

Professor Bell exhibited examples of two species of Phytophagous Coleoptera (*Aspidomorpha sanctæ-crucis* and *A. milaris*) from Bombay, to illustrate the difference in coloration of living and dead examples.

The following papers were read:—

1. Report on the Collections of Birds made during the Voyage of the Yacht *Marchesa*.—I. A Provisional List of the Birds inhabiting the Sulu Archipelago. By F. H. H. GUILLEMARD, M.A., M.D., F.L.S., &c.

[Received February 13, 1885.]

(Plates XVII. & XVIII.)

The Sulu Archipelago, a group of islands lying between the Philippines and the extreme north-east point of Borneo, has been, until quite lately, almost a *terra incognita* to naturalists. The difficulties of navigation, owing to the numerous reefs and shoals, the dangerous currents, and lastly, but by no means least, the possibilities of a *rencontre* with pirates, rendered a visit to the islands a somewhat hazardous experiment in former times. Lately, however, the facilities for exploring them have much increased. One of the results of the formation of the new North Borneo Company has been the opening of steam communication between their territory and Sulu Island. Recent surveys have lessened the dangers of navigation, and, though pirates still exist, even in these latter days of civilization, they confine their operations chiefly to small and unarmed praus.

Ornithologically speaking, the island of Basilan has always been regarded as one of the Philippines. Lord Tweeddale incorporated it as such in his "List of Birds known to inhabit the Philippine Archipelago" (Tr. Z. S. vol. ix. part 2); while Mr. Sharpe, in a paper on the Birds of the Sulu Islands, followed his example by omitting all notice of Mr. Everett's collection formed at Isabela de Basilan. But in many geographical publications it forms part of the Sulu Archipelago, and the line of separation between the latter and the Philippine Islands is drawn to the south-west of Mindanao. Such a line, however, has neither a political nor zoological *raison d'être*. The Sultan of Sulu has no authority in Basilan, and though the Spaniards had doubtless other than scientific reasons for including Sulu in their charts as belonging to the *Archipelago Filipino*, I hope to show in this paper that they are so far borne out, in that the Ornis of the group appears to be almost purely Philippine.

Mr. Sharpe, in the paper already alluded to (P. Z. S. 1879, part 2), gave a list of all the Sulu birds known at that date, chiefly from a small collection made by Mr. Burbidge on the island that has given its name to the Archipelago. To this I have been able to

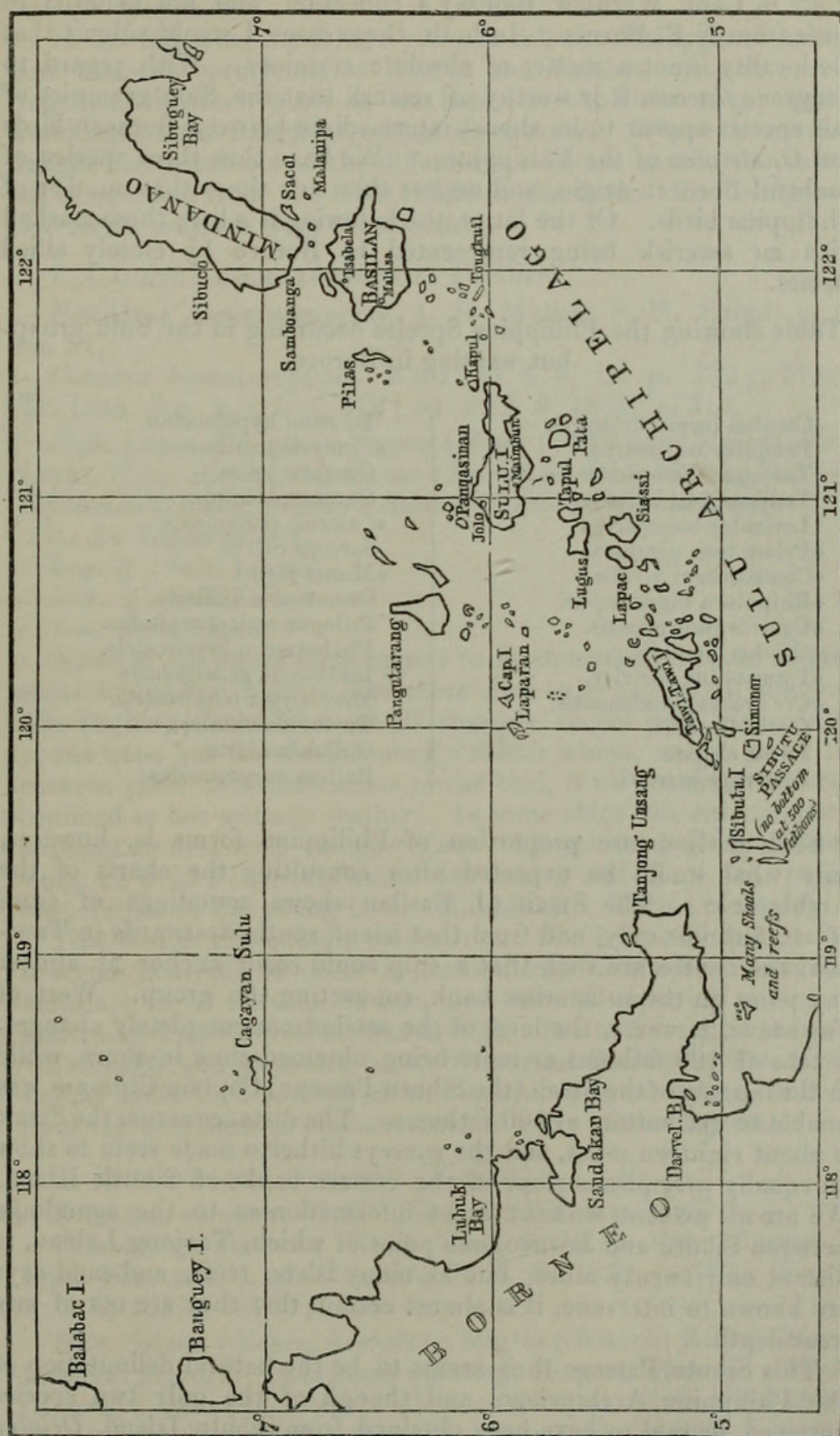
add considerably. On the 20th of April, 1883, I arrived at Sulu Island in Mr. Kettlewell's yacht 'Marchesa,' then on her way to New Guinea, and stayed there over a month, calling again at the group for a few days on our return journey. During these two visits our party collected over the whole of the western half of Sulu Island, and also visited Pangasinan, Lapac, Siassi, and Tawi-tawi, though, owing to our limited time on these latter islands, we were unable to obtain many specimens. Our total collection numbered over 200 individuals of 60 different species.

The total number of species recorded by Mr. Sharpe from the Sulu group is 20. These I have had to reduce by four—*Cuculus fucatus*, *Carpophaga pickeringi*, *Caloenas nicobarica*, and *Gallus stramineicollis*. The three first are given on the authority of Cassin, who records them as from "Mangsi, one of the Sooloo Islands." This has naturally led Mr. Sharpe astray. Mangsi, though no doubt originally under the jurisdiction of the Sultans of Sulu, who used at one time to own a considerable portion of Borneo, is not one of the Sulu group at all, but is an island off the N. coast of Borneo, lying between Banguay and Balabac. It is 200 miles from the nearest island of the Sulu Archipelago, and its avifauna is doubtless directly derived from the adjacent mainland. *Gallus stramineicollis* is, I have no doubt, merely the result of the crossing of *G. bankiva* with the common fowl. All the natives from whom I inquired agreed that there is but one species of Jungle-fowl on the islands; and I have myself had abundant evidence of the freedom with which it inter-breeds with the domestic bird. There thus remain 16 species of presumed authenticity in Mr. Sharpe's list; and to these I have been able to add 49 others, bringing the full total up to 65 species. I do not pretend that this is by any means an exhaustive list, even of Sulu Island alone, still less of the other islands of the Archipelago, but, as will be seen, it is more than sufficient to show the main source from which the bird-life of that group is derived.

If from the 65 species above mentioned we deduct those birds, for the most part of wide distribution, which are common alike to Borneo and the Philippines, we have 39 species left. Of these, two are new species described in the following pages, and three (*Dicrurus pectoralis*¹, *Ptilopus formosus*, and *Artamides pollens*) are from the Celebes group and the Ké Islands respectively. One, *Carpophaga pickeringi*, though obtained by Cassin from Mangsi, is new to Sulu. Of the rest, three are presumably Bornean, as against no less than 30 Philippine species unrecorded from the former country.

The three Bornean birds—*Scops rufescens*, *Iyngipicus ramsayi*, and *Gerygone flaveola*—demand a moment's consideration. The Sulu habitat of the first-named species rests on a single individual which was believed to have been shot on Sulu Island by Mr. Burbidge. Mr. Sharpe informs me that the bird reached him unlabelled, and together with other birds shot by Mr. Burbidge in North

¹ *Dicrurus pectoralis* has hitherto only been recorded by Wallace from the Sula Islands, and by Bruijn from the Obi group.



Outline Map of the Sulu Archipelago.

Borneo. The only examples of *Iyngipicus ramsayi* that I am aware of are in Capt. Wardlaw Ramsay's collection, and are believed to come from N.E. Borneo. In both these cases I would submit that the locality is not a matter of absolute certainty. With regard to *Gerygone flaveola* it is worthy of remark that the Sulu examples of this species appear to be almost intermediate between Bornean birds and *G. simplex* of the Philippines. We have thus three species of doubtful Bornean origin, and no less than ten times that number of Philippine birds. Of the latter, the following is a list; those marked with an asterisk being represented in Borneo by closely allied species.

Table showing the Philippine Species occurring in the Sulu group but wanting in Borneo.

<i>Cacatua hæmaturophygia.</i>	<i>Dicaeum hypoleucum.</i>
<i>Prioniturus discurus.</i>	* <i>Cinnyris jugularis.</i>
<i>Tanygnathus luzoniensis.</i>	<i>Cinnyris julia.</i>
<i>Tanygnathus burbridgei.</i>	<i>Corone philippina.</i>
<i>Loriculus bonapartei.</i>	* <i>Calornis panayensis.</i>
* <i>Pelargopsis gigantea.</i>	<i>Sarcops calvus.</i>
* <i>Centrocoecyx viridis.</i>	* <i>Munia jagori.</i>
* <i>Rhipidura nigritorquis.</i>	<i>Osmotreron axillaris.</i>
* <i>Cyornis philippensis.</i>	<i>Ptilopus melanocephalus.</i>
<i>Oriolus frontalis.</i>	<i>Phabotreron brevirostris.</i>
* <i>Pycnonotus goiavier.</i>	<i>Ianthœnas griseigularis.</i>
* <i>Ceryle mindanensis.</i>	<i>Macropygia tenuirostris.</i>
<i>Cisticola exilis.</i>	<i>Turtur dussumieri.</i>
<i>Parus elegans.</i>	<i>Gallus bankiva.</i>
<i>Zosterops everetti.</i>	<i>Rallina euryzonoides.</i>

Such an immense proportion of Philippine forms is, however, only what would be expected after consulting the charts of the Archipelago. The Strait of Basilan shows soundings of from 30-40 fathoms only, and from that island south-westwards to Tawi-tawi the depths are such that a ship could easily anchor at almost any point on the submarine bank connecting the group. West of Tawi-tawi, however, the level of the sea-bottom completely changes, depths of 100 fathoms or more being obtained close in-shore, while in the fairway of the Strait (the Sibutu Passage) Captain Chimmo was unable to get bottom at 500 fathoms. The distance across the Strait is about eighteen miles, and the surveys hitherto made seem to show an equally precipitous slope of the eastern banks of Sibutu Island. We are at present without exact information as to the soundings between Sibutu and Borneo, one point of which, Tanjong Labian, is distant only twenty miles, but as many islets, reefs, and sand-cays are known to intervene, it is almost certain that they are not of any great depth.

This Sibutu Passage thus seems to be the natural delimitation of the Philippine Archipelago, and though of the only two species obtained, or said to have been obtained, from Sibutu Island, *Oriolus chinensis* and *Sarcops calvus*, the latter at least is purely Philippine, I cannot help thinking that a more extended knowledge of its avi-

fauna would probably show a preponderance of western rather than eastern species.

In the following list I have given in full the Philippine localities, and also the occurrence in Borneo and Celebes, of each species, together with such notes on the habits of the birds as my limited residence on the islands permitted me to make. Where the extreme-length measurements of the different species are given, they are in all cases taken from the birds while in the flesh. The wing-measurements only are from the dry skin.

1. CACATUA HÆMATUROPYGIA (Müller).

Psittacus hæmaturopygius, L. S. Müller, S. N. Suppl. p. 77, no. 51.

Cacatua hæmaturopygia, Wald. Tr. Z. S. ix. p. 132; Sharpe, Tr. Linn. Soc. n. s. i. p. 312; id. P. Z. S. 1879, p. 313.

Hab. Luzon, Guimaras, Negros (*Meyer*); Palawan (*Steere*); Zebu, Leyte, Nipa, Panaon, Mindanao (*Everett*); Sulu Island (*Burbidge*, *Guillemard*); Lapac Island, Sulu Archipelago (*Guillemard*).

a. ♂. Lapac Island.

b-g. ♂. Sulu Island.

h-k. ♀. Sulu Island.

l-n. Sulu Island.

None of the above birds appear to be immature, at least so far as regards plumage, neither does there seem to be any sexual difference. The feathers of the crest are all strongly tinged with lemon-yellow at the base, but the reddish-orange colour which, on the under tail-coverts, gives its specific name to the bird, is on the crest invariably confined to one solitary feather. In some skins the ear-coverts are strongly washed with orange-yellow. Length 32·5-33·0 centims.; wing 21·2-21·8; no difference between ♂ and ♀. Iris pinkish red; brown in the young bird. Bill bluish. Tarsus blue-grey.

This bird is exceedingly common on the island of Sulu, where it seems generally to occur in small flocks of three or four individuals. It is often to be seen in a state of captivity among the natives, and one individual was brought alive to Europe in the yacht 'Marchesa,' and presented to the Zoological Society by Mr. Kettlewell in 1884¹. The flesh of this species is good eating, and free from the bitterness so characteristic of many of the Parrots.

2. PRIONITURUS DISCURUS (Vieillot).

Psittacus discurus, Vieillot, Gal. des Ois. i. p. 7, pl. 26.

Prioniturus discurus, Wald. Tr. Z. S. ix. p. 132; Sharpe, Tr. Linn. Soc. n. s. i. p. 312; id. P. Z. S. 1879, p. 133; Tweedd. P. Z. S. 1877; 1878, p. 379.

Hab. Luzon (*Meyer*, *Everett*); Negros (*Steere*); Zebu (*Everett*); Panaon (*Everett*); Mindanao (*Cuming*, *Everett*, *Murray*); Basilan (*Steere*); Sulu (*Burbidge*); Balabac (*Steere*); Guimaras (*Meyer*).

It is probable that this species is not common in Sulu Island, for during a residence there of more than six weeks I never obtained a single specimen, and only once saw it.

¹ Cf. Sclater, P. Z. S. 1884, p. 251.

3. *TANYGNATHUS LUZONIENSIS* (L.).

Psittacus lucionensis, Brisson, Orn. p. 295, no. 41; Linn. S. N. i. p. 146, no. 31.

Tanygnathus luzoniensis, Sharpe, Tr. Linn. Soc. 2nd series, 1876, Zoology, vol. i. p. 312; Wald. Tr. Z. S. vol. ix. pt. ii. p. 133.

Hab. Luzon (*Meyer*); Guimaras (*Meyer*); Negros (*Layard*, *Steere*, *Everett*); Zebu (*Everett*); Leyte (*Everett*); Mindanao (*Steere*, *Everett*); Malanipa (*Murray*); Sulu (*Burbidge*, *Guillemard*); Palawan (*Steere*, *Everett*); Basilan (*Steere*).

a, b. ♂. Sulu Island.

c. ♂. Lapac Island.

d, e. ♀. Sulu Island.

f. ♀. Lapac Island.

The large size of the beak at once distinguishes the male bird, in which also the blue of the nape is more pronounced. In none of the individuals is there any blue on the forehead, cheeks, or uropygium. Iris yellowish red in male, "pearly" in female; bill scarlet; tarsus olive. Length 34·0–35·3 centims.; wing 19·0 (♀)–20·7 (♂).

These skins agree with those from the Philippines in the British Museum collection.

4. *TANYGNATHUS BURBIDGEI*, Sharpe.

Tanygnathus burbridgei, Sharpe, P. Z. S. 1879, p. 313.

Hab. Sulu (*Burbidge*, *Guillemard*).

a, b. ♂. Sulu Island.

c, d. ♀. Sulu Island.

e. juv. ♂. Sulu Island. Length 39·5 centims.

f. juv. ♀. Sulu Island. Length 39·0 centims.

First described by Mr. Sharpe from specimens brought from Sulu Island by Mr. Burbidge. The series under consideration bears out the validity of the species, the adult birds having the head a bright yellowish green, the wing-coverts without blue, and a back a dark green, thus differing from *T. everetti* of Mindanao. In the immature male the head is somewhat darker, but, as far as regards plumage there is otherwise no difference from the mature bird. The sexes appear alike. Length 40·0–41·5 centims.; wing 21·8–22·7. Iris red; bill vermilion, dirty white in the young bird; tarsus dull olive-brown.

In common with the preceding species, this *Tanygnathus* is tolerably abundant all over the island of Sulu.

5. *LORICULUS BONAPARTEI*, Souancé.

Loriculus bonapartei, Souancé, Rev. et Mag. de Zool. 1856, p. 222.

Loriculus hartlaubi, Tweed. P. Z. S. 1877, p. 819.

Hab. Leyte, Bohol, Dinagat, Mindanao, and Basilan (*Everett*); Sulu (*Guillemard*).

a-e. ♂. Sulu Island.

Iris brown ; tarsus brownish yellow. Length 16·5–16·6 centims. ; wing 9·4–9·6 centims.

The five individuals of this species, all of which are males, are almost identical both in colouring and measurement. The forehead is bright orange-red, shading off into a rich orange on the nape. Back and scapulars green, more or less washed with golden yellow ; rump and upper tail-coverts light crimson, almost scarlet in some lights, and with a silky gloss. The rest of the body-surface is green, with the exception of a pectoral patch of the same colour as the rump, which commences just below the chin. None show any trace of blue on the head.

This series, then, does not seem to differ appreciably from *L. hartlaubi*, described by Lord Tweeddale, P. Z. S. 1877, p. 819 ; and a comparison with the skins in the collection of the British Museum shows merely a slightly more scarlet shade in the red of the Sulu examples. But *L. bonapartei* of Souancé also appears identical in every way, and I have therefore adopted his title. In his description the beak is said to be black. It is worthy of note that in the five Sulu examples under consideration the colour of the beak is different in nearly every case. In two birds it is noted as "red," while in the remaining three it is "brown black," "brownish," and "very dark yellow." Yet no one bird appears more adult than another. It is curious that in all the Sulu birds the beaks in the dried skin are black.

6. HALIASTUR INTERMEDIUS, Gurney.

Haliastur intermedius, Gurney, Ibis, 1865, p. 28 ; *idem*, 1866, p. 247.

Hab. Luzon (*Meyer*) ; Guimaras (*Meyer*) ; Zebu, Leyte, Bohol, Negros, and Mindanao (*Everett*) ; Malanipa (*H.M.S. 'Challenger'*) ; Sulu (*Guillemard*) ; Celebes, Borneo (*Mottley*).

a. ♂. Sulu Island.

An old male, the black shafts of the white feathers on the head much prolonged beyond the web of the feather. Iris light pearly yellow ; beak pea-green, bluish at base ; tarsus pale yellow ; claws black. Length 45·0 centims. ; wing 38·3. Common on Sulu Island.

7. ELANUS HYPOLEUCUS, Gould.

Elanus hypoleucus, Gould, P. Z. S. 1859, p. 127 ; Walden, Tr. L. S. viii. p. 36 ; *id. ibid.* ix. p. 142 ; Tweed. P. Z. S. 1877, p. 757 ; Sharpe, P. Z. S. 1879, p. 314.

Hab. Luzon (*Jagor*) ; Zebu (*Everett*) ; Mindanao and Basilan (*Everett*) ; Sulu (*Burbridge*) ; N.W. Borneo (*Treacher*) ; Celebes (*Forsten*).

8. BUTASTUR INDICUS (Gmelin).

Falco indicus, Gm. S. N. i. p. 264.

Butastur indicus, Walden, Tr. Z. S. vol. ix. part ii. p. 143.

Hab. Luzon and Guimaras (*Meyer*) ; Panay and Mindanao

(*Steere*) ; Zebu, Bohol, and Palawan (*Everett*) ; Sulu (*Guillemard*) ; Borneo (*Mus. Lugd.*) ; Celebes (*Wallace*).

a. ♀. Sulu Island.

Bill yellow, dark at the tip ; tarsus yellow. Length 43 centims. ; wing 32·5 centims. Shot December 25th.

9. *CIRCUS MELANOLEUCUS*, Forster.

Circus melanoleucus, Wald. Tr. Z. S. vol. ix. part ii. p. 143.

Hab. "Philippines," Luzon (*Gurney*) ; Sulu (*Guillemard*).

a. juv. ♂. Sulu Island.

Iris and tarsus bright yellow, beak dark brown. Length 43·6 centims. ; wing 34 centims. Shot December 24th. A Harrier, most probably of this species, appeared to be not uncommon on Sulu Island. In the identification of the present example I have had the kind assistance of Mr. J. H. Gurney.

10. *SCOPS RUFESCENS*, Horsfield.

Scops rufescens, Sharpe, Cat. B. iii. p. 102 ; *id.* P. Z. S. 1879, p. 314.

Hab. Sulu (*Burbidge*) ; Borneo (*Low, Diard*).

Mr. Sharpe, *loc. cit.*, says :—"This bird seems to me to differ slightly from Bornean and Malaccan examples in having a much darker face, the ear-coverts shaded with black. I do not, however, propose to found a new species on a single example, and must wait for more specimens. The measurements of the Sulu bird are as follows :—Total length 7 inches, culmen 0·7, wing 4·8, tail 2·6, tarsus 0·85. It will be seen that they are a good deal inferior to those of the type of *Scops mantis* as given by me in the Catalogue."

It should be noted that the Sulu habitat of this species cannot be regarded as an absolute certainty. Mr. Sharpe informs me that this specimen was not labelled, and that it reached him together with Mr. Burbidge's North-Bornean birds. There is therefore a possibility of the skins having become mixed.

11. *IYNGIPICUS RAMSAYI*, Hargitt. (Plate XVII.)

Iyngipicus ramsayi, Hargitt, Ibis, 1881, p. 598 ; *id. ibid.* 1882, p. 49.

Hab. Sulu (*Guillemard*) ; N.E. Borneo ?

a, b. ♂. Sulu Island.

c-e. ♀. Sulu Island.

Iris indian-red in the male, less bright and sometimes brown in the female ; bill bluish brown ; feet dark bluish-black. Length 15·4–15·8 centims. ; wing 8·5–8·9 centims.

Mr. Hargitt, to whom I submitted the present series for examination, identifies them with *I. ramsayi*, the types of which, now in Capt. Wardlaw Ramsay's collection, are, I believe, the only examples known. They were said to have been obtained in N.E. Borneo ; but the authenticity of the locality does not seem to be absolutely beyond doubt. I did not meet the species during my stay in the North Borneo Co.'s territory, although I obtained *I. auritus* ; and

in the absence of any definite information, it is quite possible that Capt. Wardlaw Ramsay's birds may have come from Sulu.

The broad white postocular stripe, whitish rump, and unbarred back and tail, together with the yellow throat and broad scarlet occipital band, render the diagnosis of this species easy.

12. EURYSTOMUS ORIENTALIS (L.).

Coracias orientalis, Linn. S. N. i. p. 159, no. 4.

Eurystomus orientalis, Wald. Tr. Z. S. vol. ix. part ii. p. 152; Sharpe, Tr. Linn. Soc. 2nd series, Zool. vol. i.

Hab. Luzon, Cujo Island, and Guimaras (*Meyer*); Zebu, Panaon, Leyte, Dinagat, Basilan, and Palawan (*Everett*); Negros (*Layard*, *Steere*); Mindanao (*Steere*); Sulu (*Guillemard*); Celebes (*Forsten*); Borneo (*Wallace*).

a. ♂. Sulu.

b-d. ♀. Sulu.

No sexual differences in plumage. These birds correspond with others from more western localities, and exhibit none of the paleness of colouring of the so-called *E. pacificus*. Iris bright brown; bill and tarsus scarlet. Length 27·5–28 centims.; wing 17·7–18·7 centims.

This species did not appear common in the Sulu Archipelago. They are active in their movements, taking short, restless flights, and are consequently somewhat difficult to obtain. In the middle of the month of May, I watched a pair constantly passing in and out of a hole in a lofty tree, in which they appeared to have young ones.

13. ALCEDO BENGALENSIS, Gm.

Alcedo bengalensis, Gm. S. N. i. p. 450, no. 20; Sharpe, Monogr. Alcedinidæ, pl. 2; Walden, Tr. Z. S. vol. ix. part ii. p. 152.

Hab. Luzon (*Meyer*); Negros (*Steere*); Zebu, Leyte, and Bohol (*Everett*); Mindanao (*Steere*); Sulu (*Guillemard*); Borneo (*Beccari*, *Mottley*).

a. ♀. Maimbun, Sulu Island.

Iris brown; upper mandible black, lower red; tarsus bright coral red. Length 16·7 centims.; wing 7·2 centims.

This bird does not seem to have as yet been recorded from Celebes, though I have myself obtained it on that island. Mr. Wallace has found it as far eastward as Gilolo.

14. ALCEDO ASIATICA, Swains.

Alcedo meningting, Horsf. Tr. L. Soc. xiii. p. 172.

Alcedo asiatica, Swains. Zool. Ill. 1st ser. i. pl. 50; Sharpe, Monogr. Alcedinidæ, p. 23, pl. 7.

Hab. Sulu (*Guillemard*); Borneo (*S. Müller*); Celebes (*Wallace*).

a. ♀. Maimbun, Sulu Island.

Iris light brown; bill coral red, except the ridge of the culmen, which is black; tarsus bright coral. Length 16·4 centims.; wing 6·6 centims. Cheeks strongly marked with blue.

This species has apparently not been recorded from the Philippines. To the south, its eastern limit appears to be Celebes.

15. *PELARGOPSIS GIGANTEA*, Walden.

Pelargopsis gigantea, Wald. Ann. & Mag. Nat. Hist. ser. 4, vol. xiii. Feb. 1874; *id.* P. Z. S. 1877, p. 541; *id. ident.* p. 822; *id. ident.* 1878, p. 108; *id. ident.* pp. 341, 943; *id. ident.* 1879, p. 69.

Hab. Panay, Leyte, Dinagat, Mindanao, Basilan (*Everett*); Lapac (*Guillemard*); Salok Island "near Borneo" (*Meyer*).

a, b. ♂. Lapac Island.

Iris dull red; bill and tarsus scarlet. Length 39 centims.; wing 15.5 centims.; bill from gape 9.8 and 10.8 centims.; from forehead 7.9–8.8 centims.

These examples differ from Lord Walden's type in having shorter wings and larger bills; but a larger series will probably show that the present species is hardly separable from the Bornean bird. I am unable to localize Salok, whence the type came. It is apparently not marked either on the Spanish or English charts of the archipelago, neither is there any reference to it in Findlay's 'Directory.' It is to be regretted that more care is not taken in the definition of localities.

16. *SAUROPATIS CHLORIS* (Bodd.).

Halcyon chloris (Bodd.), Sharpe, Monogr. Alced. pl. 89; Wald. & Lay. Ibis, 1872, p. 101.

Sauropatis chloris, Wald. Tr. Z. S. vol. ix. part ii. p. 155; Salvad. Orn. Papuas. e Molucche, vol. i. p. 470.

Hab. Luzon, Zebu, Guimaras (*Meyer*); Camiquin and Panay (*H.M.S. 'Challenger'*); Leyte, Bohol, Dinagat, Mindanao, and Basilan (*Everett*); Negros (*L. C. Layard*); Sulu (*Guillemard*); Cagayan Sulu (*Guillemard*); Celebes (*Fraser*); Borneo (*Doria & Beccari*).

a-c. ♂. Sulu Island.

d-f. ♀. Sulu Island.

g. Sulu Island.

Iris brown; bill black, proximal end of lower mandible white or pale bluish; tarsus olive-brown. Length 24–25 centims.; wing 10–11.2 centims.

This widely distributed species is very abundant on the coast, but is rarely seen inland.

17. *MACROPTERYX COMATUS* (Temm.).

Cypselus comatus, Temm. Pl. Color. pl. 268.

Dendrochelidon comata, Salvad. Ucc. di Borneo, p. 123.

Macropteryx comatus, Sw. Class. B. ii. p. 340; Wald. Tr. Z. S. vol. ix. part ii. p. 158.

Hab. Luzon (*Meyer*); Zebu, Mindanao (*Everett*); Negros (*Steere*); Sulu (*Guillemard*); Borneo (*Doria, Beccari, Mottley*).

a, b. ♂. Sulu Island. April and May.

Iris brown; bill and tarsus black. Length 15.2-15.4 centims.; wing 12.9 centims.; thus approximating in measurement to Bornean examples.

The Philippine group appears to be the extreme eastern limit of this species.

18. *CENTROCOCYX VIRIDIS* (Scop.).

Cuculus viridis, Scop. Del. Fl. Faun. Insubr. ii. p. 89, no. 47; Wald. Tr. Z. S. viii. p. 58.

Centrococcyx viridis, Wald. Tr. Z. S. vol. ix. part ii. p. 163.

Hab. Luzon, Negros, Guimaras, Panay, Leyte, Bohol, Mindanao, and Zebu (*Meyer*); Sulu (*Guillemard*).

a, ♀. Siassi Island.

Iris brownish red; bill dark slate; tarsus black. Length 39.4 centims.; wing 16.3 centims.

This bird is abundant in the open grassy lands throughout the island of Sulu, together with another species of Cuckoo which I was unable to obtain. When flushed it occasionally perches on low bushes.

19. *LANIUS CEPHALOMELAS*, Bp.

Lanius cephalomelas, Bp. Rev. et Mag. Zool. 1853, p. 436; Cat. Birds, vol. viii. p. 429.

Lanius nasutus, Wald. Tr. Z. S. ix. part ii. p. 162.

Hab. Leyte (*Everett*); Zebu (*Meyer*); Panay (*Sonnerat*); Sulu (*Guillemard*); N. Borneo (*Mus. Brit.*).

a-c. ♂. Sulu Island.

d. ♀. Sulu Island.

Iris brown; bill and tarsus brownish black. Length 23.5-24.1 centims.; wing 9.2-9.4 centims.

This species seems to be the representative of *L. bentet* in N.E. Borneo, Sulu, and the Philippines. It is characterized by the sharp line of demarcation between the black of the head and the grey of the scapular region. Above, the upper tail-coverts only are ferruginous. Scapulars dull grey, shading into white below. Under surface creamy white; abdomen and flanks ferruginous. Feathers of tail tipped with white, which becomes more or less eroded with age, the base dirty white or fawn colour, excepting in the two middle pairs, which are of a uniform brownish black.

This Shrike was common on Sulu Island, specially affecting small bare isolated trees in the open grassy country.

20. *ARTAMUS LEUCORHYNCHUS* (Horsf.).

Leptopteryx leucorhynchus, Horsf. Tr. Linn. Soc. xiii. p. 144 (1821); Wald. P. Z. S. 1866, p. 556.

Artamus leucorhynchus, G. R. Gr. Gen. B. ii. p. 285; Cass. Un. S. Expl. Exp. p. 440; Salvad. Ucc. di Borneo p. 140.

Hab. Luzon (*Finsch*, *Meyer*); Guimaras (*Meyer*); Negros (*Meyer*, *Everett*); Bohol, Zebu, Basilan, and Leyte (*Everett*); Mindanao (*Steere*, *Everett*); Sulu (*Burbridge*, *Guillemard*); Borneo (*Beccari*); Celebes (*Wallace*).

a-c. ♂. Sulu Island.

d-f. ♀. Sulu Island.

Bill leaden blue, almost lavender; iris brown; tarsus black. Length 19.0 centims.; wing 13.4-13.8 centims. Sexes alike in plumage.

This is one of the commonest birds in the Sulu Islands. It is to be seen throughout the day hawking for insects; its square tail and sharp-pointed, though short wings rendering it a noticeable object seen even at a great distance. Now and again it rests upon a dead bough, two or three individuals sitting huddled up close together. It keeps up an incessant twittering cry, and while in the air often wheels about for a considerable time without any movement of the wings. It is one of the last of the diurnal birds to betake itself to roost, and can still be seen hawking when the darkness has fairly set in.

21. ARTAMIDES POLLENS (Salvadori).

Graucalus pollens, Salvad. Ann. Mus. Civic. Genov. vi. p. 75; *id.* P. Z. S. 1878, p. 87.

Artamides pollens, Sharpe, Cat. B. vol. iv. p. 13.

Hab. Ké Bandan, Moluccas (*Beccari*); Lapac Island, Sulu Archipelago (*Guillemard*).

a. Lapac Island.

Iris slate-coloured; bill and feet black. Length about 32.1 centims.; wing 18.0 centims.; tail 16.0 centims.; bill from gape 3.9 centims.; tarsus 2.5 centims.

This example, when compared with one in the British Museum, is somewhat darker on the cheeks, ear-coverts, and lores, and apparently smaller in all its measurements. The differences, however, are hardly sufficient to lead me to separate it specifically from *A. pollens* from the Ké group, especially as I have but one individual. That this species should be found at such a great distance from the locality whence it was first recorded is very curious. A large series of any species of *Graucalus* is, however, seldom seen in collections; they are somewhat rare birds and generally very shy, and it is not improbable that we may, before long, obtain this species from some of the intermediate localities.

22. LALAGE DOMINICA (Müll.).

Turdus dominicus, L. S. Müller, Suppl. p. 145, no. 56, ex Pl. Enl. 273, f. 2.

Lalage dominica, Wald. Tr. Z. S. vol. ix. part ii. p. 178; Sharpe, Tr. Linn. Soc. 2nd ser. Zool. vol. i. p. 324.

Lalage terat, Cat. B. iv. p. 95.

Hab. Zebu, Guimaras (*Meyer*); Panay, Mindanao (*Steere*); Basilan, Negros, Leyte, Bohol, and Luzon (*Everett*); Sulu (*Guillemard*); Borneo (*S. Müller*).

a, b. ♂. Sulu Island.

c. juv. ♀. Sulu Island.

The immature bird has the head and scapulars grey, the former

streaked with black ; beneath, the breast and flanks are lightly barred with grey.

Iris brown ; bill and tarsus black. Length 17·5–19·0 centims. ; wing 9·2–9·4 centims. These skins agree with those of Bornean origin. The representative *L. leucopygialis* of Celebes differs only in having the back and rump pure white. This species appears to frequent the jungle only.

23. *PERICROCOTUS MARCHESÆ*, sp. nov. (Plate XVIII. fig. 1.)

♂. *Superne nitide niger ; dorso inferiore, uropygio et supra-caudalibus late aurantiaco-flavis : alis nigris, tectricum majorum apicibus, et secundariis basin versus, flavis, speculum alare magnum formantibus ; primariis intimis versus basin, et secundariis intimis versus apicem, pogonio exteriori flavo ornatis ; subalaribus flavis ; cauda nigra, rectricibus centralibus omnino nigris, reliquis ad basin nigris, sed flavo gradatim terminatis ; pileo, capitis lateribus, mento gulaque nigris ; corpore reliquo subtus late aurantiaco-flavo ; iride brunnea ; rostro et pedibus nigris.*

Long. tot. 0·168^m–0·173^m ; *al.* 0·076^m–0·078^m ; *caud.* 0·086^m ; *rostr.* 0·013^m ; *tars.* 0·014^m.

Hab. Insula "Sulu" dicta.

a, b. ♂. Maimbun, Sulu Island, May 15th, 1883.

But two examples of this beautiful new species were obtained, and no others were observed during the 'Marchesa's' visit to the Archipelago. They were shot at the edge of some thick jungle in the south of the island of Sulu.

24. *CHIBIA PECTORALIS* (Wallace).

Dicrurus pectoralis, Wall. P. Z. S. 1862, pp. 335, 342 ; Finsch, Neu-Guinea, p. 170.

Chibia borneensis, Sharpe, P. Z. S. 1879, p. 246.

Chibia pectoralis, Sharpe, Cat. B. iii. p. 240.

Hab. Sula Islands (Wallace) ; Obi group (Bruijn) ; Sulu (Guillemard).

a-c. ♂. Maimbun, Sulu Island.

d, e. ♀. Maimbun and Parang, Sulu Island.

f. (In moult), Sulu Island.

Iris crimson lake ; in *a*, an apparently old male, it is reddish brown. Bill and tarsus black. Length *circa* 28·0 centims. ; wing 14·8–15·6 centims.

These individuals differ a good deal in the size, colouring, and distribution of the metallic spots on the head and throat, and these characteristics can therefore be no guide whatever to the identification of the species. The frontal tuft of silky plumes appears only to be acquired by old adults. Three of the present series, two of them being females and the third of undetermined sex, are entirely destitute of it. I have examined the type of Mr. Sharpe's *C. borneensis*, described in P. Z. S. 1879, and do not regard it as specifically separable from the present bird. The frontal plumes

are much developed, but not more so than might be the case in an old male of *C. pectoralis*. I understand that no label was affixed to the bird when received, and that some Sulu birds were forwarded to the Museum at the same time. It is therefore not unlikely that this bird is from that locality.

25. *RHIPIDURA NIGRITORQUIS*, Vigors.

Rhipidura nigritorquis, Vig. P. Z. S. 1831, p. 97; Sharpe, Tr. Linn. Soc. 2nd ser. Zool. vol. i. p. 325.

Leucocerca nigritorquis, Wald. Tr. Z. S. vol. ix. pt. ii. p. 182.

Hab. Luzon, Zebu (*Meyer*); Basilan (*Everett*); Palawan, Mindanao (*Steere*); Dinagat, Negros, Bohol (*Cat. B.* vol. iv.); Sulu (*Guillemard*); Siassi (*Guillemard*).

a, b. ♂. Sulu Island.

c. Sulu Island.

d. Siassi Island.

Iris brown; bill and tarsus brownish black. Length *circa* 19·5 centims.; wing 8·2–8·4 centims. Sexes alike in plumage.

Abundantly distributed throughout the island of Sulu, being found in the small isolated bits of jungle which are so common in the island. It is in constant motion, and is fond of displaying the tail-feathers in the characteristic manner of the genus, usually confining itself to low bushes and trees at no great distance from the ground.

26. *CYORNIS PHILIPPENSIS*, Sharpe.

Cyornis banyumas (Horsf.), Walden, Tr. Z. S. vol. ix. part. ii. p. 182.

Cyornis philippensis, Sharpe, Tr. Linn. Soc. 2nd ser. Zool. vol. i. p. 325; *Cat. B.* vol. iv. p. 450.

Hab. Panay (*Steere*); Zebu (*Meyer*); Luzon (*Jagor*); Sulu (*Guillemard*).

a. ♀. Sulu Island.

Iris brown; bill black; tarsus greyish. Length 14·9 centims.; wing 7·2 centims. Lores buffish white.

This bird has the white abdomen and under tail-coverts noticed by Mr. Sharpe in the Philippine birds of Dr. Steere's collection. It is noticeable that a *Cyornis* with these characteristics has been described by Jerdon (*Birds of India*, i. p. 466). The true *C. banyumas* of Horsf. inhabits Palawan, Celebes, and Borneo.

The present specimen was the only one met with during my residence in the Archipelago.

27. *HYPOTHYMIS OCCIPITALIS*, Vigors.

Hypothymis occipitalis, Vig. P. Z. S. 1831, p. 97; Sharpe, *Cat. B.* vol. iv. p. 275.

Hab. Basilan (*Steere*); Sulu (*Guillemard*); Borneo (*Everett*).

a. ♀. Sulu Island.

b, c. juv. ♀. Sulu Island.

Iris brown; bill bluish black; tarsus black. Length about 15·0 centims.; wing 6·6 centims.

a is a female in nearly perfect plumage, but both the nape-spot and pectoral band are imperfect. In *b* there is no sign of either; the head, throat, and breast are dull blue; the upper surface is pale grey, washed with blue. In *c*, a still younger example, the head alone is dull blue, the rest of the upper surface brown.

If this species and *H. azurea* of Capt. Wardlaw Ramsay (Orn. Works Tweedd. Append. p. 656) are identical, as is probable, its habitat should be further extended to Luzon, Zebu, Negros, Guimaras, Mindanao, and Palawan.

28. HIRUNDO JAVANICA, Sparrm.

Hirundo javanica, Sparrm. Mus. Carls. t. 100; Salvad. Ornith. Papuas. e Molucche, vol. 2, p. 3; *id.* Ucc. di Born. p. 126.

Hab. Zebu, Leyte, Bohol, Dinagat, Palawan (*Everett*); Borneo (*Mottley*, *Beccari*); Celebes (*Wallace*); Sulu (*Guillemard*).

a, ♂. Sulu Island.

b, ♀. Sulu Island.

Iris brown; bill and feet black. Length *circa* 12·0 centims.; wing 10·5 centims. This species was common in Sulu at the end of April, frequenting the sea-shore, and perching on the native fishing-stakes, or on bare stumps of trees protruding from the water.

29. ORIOULUS CHINENSIS, Linn.

Oriolus chinensis, Linn. S. N. i. p. 160; Sharpe, Tr. Linn. Soc. 2nd ser. Zool. vol. i. p. 328; *id.* P. Z. S. 1879, p. 315.

Broderipus acrorhynchus, Wald. Tr. Z. S. ix. pt. ii. p. 185.

Oriolus suluensis, Sharpe, Cat. B. vol. iii. p. 205.

Oriolus frontalis, Wall. P. Z. S. 1862, p. 340, pl. xl.

Broderipus palawanensis, Tweedd. P. Z. S. 1878, p. 616.

Hab. Luzon and Guimaras (*Meyer*); Panay (*Murray*); Negros (*Meyer*, *Steere*, *Everett*); Zebu (*Meyer*, *Murray*, *Everett*); Basilan, Leyte, Panaon, Bohol, and Dinagat (*Everett*); Mindanao (*Steere*, *Murray*, *Everett*); Sulu (*Burbidge*, *Guillemard*); Lapac (*Guillemard*); Sibutu (*Low*); Balabac (*Steere*); Palawan (*Lemprière*).

a-c, ♂. Sulu Island.

d, ♂. Lapac Island.

e, f, ♀. Sulu Island.

g, juv. ♂. Sulu Island.

Iris dull red; brown in the female; bill pink; legs greyish. Length 29·0–32·5 centims.; wing 15·0–16·3 centims. The females are recognizable by their less bright colouring, and by the greenish tint of the back. There is but little difference in the size of the yellow frontal patch, except in the case of the bird from Lapac, in which it is rather small. In two of the adult males the middle pair of rectrices are entirely black; in the other two they are strongly tipped with yellow. The yellow apices of the secondaries appears an equally variable characteristic, occurring in some individuals but not in others.

The immature male, *g*, is of a uniform dull yellow, the back washed with greenish as in the female, rump bright yellow. The large ill-defined yellow frontal patch shades off posteriorly into a greenish black occipital and nuchal patch; lores greenish yellow; wing-feathers brown, some of the secondaries washed on the outer web with greenish yellow; two middle rectrices yellowish brown; breast with a few black stripes. Bill pinkish yellow, iris dull crimson; length 29.5 centims.; wing 15.5 centims.

A comparison of this series with the Philippine skins of *O. chinensis* in the British Museum, does not show any apparent specific distinction, and Mr. Sharpe has regarded Mr. Low's skins of *O. suluensis* as a subspecies of *O. frontalis* of Wallace. I have skins of an Oriole from Palawan which are not separable from either, and I am therefore led to regard the Philippine, Sulu, and Palawan birds as identical, from which it is difficult to separate the Sula Oriole.

30. PYCNONOTUS GOIAVIER (Scop.).

Petit goiavier de Manille, Sonn. Voy. Nouv. Guin. p. 59, pl. 28.

Ixus goiavier, Walden, Tr. Z. S. vol. ix. part ii. p. 190.

Hab. Luzon (*Meyer*); Leyte, Negros, and Bohol (*Everett*); Mindanao (*Everett, Murray*); Basilan (*Everett*); Sulu (*Guille-mard*).

a-c, ♂. Sulu Island.

d, ♀. Sulu Island.

Iris brown; bill and claws brownish black. Length *circa* 20.8 centims.; wing 7.4–8.8 centims. Is chiefly found in the thicker jungle, and sings well.

Differs from *P. analis* (Horsf.) of Borneo, in having the auricular region brown (*Salvadori*).

31. MACRONUS KETTLEWELLI, sp. nov. (Plate XVIII. fig. 2.)

Brunneus; dorsi plumis filiformibus, elongatis, versus basin nigricantibus; rachide, et partibus plumæ rachidi adjacentibus, albidis; alis fulvescenti-brunneis, exterius pallidioribus; supracaudalibus caudaque pallide castaneis; pileo dorso concolori, rachidibus plumarum albidis; fronte nigricante, magis distincte striata; superciliis, loris et regione parotica nigricantibus, albo lineatis; genis et corpore toto subtus pallide cervinis; hypochondriis brunnescentibus; gula summa et abdomine medio albicantibus; gutture et corporis lateribus vix albido lineatis; subalaribus pectori concoloribus; iride smaragdinea; rostro et pedibus brunneis.

Long. tot. circa 0.140^m; *al.* 0.063^m; *caud.* 0.070^m; *rostr.* 0.015^m; *tars.* 0.024^m.

Hab. Insula "Sulu" dicta.

a, ♂. Lukatlapas, Sulu Island, May 18th, 1883.

The only example obtained. It was shot close to or on the ground, in a patch of jungle near the centre of the island. The iris is a beautiful clear green, in shade not unlike that of the Bornean *Cymbirhynchus*. I have named this interesting new

species after Mr. Kettlewell, whose adventurous voyages in the yacht *Marchesa* have done much to help the science of Ornithology.

32. *COPSYCHUS MINDANENSIS* (Gmelin).

Le Merle de Mindanao, Montb. Hist. Nat. Ois. iii. p. 387.

Copsychus mindanensis, Wald. Tr. Z. S. vol. ix. part 2, p. 194.

Hab. Zebu, Guimaras (*Meyer*); Luzon and Basilan (*Everett*); Negros (*L. C. Lagard*); Mindanao (*v. Martens*); Sulu (*Guillemard*); Borneo (?) (*Salvadori*).

a, b. ♂. Sulu Island.

Iris brown; bill and tarsus black. Length 20·5 centims.; wing 9·4–9·7 centims. Under wing-coverts entirely black.

33. *GERYGONE FLAVEOLA*, Cabanis.

Gerygone flaveola, Cab. J. f. O. 1873, p. 157; Cat. B. vol. iv. p. 214, pl. v. fig. 2.

Hab. Celebes (*Meyer*); Borneo (*Schwaner*, *Mus. Lugd.*); Sulu (*Guillemard*).

a, ♂. Sulu Island.

b, ♀. Sulu Island.

c. Sulu Island.

Iris brown; bill and tarsus blackish. Length of wing 5·2 centims.

A comparison with skins of *G. flaveola* from Celebes in the British Museum shows the present individuals to be considerably paler on the under surface, which is a washy straw-yellow in colour. The ear-coverts also are of the same colour as the head, without any shade whatever of yellow. These Sulu birds appear, therefore, to be intermediate in form between *G. flaveola* of Celebes (and Borneo?) and *G. simplex* of Luzon, the latter bird being white beneath, washed with buff on the breast, and having the ear-coverts a uniform ashy brown. The present series approximate *G. simplex* in their admeasurements.

34. *CISTICOLA EXILIS* (Vig. et Horsf.).

Cisticola exilis, Sharpe, Cat. Birds, vol. vii. p. 269.

Cisticola grayi, Tweedd. P. Z. S. 1877, p. 828.

Cisticola semirufa, Wardlaw Ramsay, Orn. Works, Tweedd. p. 657 (1881).

Hab. Luzon; N. Mindanao (*Everett*); Sulu (*Guillemard*).

a-c, ♂. Sulu Island, April.

d, ♀. Sulu Island, April.

Iris brown; bill and tarsus flesh-colour. The head in all is more or less striped. Length about 9·0 centims.; wing 4·4 centims. This species was common in Sulu in the grassy opens, to which it appears entirely confined.

In the correct identification of this as well as of several other species, I have had the kind assistance of Mr. Bowdler Sharpe. As far as I am aware, it has not been recorded either from Borneo or

Celebes; but the immense range of the species renders it probable that it may be found in both these countries.

35. *BUDYTES VIRIDIS* (Gmelin).

Motacilla viridis (Gm.), v. Martens, J. f. O. 1866, p. 10.

Budytes viridis, Wald. Tr. Z. S. vol. ix. part 2, p. 196.

Hab. Luzon (v. Martens); Bohol and Mindanao (Everett); Sulu (Guillemard); Borneo (Mottley, Beccari); Celebes (Meyer).

a, ♂. Jolo, Sulu Island.

b, *vix ad.* ♀. Sulu Island.

c, *juv.* ♀. Jolo, Sulu Island.

Iris brown; bill brownish black; tarsus bluish black. Length of adult male and female 17·5 centims.; of immature female 17·0 centims.; wing 8·4 centims.; of immature female 7·5 centims. Shot from April 24th to May 10th, hunting for insects on cultivated ground near the Spanish settlement. The individual *b* is marked with green on the under surface, chiefly on the upper breast, but is otherwise like the male. The young female has the head ash-coloured, and the underparts are a pale yellow.

36. *PARUS ELEGANS*, Lesson.

Parus elegans, Less. Tr. p. 456; Sharpe, Tr. Linn. Soc. vol. i. p. 338.

Machlolophus elegans, Wald. Tr. Z. S. vol. ix. part 2, p. 199.

Hab. Zebu and Negros (Everett); Palawan and Guimaras (Steere); Sulu (Guillemard).

a, ♂. Sulu Island.

b, ♀. Sulu Island.

Iris brown; bill and tarsus black. Length of wing 5·9 centims. In both skins the white spots on the wing are small. An increase in the size of these, and the assumption of the pale scapulars seems to be due to age.

This species appears to be rare in Sulu, for the two individuals under consideration were the only ones seen.

37. *ZOSTEROPS EVERETTI*, Tweeddale.

Zosterops everetti, Tweed. P. Z. S. 1877, pp. 762, 829; *id. ibid.* 1878, pp. 111, 950; Sharpe, Cat. B. vol. ix. p. 163.

Hab. Mindanao, Zebu, and Dinagat (Everett); Sulu (Guillemard).

a, b. ♂. Sulu Island.

c, ♀. Sulu Island.

Iris brown; upper mandible dark brown, lower whitish; tarsus light brown. Length *circa* 11·0 centims., wing 5·3 (♂)–5·0 (♀) centims.

A comparison with the individuals from the Philippines shows the Sulu bird to be of a brighter yellow, and destitute of any sub-ocular dusky mark.

38. *DICAËUM HYPOLEUCUM*, Sharpe.

Dicaëum hypoleucum, Sharpe, 'Nature,' Aug. 1876, p. 298; *id.* Tr. Linn. Soc. 2nd ser. Zool. vol. i. p. 339; Tweedd. P. Z. S. 1879, p. 72.

Hab. Basilan (*Steere*); Sulu (*Guillemard*); Siassi (*Guillemard*).

a, b. ♂. Sulu Island.

c. juv. ♂. Sulu Island.

d. ♀. Parang, Sulu Island.

e. juv. ♀. Siassi Island.

f. juv. ♀. Sulu Island.

Iris, in the adult, light reddish brown; bill and tarsus black. Length about 9·5 centims., wing 5·4–5·6 centims. The adult birds of both sexes are deep black on the upper surface, with a faint tinge of bluish green, most marked on the wing. The middle line of the breast and abdomen is washed with pale buff. In the young birds the black of the upper surface is replaced by a dull olive-brown, and the outer webs of the secondaries are bordered with olive-green. This edging becomes narrower on the primaries, and is absent altogether from the first two or three.

D. hypoleucum appears to be abundant in the Sulu Archipelago, and is almost always to be found in the cocoanut groves, hunting at the crown of the palms for insects, in company with *Cinnyris jugularis*.

39. *CINNYRIS JUGULARIS* (Linnæus).

Cinnyris jugularis, Sharpe, Tr. Linn. Soc. 2nd ser. Zool. vol. i. p. 341; *id.* Cat. B. vol. ix. p. 86.

Arachnethra jugularis, Wald. Tr. Z. S. vol. ix. pt. 2, p. 200.

Hab. Negros, Guimaras, Zebu (*Meyer*); Luzon, Leyte, Bohol, Dinagat, and Basilan (*Everett*); Camiquin (*H.M.S. 'Challenger'*); Panay, Mindanao (*Steere*); Sulu (*Guillemard*).

a-m. ♂. Sulu Island.

n, o. ♀. Sulu Island.

Iris brown; bill and tarsus black. Length 11·3–11·7 centims. ♀ about 11·0 centims. Wing 5·4–5·7 centims.; in female about 5·2 centims.

In three or four of the above males there is a patch of metallic blue feathers at the upper and outer angle of the eye, forming a partial eyebrow, and in most skins some faint trace of this is to be seen. In several individuals also there are scattered metallic blue feathers in the frontal region. There is no tendency whatever to this metallic colouring on the head in any of a large series of *C. frenata* that I obtained from Celebes and the islands eastward to New Guinea.

The present species is extremely abundant in Sulu Island. As far as I am aware, it has not been recorded from Palawan, where *C. aurora* probably replaces it.

40. CINNYRIS JULIÆ (Tweeddale).

Nectarophila julia, Tweedd. P. Z. S. 1877, pp. 536, 547.

Cinnyris julia, Shelley, Monogr. Nect. p. 135, pl. 44; Cat. B. vol. ix. p. 64.

Hab. Malanipa (H.M.S. 'Challenger'); Mindanao (Everett); Sulu (Guillemard).

a-g. ♂. Maimbun, Sulu Islands.

Iris red-brown; bill and tarsus black. Length 9·9–10·5 centims., wing 4·8–5·0 centims.

This exquisite little Sun-bird seemed nowhere abundant on Sulu Island; but a pair or two were always to be found haunting some low flowering shrubs at the back of the little village of Maimbun. The present individuals agree exactly with the types brought home by the 'Challenger,' at present in the British Museum. It is curious that Dr. Steere did not meet with this species in Mindanao or Basilan, from which latter island it has been recorded, though Mr. Everett obtained it at Zamboanga on the former. The 'Challenger' party found it "quite numerous" in Malanipa.

41. ANTHOTHREPTES MALACCENSIS (Scopoli).

Anthreptes malaccensis, Sharpe, Tr. Linn. Soc. 2nd ser. Zool. vol. i. p. 342; Cat. B. vol. ix. p. 122.

Hab. Zebu (Everett); Negros (Steere); Mindanao (Everett); Basilan and Palawan (Everett); Sulu (Guillemard); Celebes (Wallace); Borneo (Wallace).

a-j. ♂. Sulu Island.

k-o. ♀. Sulu Island.

Male. Iris brownish red; bill black; tarsus olive-brown. Length about 13·7 centims., wing 6·9–7·1 centims.

Female. Iris brown; bill black; tarsus light olive-brown. Length about 12·0 centims., wing 6·4–6·6 centims.

I have followed Dr. Gadow's arrangement in the 'Catalogue of Birds,' and regarded the Bornean *Anthothreptes* as not specifically separable from that of the Philippines. The differences, though considerable so far as regard colouring, appear to be anything but constant, and the present series vary much both in size and colouring. Many Bornean skins show a like variation. The Sulu birds on the whole do not appear to differ much from the generality of those from Borneo.

This Sun-bird was apparently abundant in all the islands of the Archipelago that we visited, and we also obtained it on the solitary volcanic island, Cagayan Sulu.

42. CORVUS PHILIPPINUS, Bonaparte.

Corvus philippinus, Wald. Tr. Z. S. ix. part 2, p. 201; Tweedd. P. Z. S. 1877, pp. 548, 698, 763, 831; 1878, pp. 113, 287, 343, 381.

Corone philippina, Sharpe, Tr. Linn. Soc. 2nd ser. Zool. vol. i. p. 343.

Hab. Luzon (*Cuming, Meyer, Everett*); Cujo (*Meyer*); Panay (*Murray*); Negros (*Meyer, Steere, Everett*); Bohol, Basilan, Zebu, Leyte, and Panaon (*Everett*); Camiguin (*Murray*); Dinagat (*Everett*); Mindanao (*Murray, Everett*); Sulu (*Burbidge*).

Crows, most probably of this species, were common in Sulu Island.

43. CALORNIS PANAYENSIS (Scopoli).

Calornis panayensis, Wald. Tr. Z. S. ix. part 2, p. 205; Sharpe, Tr. Linn. Soc. n. s. Zool. vol. i. p. 343.

Hab. Panay (*Steere*); Zebu, Luzon, Negros (*Meyer*); Leyte, Bohol, Mindanao, Basilan, and Palawan (*Everett*); Sulu (*Guille-mard*); Siassi (*Guille-mard*).

a-d. ♂. Sulu Island.

e, f. ♀. Sulu Island.

g. juv. ♀. Sulu Island.

h. Siassi Island.

Iris brilliant orange-scarlet; bill and tarsus black. Length about 20.5 centims., wing 10.2–10.4 centims.

Most abundant on Sulu, and other islands of the Archipelago. In April they were apparently breeding in holes in dead trees some distance from the ground.

44. SARCOPS CALVUS (Linnæus).

Sarcops calvus, Walden, Tr. Z. S. vol. ix. part 2, p. 205; Sharpe, Tr. Linn. Soc. n. s. Zool. vol. i. p. 344.

Sarcops lowii, Sharpe, Tr. Linn. Soc. n. s. Zool. vol. i. p. 344.

Hab. Luzon (*Everett*); Guimaras and Negros (*Meyer*); Zebu, Leyte, Dinagat, Mindanao, and Basilan (*Everett*); Sulu (*Guille-mard*); ? Sibutu (*Low*).

a-h. ♂. Sulu Island.

i-k. ♀. Sulu Island.

l, m. Sulu Island.

Iris brown; bill and feet black; bare space round the eye tinged with dull red. In some, the primaries and tail-feathers, and sometimes the thighs, are tinged with ferruginous. This colouring seems generally to coexist with a nigrescent mantle, and is probably a sign of immaturity. Mr. Sharpe agrees with me that *S. lowii* cannot stand as a good species, the present series showing it to be a not fully adult *S. calvus*.

Sibutu Island, whence this species is said to have been procured, lies close to the North Bornean coast, and is separated from Tawitawi, the westernmost island of the Sulu Archipelago, by the Sibutu Passage, in which soundings with no bottom at 500 fathoms have been obtained. *Oriolus chinensis* is also recorded by Mr. Low from the same island, but it is quite possible that the locality of these two species may not have been correctly given by this gentleman's collector.

45. MUNIA JAGORI, Cabanis.

Munia jagori, Wald. Tr. Z. S. vol. ix. pt. 2, p. 207.

Hab. Luzon, Zebu, Leyte, Bohol, Negros, and Mindanao (*Everett*); Sulu (*Guillemard*).

a-d. ♂. Sulu Island.

e-g. ♀. Sulu Island.

Iris reddish brown; bill ashy blue; tarsus slate-coloured. Length 11·0 centims. (♂), 10·5 centims. (♀), wing 5·0 centims. (♂), 4·8 centims. (♀). The male is larger than the female, and of richer colouring, the head being very nearly black, and the brown of the body a deeper chestnut. The union of the abdominal dark line with the same colour of the throat does not appear to be of any value as a characteristic of sex.

This little species was abundant in Sulu, collected in flocks of from ten to thirty individuals, and feeding in the grass. Their habits and note reminded me strongly of the African *Estrela astrild*.

46. OSMOTRERON VERNANS (Linnæus).

Osmotreron vernans, Wald. Tr. Z. S. vol. ix. pt. 2, p. 210; Sharpe, Tr. Linn. Soc. n. s. Zool. vol. i. p. 346; Salvad. Uccell. di Borneo, p. 286.

Hab. Luzon (*Meyer*); Panay (*Steere*); Zebu, Bohol, Mindanao, Basilan, and Palawan (*Everett*); Sulu (*Burbidge*); Siassi (*Guillemard*); Celebes (*Wallace, &c.*); Borneo (*Wallace, &c.*).

a. ♂. Sulu Island.

b. ♂. Siassi Island.

c-f. ♀. Sulu Island.

Male: iris dark pink; bill slate-blue at tip; feet coral. Female: iris pearly; bill as in male; tarsus pinkish red. Length about 27·0 centims.; wing 14·3–14·5 centims.

47. OSMOTRERON AXILLARIS, G. R. Gray.

Osmotreron axillaris, Wald. Tr. Z. S. vol. ix. pt. 2, p. 211; Sharpe, Tr. Linn. Soc. n. s. Zool. vol. i. p. 346.

Hab. Luzon (*Meyer*); Zebu, Dinagat (*Everett*); Panay (*Murray*); Negros and Guimaras (*Meyer*); Mindanao (*Steere*); Sulu (*Burbidge, &c.*).

a. ♂. Sulu Island.

b. ♀. Sulu Island.

Male: iris pearly green; bill red at base, bluish at tip; feet pale slate; length 32·7 centims., wing 16·5 centims. Female: iris brilliant sea-green; feet light olive-green; length 29·5 centims., wing 16·1 centims. Culmen 2·1–2·2 centims.

O. aromatica from Buru very closely resembles the present species, but Salvadori (Orn. della Papuasias e delle Molucche, vol. 3, p. 2) points out that the latter "are larger, have the neck and breast of a less yellow-olive, the chestnut of the wing-coverts less in extent, and dark spots on the sides of the abdomen." The examples under consideration fully bear this out with regard to the size.

48. *PTILOPUS MELANOCEPHALUS*, Forster.

Ptilopus melanocephalus, Wald. P. Z. S. 1878, p. 951; *id. ident.* 1879, p. 73.

Hab. Mindanao (*Everett*); Basilan (*Everett*); Sulu (*Guillemard*); Celebes (*Guillemard*).

a, b. ♂. Sulu Island.

Iris yellow; bill greenish; tarsus coral. Length 22·5 centims., wing 11·8 centims. These Sulu examples do not differ from Celebean skins (*P. melanospilus* of Salvadori), excepting in having the yellow gular patch slightly paler and broader.

49. *PTILOPUS FORMOSUS* (G. R. Gray).

Lamprotreron formosa, G. R. Gray, P. Z. S. 1860, p. 360; Wallace, Ibis, 1865, p. 379; Walden, Tr. Z. S. viii. p. 82.

Hab. Celebes (*Wallace*); Sulu (*Guillemard*).

a. ♂. Sulu Island.

Iris sea-green; bill green, reddish at base; tarsus greenish olive. Length 29·5 centims.; wing 14·4 centims..

P. formosus of Gray can be at once recognized as distinct from the Moluccan and Papuan *P. superbus*, (1) by the strong violet tinge of the upper breast, which merges into the dark pectoral band, and, (2) by the violet of the head being conterminous with the ruddy orange of the cervix, there being no intervening greenish band. The present Sulu example shows both these distinctions, but appears to be of somewhat larger size, and is characterized by the absence of the *maillée* appearance of the breast, due to the small number of feathers that are bifid. The following are the comparative admeasurements in centimetres:—

	Length.	Wing.
<i>P. formosus</i> , Celebes (<i>Wallace</i>)	26·5	12·6
„ „ (<i>Guillemard</i>)	25·0	13·2
„ Sulu (<i>Guillemard</i>)	29·5	13·4

50. *PHABOTRERON BREVIROSTRIS*, Tweeddale.

Phabotreron brevirostris, Tweedd. P. Z. S. 1877, pp. 549, 832; *id. ident.* 1878, pp. 113, 344, 952; *id. ident.* 1879, p. 73.

Hab. Leyte, Dinagat, Mindanao, and Basilan (*Everett*); Sulu (*Guillemard*).

a. ♀. Sulu Island.

Iris, outer ring red, inner white; bill brownish; tarsus dull coral-red. Length 23·0 centims., wing 11·6 centims., bill from forehead 1·5 centims., tail 9·0 centims.

This example agrees with Lord Tweeddale's description of *P. brevirostris*, excepting that the back and upper tail-coverts are dull metallic olive. In the type (from Mindanao) the back is "mixed amethystine and dull yellow-green; uropygium and upper tail-coverts dull yellow-green with scarcely any iridescence." The Sulu bird corresponds, however, in having the rufo-fulvous forehead, the

albescent chin and throat, and the short bill, the characteristics which led Lord Tweeddale to separate it from the representative *P. leucotis*, which has been recorded from Luzon, Negros, and Guimaras.

51. CARPOPHAGA ÆNEA (Linnæus).

Carpophaga ænea, Wald. Tr. Z. S. vol. ix. pt. 2, p. 215; Sharpe, Tr. Linn. Soc. n. s. Zool. vol. i. p. 346; Salvad. Ucc. di Born. p. 290.

Hab. Luzon (*Meyer*); Zebu, Leyte, Mindanao, Dinagat, and Basilan (*Everett*), Negros and Palawan (*Steere*); Sulu (*Guille-mard*); Borneo (*Wallace*).

a. ♂. Sulu Island.

b, c. ♀. Sulu Island,

Iris crimson; bill greyish green; feet dull red. Length 42·0–43·0 centims.; wing 23·7–24·0 centims.

Compared with examples of Wallace's from the Timor group, the Sulu birds are seen to be brighter in the iridescence of the back and wings, the head is more vinaceous, there is a well-marked grey collar, and the under wing-coverts are pale dove-colour, not a darkish grey.

C. ænea seemed abundant enough on Sulu Island, but, like *M. bicolor*, it was difficult to obtain, owing to the great height of the trees which it frequented.

52. CARPOPHAGA PICKERINGI, Cassin.

Carpophaga pickeringi, Cass. Pr. Philadelph. Acad. 1854, p. 228; *id.* U.S. Expl. Exp. p. 267, pl. xxvii.; Sharpe, Tr. Linn. Soc. n. s. i. p. 353; *id.* P. Z. S. 1879, p. 316.

a. ♀. Sulu Island.

Iris dull red; space round eye red; bill bluish green; feet and tarsus dull purplish red. Length 42·0–44·0 centims.; wing 22·8–25·5 centims.; tarsus 3·2 centims.

Head ash colour, more or less tinged with vinaceous; forehead and chin white; throat and breast pale vinaceous; sides of body, abdomen, and thighs pale ash; under tail-coverts somewhat darker, and more or less washed with dull fawn-colour towards the tips. Mantle pale clear ash; back, outer surface of wings, and uropygium dull dark grey with faint pinkish and green iridescence, hoary in some lights. Tail above dull metallic green; below greyish, schistaceous.

Being unable satisfactorily to determine this species from Cassin's very short description of *C. pickeringi*, I forwarded an example to Mr. Ridgway, who kindly compared it with the type in the Washington Museum. He writes:—"I believe them to be specifically identical. The slight differences which I am able to detect are as follows:—

"In the type of *C. pickeringi* the nape is much less purely grey,

and the colour shades more gradually into the brownish slate-colour of the back; the head, neck, and lower parts are also more brownish; but the difference, as well as that of the nape, is certainly due, to a great extent at least, to soiling of the plumage. The wings &c. are a little bit darker and more brownish than in your specimen, and there is a more decided metallic bronzy purplish gloss, somewhat mixed with green, over the wings, but hardly perceptible on the back. The measurements are as follows:—Wing 23·0–25·4 centims.; culmen 2·1 centims.; tarsus 2·9 centims.”

Before visiting the Sulu Archipelago I had found this species in abundance on the island of Cagayan Sulu, off the north coast of Borneo, and Cassin's specimens were obtained from a small island near Balabac. Its area of distribution is thus somewhat curious, as it has never been recorded from Borneo.

53. MYRISTICIVORA BICOLOR (Scopoli).

Myristicivora bicolor, Wald. Tr. Z. S. vol. ix. pt. 2, p. 217; Sharpe, Tr. Linn. Soc. n. s. Zool. vol. i. p. 347; Salvad. Orn. della Papuasias, vol. iii. p. 107.

Hab. Negros (*Meyer*); Mindanao (*Everett*); Balabac (*Steere*); Sulu (*Guillemard*); Celebes (*Meyer*); Borneo (*Schwaner*).

a. ♂. Sulu Island.

b. ♀. Sulu Island.

Iris dark brown; bill and feet black. Length of wing 21·6–22·4 centims. These examples have no black upon the tibials or under tail-coverts. In the female the external webs of the first two or three primaries have a white patch at their base, but this is not regular on either side. The same bird has the two internal secondaries wholly white.

This species was extremely abundant in Sulu in the month of May, but it was most difficult to secure specimens, owing to the bird's habit of invariably keeping to the summit of the highest trees.

54. IANTHÆNAS GRISEIGULARIS, Walden & Layard.

Ianthœnas griseigularis, Wald. & Lay. Ibis, 1872, p. 104, pl. 6; Wald. Tr. Z. S. ix. p. 218; Sharpe, P. Z. S. 1879, p. 316.

Hab. Luzon (*Gevers*); Guimaras (*Meyer*); Negros and Basilan (*Everett*); Sulu (*Burbidge*).

Mr. Sharpe says, *loc. cit.*, speaking of a single specimen of this bird brought from Sulu Island by Mr. Burbidge, “I refer this pigeon with some hesitation to *I. griseigularis*, of which I have never seen a specimen, and only know it from Mr. Keulemans' figure in ‘The Ibis’ for 1872. On the other hand, it is very closely allied to *I. albigularis* of the Moluccas, but differs in the greyish shade of the white throat, which is also more restricted, and in the forehead being grey with only a slight mark of lilac.”

55. MACROPYGIA TENUIROSTRIS, G. R. Gray.

Macropygia tenuirostris, Wald. Tr. Z. S. vol. ix. pt. 2, p. 218;

Sharpe, Tr. Linn. Soc. n. s. Zool. i. p. 347; *id.* P. Z. S. 1879, p. 317.

Macropygia eurycerca?, Tweedd. P. Z. S. 1878, p. 288.

Hab. Luzon (*Meyer*); Negros and Basilan (*Steere*); Mindanao (*Everett*); Sulu (*Burbridge*); Borneo? (*Sharpe*).

Mr. Sharpe considers that this same species is found in Java and Lombok, where it is *M. emiliana* of Bonaparte; and that it occurs even in Borneo.

Two examples of this Pigeon were obtained in Sulu Island by Mr. Burbridge.

56. TURTUR DUSSUMIERI, Temminck.

Turtur dussumieri, Temm. Pl. Col. 188; Wald. Tr. Z. S. vol. ix. pt. 2, p. 218; Sharpe, Tr. Linn. Soc. n. s. Zool. vol. i. p. 347.

Hab. Luzon and Negros (*Meyer*); Panay (*Steere*); Zebu, Leyte, Bohol, and Mindanao (*Everett*); Sulu (*Guillemard*); Siassi (*Guillemard*).

a-c. ♂. Sulu Island.

d. ♂. Siassi Island.

e-g. ♀. Sulu Island.

Iris bright yellow or reddish orange; bill slate-coloured; feet pinkish red. Length 29·5–30·5 centims.; wing 15·3–16·2 centims. Sexes alike in plumage.

Abundant throughout Sulu Island.

57. GALLUS BANKIVA, Temminck.

Gallus bankiva, Wald. Tr. Z. S. vol. ix. pt. 2, p. 223; Sharpe, Tr. Linn. Soc. n. s. Zool. vol. i. p. 348.

Hab. Luzon and Guimaras (*Meyer*); Panay (*Steere*); Mindanao and Basilan (*Everett*); Sulu (*Guillemard*); Celebes (*Wallace*).

a-c. ♂. Sulu Island.

Iris ruddy; wattles brilliant red; bill dark horn; feet bluish-black. Wing 23·0–24·0 centims.

This jungle-cock, though very numerous on Sulu Island, is but rarely seen, owing to its haunting the thicker jungle and being very shy. The natives snare it in numbers by tying up a captive in well-known haunts of the species, and surrounding him with springes. The wild birds, attracted by his crow, come down to fight, and are quickly caught. In this manner it is only the cock bird that is ever secured. I have never seen the hen, though I have had as many as ten cocks tied up to the posts of the verandah. After a few days' captivity they become even tamer than domestic fowls, and are freely crossed with the latter by the natives. The cocks have sickle-feathers of extraordinary length.

58. EXCALFACTORIA CHINENSIS (Linnæus).

Excalfactoria chinensis, Wald. Tr. Z. S. vol. ix. pt. 2, p. 224.

Hab. Philippines (*Jagor*); Sulu (*Guillemard*); Borneo (*Mottley*); Celebes (? *E. minima*).

a-c. ♂. Sulu Island.

d. ♀. Sulu Island.

Iris bright rosy red, in the female not nearly so bright. Bill slate-blue; tarsus chrome-yellow. Length 14.0-14.5 centims.; wing 6.8-7.0 centims.

This minute Quail was to be found in abundance all over Sulu Island in the month of May, lying in the long grass in twos and threes, rarely or never in bevvies. The natives snared them, and brought them alive to us in numbers for sale.

59. *GALLICREX CINEREA* (Gmelin).

Gallicrex cinerea, Wald. Tr. Z. S. vol. ix. pt. 229; *id.* P. Z. S. 1878, p. 953.

Gallicrex cristata (Lath.), Salvad. Uccelli di Borneo, p. 340.

Hab. Luzon (*Dussumier, Cuming*); Mindanao (*Everett*); Sulu (*Guillemard*); Borneo (*Mottley*).

a. ♂. Sulu Island.

Iris brown; bill brown, pale beneath; feet dark brown.

60. *ERYTHRA PHŒNICURA* (Forster).

Erythra phœnicura, Wald. Tr. Z. S. vol. ix. pt. 2, p. 229; *id.* P. Z. S. 1877, p. 833, 1878, p. 953; Salvad. Ucc. di Borneo, p. 340.

Hab. Mindanao (*Everett*); Sulu (*Guillemard*); Celebes (*Forster, &c.*); Borneo (*Doria, Beccari, &c.*).

a, b. ♂. Sulu Island.

c, d. ♀. Sulu Island.

Iris bright pinkish red; bill pea-green, base of upper mandible scarlet; tarsus dull yellow.

This widely distributed Gallinule was common along the Meimbun river. Some examples have the forehead white; in others it is black, or with only one or two scattered white feathers.

61. *HYPOTÆNIDIA STRIATA* (Linnæus).

Hypotænidia striata, Wald. Tr. Z. S. vol. ix. pt. 2, p. 232; *id.* P. Z. S. 1877, pp. 768, 884; Salvad. Uccelli di Borneo, p. 336.

Rallus striatus, Linn. S. N. i. p. 262 (1766), ex Briss.

Hab. Luzon (*Gevers*); Zebu, Leyte, and Mindanao (*Everett*); Sulu (*Guillemard*); Celebes (*Wallace*); Borneo (*Mottley, &c.*).

a. ♂. Sulu Island.

b. ♀. Sulu Island.

Iris orange; bill brown, with the proximal and inferior part bright red; tarsus leaden black. The female is a paler bird, and has the barring of the entire upper surface and wings much less marked. Beneath, the barring in the male extends much higher up than in the female.

62. *RALLINA EURYZONOIDES* (Lafresnaye).

Gallinula euryzonoides, Lafr. Rev. Zool. 1845, p. 368; *Rallina euryzonoides*, Tweedd. P. Z. S. 1877, p. 767; 1878, pp. 288, 345.

Hab. Luzon? (*Cuming*); Negros, Leyte, and Zebu (*Everett*); Sulu (*Guillemard*).

a. ♂. Sulu Island.

Iris orange; bill slate, base of lower mandible pea-green; tarsus olive-green.

From the absence of any marked ruddy tinge on the back, and from the colouring of the feet and tarsi, I have referred this Sulu specimen to *R. euryzonoides*, though I have had no opportunity of comparing it with that species. The black and white barring of the abdomen is broader than in *R. fasciata*, the feet of which species are described by Doria as being of a lovely carmine.

63. *ARDETTA SINENSIS* (Gmelin).

Ardetta sinensis, Wald. Tr. Z. S. vol. ix. pt. 2, p. 237; Salvad. Orn. della Pap. p. 363.

Hab. "Philippines" (*Schlegel*, *Leschenault*, *Mus. Lugd.*); Sulu (*Guillemard*); Celebes (*Meyer*); Borneo (*Schwaner*).

a. ♂. Sulu Island.

Iris yellow; bill yellowish, culmen black; feet bluish black, marked with green.

64. *DEMIEGRETТА SACRA* (Gmelin).

Demiegretta sacra, Tweedd. P. Z. S. 1877, p. 551; Wald. Tr. Z. S. viii. p. 100.

Hab. Zebu (*H.M.S. 'Challenger'*); Sulu (*Guillemard*); Celebes (*Von Rosenberg*); Borneo (*Mottley*).

a. ♂. Sulu Island.

Iris yellow; bill and tarsus lead-colour. This example has a few white feathers on the throat and chin. The species is fairly abundant in Sulu, but I have never seen them in the numbers in which they are found on the northern coasts of Celebes. In this latter country they frequent the sandy mouths of the rivers in small flocks, in which the white varieties are not unfrequently to be seen.

65. *BUTORIDES JAVANICA* (Horsfield).

Butorides javanica, Wald. Tr. Z. S. vol. ix. pt. 2, p. 237; *id.* Tr. Z. S. viii. p. 100.

Hab. Luzon (*Jagor*); Negros (*Steere*); Zebu, Leyte, Dinagat, Mindanao, and Palawan (*Everett*); Sulu (*Guillemard*); Celebes (*Forsten*, &c.); Borneo (*Mottley*).

a, b. ♂. Sulu Island.

Iris orange-yellow; bill black, base of lower mandible yellowish; bare skin round eye greenish; feet and tarsus orange-yellow. Length 46.0 centims.; wing 17.3 centims. Salvadori (Orn. della Pap.) gives the colour of the feet as "*flavo-virescentibus*;" in Mr. Everett's Zebu bird (♂) they were "dull dark chrome;" in one





Guillemard, F. H. H. 1885. "Report on the Collections of Birds made during the Voyage of the Yacht Marchesa.-I. A Provisional List of the Birds inhabiting the Sulu Archipelago." *Proceedings of the Zoological Society of London* 1885, 247-275. <https://doi.org/10.1111/j.1096-3642.1885.tb02906.x>.

View This Item Online: <https://www.biodiversitylibrary.org/item/97225>

DOI: <https://doi.org/10.1111/j.1096-3642.1885.tb02906.x>

Permalink: <https://www.biodiversitylibrary.org/partpdf/73082>

Holding Institution

Natural History Museum Library, London

Sponsored by

Natural History Museum Library, London

Copyright & Reuse

Copyright Status: Public domain. The BHL considers that this work is no longer under copyright protection.

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.