white beneath; they probably show the immature plumage of the species, of which I have specimens from Ceram and the small islands east of it, and also from Morty, north of Gilolo.

MONARCHA LORICATA. (Pl. VI.)

Nigro-chalybea, subtus alba; mento gulaque squamatis, nigro-chalybeis; cauda alba, rectricibus mediis nigris, duabus utrinque juxta medium nigro terminatis; rostro pedibusque cæruleo-plumbeis.

Blue-black; beneath pure white, except the throat, which is covered with scaly feathers of a rich metallic blue-black; this colour meets the black of the upper parts at the angle of the mouth, and extends in an oval shield to the bottom of the neck; under wing-coverts white; tail with the three lateral feathers on each side entirely white, the next two black-tipped, and the middle pair entirely black, with occasionally some white touches on the outer webs; bill and feet lead-blue; iris dark.

The sexes are alike; in the young bird the white is replaced by pale reddish brown, and the black by fuscous brown.

Total length 7 inches; wing $3\frac{1}{2}$ inches.

Hab. Bouru Islands (Moluccas).

Remarks.—This beautiful species is nearly allied to *M. leucura* of Mr. G. R. Gray, which I sent from the Ké Islands, east of Ceram.

RHIPIDURA TRICOLOR.

Musicapa tricolor, Vieill. N. Dict. Hist. Nat. xvi. p. 490.

Hab. Bouru, Moluccas, and New Guinea.

RHIPIDURA BOURUENSIS.

Fusco-plumbea; capite nigro, ventre pallide rufo, alis caudaque fuscis; gula albescens, pectoris maculis elongatis albis; stria supraoculari occulta, alba; tectricibus majoribus pallide terminatis, remigibus ultimis pallide marginatis; rectricum duarum externarum pogonio externo rufo-albo.

Dusky lead-colour, deepening on the head to black; wings and

tail dusky brown; feathers of the throat somewhat decomposed, with the outer half white; those of the breast with an elongate oval white spot on each feather; middle of the belly, the vent, and under tail-coverts pale rufous; over the eye is a silvery-white mark, only visible when the feathers are raised; the under wing-coverts are tipped with pale rufous, the outer row with white; the greater wing-coverts above have the extreme apex whitish, the tertiary quills have a very narrow pale-rufous edging; the tail is immaculate, with the exception of the two outer quills, which have their outer web for its whole length rusty white; bill black; feet dusky; iris dark.

Length 7 inches; wing $3\frac{3}{8}$ inches; tail $3\frac{1}{2}$ inches; bill, to front, $\frac{1}{2}$ inch.

Hab. Bouru.

Remarks.—I have named this species after the island it inhabits, because the allied forms from the surrounding islands being already known, there is every probability of its never being found anywhere else.

PACHYCEPHALA LINEOLATA.

Pachycephala lineolata, Wallace, P. Z. S. 1862, p. 341.

Hab. Bouru and Sula Islands.

PACHYCEPHALA RUFESCENS.

Pachycephala rufescens, Wallace, P. Z. S. 1862, p. 341.

Hab. Bouru and Sula Islands.

PACHYCEPHALA CLIO.

Pachycephala clio, Wallace, P. Z. S. 1862, p. 341.

Hab. Bouru and the Sula Islands.

Remarks.—The Bouru specimens have a more yellow tinge on the back, and the black pectoral band is generally broader than in those from Sula. I may here observe that the fine species from Batchian and Ternate, included in Mr. G. R. Gray's list of Molucca birds as *P. melanura*, Gould, is quite distinct from that species, and may be recognized by its black chin and upper tail-coverts, and narrow black crescent on the breast entirely disconnected from the black head, and also by its much larger size. We have therefore in the Moluccas four species of *Pachycephala* allied to the *pectoralis* and *melanura* of Australia, viz. *P. macrorhyncha*, Strickl., in Amboyna and Ceram, *P. calliope*, Bp., in Timor, *P. clio* in Bouru and Sula, and *P. mentalis*, n. s., in Batchian, Ternate, and Gilolo*.

* PACHYCEPHALA MENTALIS, n. s. *P. flavo-olivacea*; capite, genis mentoque nigris; gula late alba; lunula pectorali nigra; subtus cum torque nuchali vivide flava; cauda ejusque tectricibus superioribus nigris; remigibus fusconigris, primariis olivaceo limbatis, aliis tectricibusque alarum flavo-olivaceo marginatis; rostro nigro, pedibus fusco-olivaceis.

Long. 7, alar. 3·7, caudæ 2·10, poll. et duodecim.

Hab. Ins. Batchian et Gilolo.

This may be *Turdus armillaris*, Temm., or *Lanius cucullatus*, Licht. (Bp. Consp. p. 328); but I can find no descriptions of those species, and therefore give this bird a name descriptive of a peculiarity confined to it. *Laniarius albicollis*, Vieill., is different from this and apparently from any other described species.

DICRURUS AMBOINENSIS.

Dicrurus amboinensis, G. R. Gray, P. Z. S. 1860, p. 354.

Hab. Bouru.

Remark.—The specimens are rather larger and better-coloured than those from Amboina and Ceram, but otherwise agree with them.

CAMPEPHAGA MARGINATA.

Supra plumbea, subtus albo-cinerea; loris fusco-nigris; tectricibus caudæ et alarum inferioribus albis; remigibus et tectricibus alarum majoribus nigris, albo marginatis; rectricibus extimis utrinque tribus albo terminatis.

Bluish lead-colour above, ashy white beneath; base of wings beneath and under tail-coverts white; wings and tail black; primaries white-margined on the inner web near the base; secondaries, tertiaries, and greater wing-coverts white-margined towards the points; middle tail-feathers ashy, with a black tip, outer ones with the outer margin and tip ashy, the next two with diminishing ashy tips; bill and feet black; iris dark.

Total length $8\frac{1}{2}$ inches; wing $4\frac{1}{4}$ inches.

Hab. Bouru.

Remarks.—This species somewhat resembles *C. plumbea*, but is smaller and paler beneath, and the bill is more slender.

TROPIDORHYNCHUS BOURUENSIS.

Cinereo-brunneus, subtus pallide cinereus; gula et capitis lateribus plumis subrigidis subsericeis; alis caudaque subtus fuscis; rectricum lateralium utrinque duarum apicibus tenuiter fulvescentibus; facie nuda nigra; protuberantia ad basin rostri nulla.

Above ashy brown; head somewhat paler, with lanceolate feathers, the stems of which are black; beneath pale ashy; the plumes of the throat and upper part of the breast and the marginal feathers of the head and face somewhat rigid, of a silky lustre, and with darker stems; quills dusky, with the inner margins of a paler fulvous tinge; tail uniform dusky, the two outer feathers on each side with the apex on the inner side of paler fulvous colour; orbits and cheeks bare, black; bill black, without any protuberance at the base; feet pale lead-colour; iris light olive.

Length $14\frac{1}{2}$ inches; wing 6 inches; tail $5\frac{1}{2}$ inches; bill, to front, $1\frac{3}{4}$ inch.

Hab. Bouru.

Remarks.—This species is the subject of imitation by a bird of quite distinct family (Oriolidæ), as fully explained under *Mimeta bouruensis*, which bird is the *Tropidorhynchus bouruensis*, Bp., ex Lesson.

ZOSTEROPS CHLORIS.

Zosterops chloris, Bp. Consp. Gen. Av. p. 398.

Hab. Bouru, Ternate, and Banda.

“Iris pale brown; bill dusky black above; beneath and feet lead-colour.”

DICÆUM ERYTHROTHORAX.

Diceum erythrothorax, Less. Voy. Coquille, Ois. t. 30. f. 1, 2.

Hab. Bouru.

Remark.—An allied species to this occurs in Ceram, of which I give the description in a note*.

NECTARINIA PROSERPINA.

Purpureo-nigra velutina; capite viridi-chalybeo; gula purpureo-violacea metallica; crisso, tectricibus caudæ superioribus et alarum minoribus purpureo-cyaneis; remigibus fusco-nigris; cauda elongata, rectricibus duabus mediis purpureo marginatis.
♀. *Supra olivaceo-viridis, subtus flavescens; capite pectoreque cinereis; cauda fuscescenti-nigra, apice pallida.*

Rich velvety purple-black; crown greenish steel-blue; throat richly scaled with violet-purple; wings, with the lesser coverts only, the rump, and upper tail-coverts metallic-blue; two middle tail-feathers margined on both sides with purple; wings and tail fuscous black.

Female.—Above olive-green; the crown and nape dark ash, each feather having a central dusky spot; beneath pale olive-yellow, the throat and breast light ash; quills dusky, with an outer margin of olive-yellow; tail purplish-black, the feathers margined on the outer web with olive-green, and a whitish spot on the inner web at the apex, increasing in size from the middle to the outer feathers.

Length 5 inches; wing $2\frac{1}{3}$ inches; tail $1\frac{1}{2}$ inch; bill, from front, $\frac{3}{4}$ inch.

Hab. Bouru.

Remark.—This beautiful species is like *N. aspasia*, but differs in its middle and greater wing-coverts being purple-black and not metallic, and in the longer tail.

NECTARINIA ZENOBIA.

Cinnyris zenobia, Less. Voy. Coq.

C. clementiæ, Less. Man. d'Orn. ii. p. 40.

Hab. Bouru, Amboyna, Ceram, and Ké Islands.

CALORNIS OBSCURA.

Lamprotornis obscura, Bp. (ex Forsten) Consp. Gen. Av. 417.

Hab. Bouru and the other Moluccas.

* DICÆUM VULNERATUM.

Supra æneo-fuscum, subtus cinereum; abdomine albescente; macula parva pectorali tectricibusque caudæ superioribus rubris.

Fem. immaculata.

Above dark fuscous brown, with a bronzy tinge; beneath light ashy, becoming nearly white on the belly and vent; a small round patch on the breast and the upper tail-coverts bright red; under wing-coverts and sides of breast white; bill black, bluish at the base; feet black. The female (?) or young bird is rather lighter on the upper and darker on the under surface than the male, has no red spot on the breast, and the upper tail-coverts are reddish olivaceous.

Total length 3 inches; wing 2 inches.

Hab. Ceram.

MUNIA MOLUCCA.

Loxia molucca, L.; Pl. Enl. 139. 2.*Hab.* Bouru and the Moluccas.

TRERON AROMATICA.

Columba aromatica, Gm.*C. viridis amboinensis*, Br. Orn. i. p. 146; Pl. Enl. 163 (fig. pessima).

Bill, cere, and eyelids pale dull blue, tip of the bill becoming yellow in dry specimens; iris white; feet dusky purple.

Total length $11\frac{1}{2}$ inches; wing 6 inches.

Hab. Bouru, and probably Amboyna and Ceram.

Remarks.—Brisson's description of this species is most accurate, and, with the bird before one, cannot be mistaken. The figure in the 'Planches Enluminees' is abominable, but no doubt applies only to this bird. Gmelin copies Brisson; but makes an error which would prevent one recognizing the bird, in saying that "the *upper* tail-coverts are sordid white," instead of the *lower*. This bird is the true *Treron aromatica* (as being an inhabitant of the Spice Islands), a name which has been applied to birds of distinct species from India, Sumatra, and the Philippine Islands. It is easily distinguished from all its allies by having the top of the head ashy blue, not reaching below or even to the eyes, by the broad yellow bands on the wings, and by the under tail-coverts being nearly pure white in *both sexes*.

CARPOPHAGA MELANURA.

Carpophaga melanura?, G. R. Gray, P. Z. S. 1860, p. 361.*Hab.* Bouru and all the Moluccas.

Remarks.—This species is certainly distinct and peculiar to the Moluccas, *C. luctuosa* being found only in Celebes on the west, and *C. bicolor* in the Papuan Islands to the east of it. Bill greenish horn-colour; tip greenish yellow; feet lead-colour; iris nearly black.

CARPOPHAGA PERSPICILLATA, var.

Columba perspicillata, Temm. Pl. Col. 246.*Hab.* Bouru, Batchian, Gilolo, and Waigiou Islands.

Remarks.—The true *C. perspicillata* of Temminck is probably that of the islands of Ceram and Amboyna, which has the head and neck of nearly the same whitish ash as the under surface of the body, and the quills of a powdery-ash tint; whereas in the specimens from the Northern Moluccas and Bouru the head and sides of the neck are slate-colour, the throat and breast slaty ash, and the quills purple-black, with a slight ashy tinge. The bill is bluish, pale at the tip, and red at the base; the feet pale purple, and the iris brown-black.

This variety is constant and easily distinguishable, and will probably be considered a distinct species by many naturalists; and it is only the absence of any perceptible difference in the form or proportions, or of any definite markings which can be more clearly characterized than shades of colour, which prevents me classing it as such.

PROC. ZOOL. SOC.—1863, No. III.

PTILONOPUS PRASINORRHOUS.

Ptilonopus prasinorrhous, G. R. Gray, P. Z. S. 1858, p. 185.

Bill and its base, as far as the eye, gamboge-yellow; iris orange-brown, with an inner ring of yellow; feet dull purple.

Length $9\frac{1}{2}$ inches; wing $4\frac{3}{4}$ inches.

Female entirely green; crown of head very rich green; under-side rather duller; under tail-coverts yellow-margined.

Hab. Bouru, Matabello, Goram, and Ké Islands, belonging to the Molucca group; also Mysol and Waigiou, of the New Guinea group.

PTILONOPUS VIRIDIS.

Columba viridis, L., Pl. Enl. 142.

Bill yellow, the base red; iris yellowish red; orbits yellow; feet red.

Total length 9 inches. The male and female are alike.

Hab. Bouru, Amboyna, Ceram, and Goram.

MACROPYGIA AMBOINENSIS.

Columba amboinensis, L., Bp. Consp. Gen. Av. ii. p. 56.

Hab. Bouru and the other Moluccas.

"Bill black; iris pearly white, with an outer ring of pink; feet coral-red."

CHALCOPHAPS MOLUCCENSIS.

Chalcophaps moluccensis, G. R. Gray, P. Z. S. 1862, p. 345.

Hab. Bouru, Sula Islands, and the Moluccas.

MEGAPODIUS WALLACII.

Megapodius wallacei, G. R. Gray, P. Z. S. 1860, p. 362, pl. 171.

This species differs somewhat in its habits from the other members of the family found in the Malay Islands. It resides generally in the hilly districts of the interior, like *Megacephalon maleo*, and, like that species, comes down to the beach to deposit its eggs; but instead of scratching a hole for them and covering it up again, the bird burrows into the sand to the depth of 3 or 4 feet obliquely downwards, and deposits its egg at the bottom. It then loosely covers up the mouth of its hole; and is said by the natives to obliterate and disguise, by innumerable tracks and scratches, its own footmarks leading to the hole. Its offspring is then left to make its way into the world as it best can. The only specimen I obtained here was caught on the beach, at the mouth of its burrow, early one morning. Its wing was broken and wounded at the outer joint, as if it had been attacked by some small animal when in its burrow, probably a rat.

Hab. Bouru, Gilolo, and Ternate.

MEGAPODIUS FORSTENI.

Megapodius forsteni, Gray & Mitch. Gen. of Birds, iii. pl. 124.

Hab. Bouru, Amboyna, and Ceram.

This bird deposits its eggs in a heap of rubbish collected in low places near the sea. It is seminocturnal in its habits, making a loud wailing cry, which is often heard at night and about daybreak.

GLAREOLA GRALLARIA.

Glareola grallaria, Temm.

G. australis, Leach, Linn. Trans. xiii. pl. 14.

Hab. Bouru and Australia.

ESACUS MAGNIROSTRIS.

Charadrius magnirostris, Lath., Temm. Pl. Col. 387.

Hab. Bouru, Celebes, and New Guinea.

NUMENIUS UROPYGIALIS.

Numenius uropygialis, Gould, B. of Austr. vi. pl. 43.

Hab. Bouru, the Moluccas, and New Guinea.

BUTORIDES JAVANICUS.

Ardea javanica, Horsf. Linn. Trans. xiii. p. 190.

Hab. Bouru and the whole archipelago.

ARDETTA FLAVICOLLIS.

Ardea flavicollis, Lath. Ind. Orn. ii. p. 701.

Hab. Bouru, and from India to Australia.

NYCTICORAX CALEDONICUS.

Ardea caledonica, Gm.: Gould, B. of Austr. 6. t. 63.

Hab. Bouru, Moluccas, and Australia.

GALLINULA FRONTATA.

Fusco-plumbeo-nigra; dorso alisque olivascentibus; cauda nigra; tectricibus caudæ inferioribus lateralibus albis, mediis nigris; rostro rubro, apice abrupte luteo; clypeo frontali magno, dilatato, supercilia attingente; pedibus rubris, fusco articulatis, tibiis subtus olivaceis.

Very near *G. tenebrosa*, Gould, but distinguishable from that species by the differently-coloured back and wings, which are olivaceous brown instead of black, the rather slenderer bill, the very large frontal plate, and the more uniform-coloured legs, the joints of the tibiæ and tarsi being dusky olive, the median line of the tibiæ beneath olive-green, the tarsi beneath dusky lead-colour; the lateral under tail-coverts pure white, the middle ones black; the rest of the plumage of a dusky lead-colour, deepening on the top of the head and neck to nearly black, and on the breast tinged with brown; wings brownish olive; tail black.

Total length 13 inches; wing 7 inches; bill, from back of frontal plate, 2 inches.

Hab. Bouru.

RALLINA PHILIPPENSIS.

Rallus philippensis, L.

Hab. Bouru and the islands eastward.

DENDROCYGNA GUTTULATA.

Anas guttulata, Temm.

Hab. Bouru, Ceram, and Celebes.

TADORNA RADJAH.

Anas radjah, Less. & Garn. Voy. Coq. Zool. pl. 49.

Eyelids yellow; iris milk-white; bill and feet white; claws dusky white; nostrils blackish.

Total length 21 inches.

Hab. Bouru, the Moluccas, and New Guinea.

Remarks.—Lesson describes the bill and feet of this bird as *red*. In dried specimens they become of a dull reddish white; but in the living bird are entirely white. Lesson's specimen was obtained in Bouru.

PODICEPS TRICOLOR.

Podiceps tricolor, G. R. Gray, P. Z. S. 1860, p. 366.

Bill black; base of the lower mandible lemon-yellow, which extends up towards the eye.

Hab. Bouru and the Moluccas.

5. DESCRIPTIONS OF FIVE NEW SPECIES OF FISHES OBTAINED AT MADEIRA. BY JAMES YATE JOHNSON, CORR. MEM. Z. S.

(Plate VII.)

Fam. SCOMBRIDÆ.

BRAMA PRINCEPS, sp. n.

D. 5.27-33. P. 20. V. 1.5. A. 3.26. C. iv. 15. iv. M. B. 7.

Body oval, compressed, and elevated, the height compared with the length being as 1 to $2\frac{1}{2}$ or $2\frac{2}{3}$. It is of a blackish-grey colour, beautifully reflecting white and iridescent hues. A coppery lustre is reflected in certain lights from the sides of the body and the head. The hinder portion (black) of the body is covered with large striated scales; those on the head have finely pectinated edges, those on the body have simple borders. Between and in front of the eyes the head is scaleless.

The head is short and abrupt; its length to that of the whole fish is as 1 to $2\frac{2}{3}$. The *eye* is vertically oval; the pupil a pale grey, the iris a dark brown. It is contained about $4\frac{1}{2}$ times on the head, and is removed from the muzzle by a space equal to about $1\frac{1}{3}$ times its longer axis. Above it there is a space equal to $1\frac{1}{2}$ times its longer axis, and below it a space equal to twice that axis. There is only



$\frac{1}{3}$

M. & N. Hanhart, Imp.

FALCO RUBRICOLLIS.

P. Z. S. 1863. Pl. V.



M & N. Hanhart, Imp

CEYX CAJELI.



h.

M & N Hanhart Imp.

MONARCHA LORICATA.