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LIST OF A COLLECTION OF BIRDS MADE IN THE SULA ISLANDS BY WILLIAM DOHERTY.

BY ERNST HARTERT.

MR. DOHERTY, in October and November 1897, collected on the islands of sula Mangoli and Sula Besi, the eastern and the southern islands of the Sula group. The collection of birdskins he sent contains all the birds hitherto known to be restricted to the Sula Islands, and almost all the species known to occur there, besides some striking new species and a few other additions.

Our previous knowledge of the avifauna of the Sula group is but scant. The Leyden Museum possesses good material sent home by some of the Dutch travellers in former years, and Wallace's assistant, Mr. Allen, collected there. The latter collections were duly recorded by Wallace in *Proc. Zool. Soc. Lond.* 1862. pp. 333—346 (see also plates xxxviii., xxxix., xl.). Recently Messrs. A. B. Meyer & Wiglesworth recorded a collection from Peling and Banggai, between Celebes and the Sula Islands (Abh. Dresden Museum 1896—7. No. 2). The ornis of these two islands is essentially that of the Sula group.

I follow, in this list, the arrangement which will, I believe, be adopted by Messrs. A. B. Meyer & Wiglesworth in their forthcoming great work on the Birds of Celebes, in order that my article can with greater convenience be compared with their lists.

1. Spilornis rufipectus sulaensis (Schl.).

I very much doubt the possibility of keeping this subspecies distinct from S. rufipectus rufipectus of Celebes. The differences said to exist in the Cat. B. Brit. Mus. I. do not occur, and the spotting (or barring) of the abdomen varies as much as the colour of the chest, which in one specimen from Makassar is even paler than in one from Sula Mangoli. \mathcal{L} ad. "Iris lemon-yellow; cere orange-ochreous; feet pale dull ochreous, claws black; bill pale bluish horn-colour, tip black."

Doherty collected specimens in Sula Mangoli and Sula Besi.

2. Astur soloensis (Horsf.).

Two adult males and an immature male, Sula Mangoli, November 1897. The old males are rather pale rufous on the breast. There may be several subspecies of this bird, but I am not able to discuss them. The adult male has the "iris crimson-brown, with an outer yellowish line; the feet ochreous, with black claws; the bill black, cere orange."

3. Accipiter sulaensis (Schl.).

One female in (probably) first plumage, Sula Mangoli. It is above rusty rufous, the feathers with brownish black centres and white bases. Crown nearly black. Outer webs of primaries dark brown, with pale rufous edges. Inner webs of primaries brown towards the tip, with indistinct darker cross-bars, pale rusty rufous on their basal portion, with brownish black cross-bars. Tail above rusty, below very pale reddish, with four broad brownish black cross-bars, outermost pair of rectrices with seven narrower cross-bars. Below buffy white, with longitudinal dark brown blotches along the middle of the feathers. Under tail-coverts buffy white, without spots. Tarsus 30 mm.; middle toe without claw 34.5 mm. "Iris yellow; feet olive-ochreous, with orange soles and black claws; bare skin round eyes and cere olive-ochreous."

4. Pisorhina sulaensis sp. nov.

This owl resembles in colour of plumage certain dark rufous brown varieties of P. menadensis (Quoy et Gaim.), but it is considerably larger, and the tarsus, being bare on the back for its entire length, is also bare in front for about threeeighths of its length. Above dark rufous brown, the feathers with a more or less distinct black shaft-line and black mottlings, and with lighter rufous brown spots. The black central lines broader on the crown. Four or five of the scapulars with the greater part of the outer webs white; this colour bordered inwardly with brownish black. Inner webs of primaries dark sepia-brown, on the inner ones with a marginal line of pale buff spots; outer webs sepia-brown, with pale buff and rufous patches. Below like most scops-owls, and not differing from many P. menadensis, but with as much white as the darker specimens of P. albiventris. One & from Sula Mangoli, October 1897. "Iris orange; feet dirty yellowish white, with blackish claws; bill blackish, lower mandible and cere dirty ochreous." Total length about 225 mm., a. 170, c. 77, t. 30 mm. There is also a nestling of this interesting new owl from Sula Besi, the downy feathers of which are pale buffy brown, with numerous dark brown cross-bars. "Its iris was deep brown, its feet dull whitish testaceous, its bill pale dull lead-colour." The tarsus is bare for half its length.

5. Loriculus sclateri Wall.

A good series from Sula Besi and one from Sula Mangoli. "Feet orange, claws black; bill black, basally orange."

The series before me confirms in the main the differences stated to exist between this (typical) form of L. sclateri and L. sclateri ruber M. & Wg. of Peling and Banggai, although the most reddish specimens cannot be distinguished from the least reddish ones of L. s. ruber.

6. Aprosmictus dorsalis sulaensis (Rchw.).

It is probably right to separate the Sula bird from A. dorsalis dorsalis, but in no case will it be a good species. I have before me, in the Tring Museum, ten skins from Dutch New Guinea, Batanta, Salwatti, Mori, and Mr. Doherty has now sent us nine from Sula Mangoli, shot there in October and November. Out of these three are marked "?" Two of these have the interscapular region entirely green, one being

evidently young, the feathers of the breast being still partly green, and both these have rosy red tips to the rectrices. The third \(^2\), probably adult, although in moult, has a few blue edges to the feathers of the interscapular region, and the tail entirely black below, without any rosy tips. Of the six males four have rosy red tips to the tail-feathers, and three of them have no blue on the interscapulium, one some faint blue edges. One has no rosy tips and distinct blue edges on the interscapulium, but one is deep blue from the lower hind-neck to the tail, though right in the middle of the interscapulium the feathers have only blue borders. I thus come to the conclusion that the development of blue is generally stronger in A. dorsalis dorsalis, and that A. d. sulaensis is very seldom quite so blue above, but more fully adult Sala birds should be studied. Wallace declares that the bill in the Sala specimens is red, while it is blackish with a reddish orange spot near the base of the culmen, but this statement is erroneous, as all our Sala skins have the bills exactly like the A. dorsalis dorsalis, in which, however, the bill is red in very young birds.

7. Tanygnathus mülleri (Müll. & Schleg.).

Five specimens from Sula Mangoli look like a distinct form at first sight, as their mandibles are black. But it seems evident that this is due to the juice of some fruit with which they have also soiled parts of their feathers and which has coloured the mandibles entirely black.

8. Trichoglossus flavoviridis Wall.

A series from Sula Mangoli. "Iris bright orange, bare orbital space pale orange; feet pale dull lead-colour; bill orange-red."

9. Eudynamis facialis Wall.

In *Proc. Zool. Soc. Lond.* 1862. p. 339, Wallace described as a new species *E. facialis*, from a single specimen which differed from *E. melanorhynchus* of Celebes in its smaller size and different proportions, the wing being at least half an inch shorter, the tail one and a half inch shorter, and also by its "chin and face, as far as the eyes, being white." Some irregularity in the white facial markings, says Wallace, "led my friend Dr. Sclater to suppose that it might be a case of incipient albinism. This, however, would not affect the determination of the species, which depends on its different proportions from its nearest ally."

These observations of the great explorer are quite true. It is excusable that Shelley, in Cat. B. Brit. Mus. XIX. p. 327, did not recognise E. facialis, as only the one specimen, Wallace's type, was known, but mention of the fact of its differing should have been made.

Doherty has now sent five adult males and one young female from Sula Mangoli, and these specimens bear out fully the statements of Wallace. The wings of the males measure 183—190 mm. (those of E. melanorhynchus 198—210); the tails 165—180 (those of E. melanorhynchus at least 200). Also the white facial markings are not accidental, but due to locality, as three out of our five males show them either indicated, or have the chin and forehead as far as the eyes white, like the type, while in about twenty-five adult males of E. melanorhynchus none has any white at all. The iris of the adult male is described by Doherty as "orange-red; feet and bill black." The immature male had the "iris dull crimson; feet and bill brownish black."

10. Cuculus intermedius Vahl.

♂ ♀ immat., Sula Mangoli, October and November 1897.

11. Cacomantis virescens Brügg.

? immat., in moult, November 1897, Sula Mangoli, evidently belonging to C. virescens.

12. Pelargopsis melanorhyncha eutreptorhyncha subsp. nov.

Nine specimens from Sula Mangoli.

I have before me ten skins from North Celebes and Banka. All these have the bills, including the entire base of mandible and maxilla, entirely black; only one from Lembeh has a narrow red line along the middle of the mandible on one side only, but not on the other. The black colour of the bills is natural, for there are several labels with the remark "Bill black" made by the collectors. Then there are three males and a female from Tawaya (cf. Nov. Zool. IV. p. 163). Of these two have entirely black bills, one just a bit of red on the base of the mandible, the other a conspicuous small red spot at the base of the maxilla, and one on the culmen, right at the beginning. Then we have three of the co-types of Pelargopsis dichrorhyncha M. & Wg. from Peling and Banggai, between Celebes and the Sula Islands. These have a very conspicuous large red spot at the base of the culmen, and on the lower part of the base of the maxilla, as well as about half of the mandible red. Now we have received nine Sula Mangoli specimens. There is a 3 with the following notes on the label: "Iris deep umber-brown; feet dusky red, soles and hind part of tarsi vermilion, claws blackish; bill blackish, maxilla black with red spot at base of culmen, mandible black with base red, gape orange." An adult female has on the label: "Iris dark brown; feet dark red, soles scarlet, claws blackish; bill black, base of mandible and extreme base of culmen bright red." But in the Sula specimens the red spot on the base of the culmen is much smaller than in P. dichrorhyncha, and sometimes obsolete, or, in two specimens, not present at all. The red of the basal part of the sides of the maxilla is less extended, and sometimes quite obsolete; the red at the base of the mandible is only extended over about onequarter of the mandible and sometimes obsolete, and in one specimen not visible at all. This is duly marked on the label: "Bill less red than usual." In all other respects these birds agree with P. dichrorhyncha; the bill is also generally a little longer and stronger than in P. melanorhyncha melanorhyncha, but this and all other differences in size between P. melanorhyncha and P. dichrorhyncha are triffing and variable. The specimen from Tawaya with the red at the base of the bill is perfectly similar to the Sula Mangoli birds. The case of these Pelargopsis is very interesting. It is evident that the colour of their bills is variable, but their variation is not individual, but rather local, probably due to local influences. The specimens from the Minahassa are, it seems, quite constant in having a black bill; those from Peling and Banggai have constantly half of the mandible red; those from Tawaya, in Middle Celebes, have an inclination to vary towards having a red base of the mandible; those from Sula Mangoli have small red spots at the base of the bill, but occasionally quite, or almost quite, black bills. Under the circumstances, I believe we can distinguish three subspecies:—

1. P. melanorhyncha melanorhyncha (Temm.), from North and Middle Celebes,

Banka and Togian Is., with black bills, and a tendency in the southern parts to become red spots at the base of the bill.

- 2. P. melanorhyncha dichrorhyncha (M. & Wg.), Banggai and Peling, between Celebes and Sula. Bill black, with about basal half of mandible red and large red spot on basal part of culmen.
- 3. P. melanorhyncha eutreptorhyncha Hart., from Sula Mangoli. Bill black, with smaller red spot at base of maxilla, sometimes obsolete, and with smaller red space at base of mandible, sometimes varying towards a black bill.

13. Halcyon coromanda rufa (Wall.).

Six skins of adult birds from Sula Mangoli. They are perfectly constant in coloration and dimensions, and differ from Indian specimens in their deep brownish red under surface and rather dark upperside. Culmen from base 63—67 mm.; wing 120—124 mm.

Whether this form can bear the name of *H. coromanda rufa* or not, I cannot decide at present; but it seems to me that only some, not all, of the Celebes specimens agree with those from Sula Mangoli, which are all alike. "Iris dull umber, with pale line in the middle; feet coral-red, claws duller; bill vermilion."

14. Halcyon sancta Vig. & Horsf.

Sula Mangoli.

15. Halcyon chloris (Bodd.).

Sula Mangoli. "Iris deep brown; feet coral; bill orange-scarlet."

16. Macropteryx wallacei (J. Gd.).

One young female in its first spotted plumage from Sula Besi. "Iris deep brown; feet dull brown; bill nearly black."

17. Pitta irena crassirostris (Wall.).

I am very uncertain about the validity of this form. It is clear that Mr. Wallace described P. crassirostris only by mistake, as he did not compare it with its nearest ally, but only with P. vigorsi and P. concinna, which are, of course, quite different (P. Z. S. 1862, pp. 188, 339). Dr. Sclater (Cat. B. Brit. Mus. XIV. p. 428) says that P. crassirostris from the Sula Islands, which he separates specifically, differs from P. irena of Timor in being larger, and in having "a thicker and more compressed bill." Unfortunately the British Museum possesses only one Timor skin; but comparing the three Sula skins of that Museum and the two now in the Tring Museum with it, I cannot find that the former are larger, but the bill is slightly thinner (more compressed) and higher than in the Timor skin. Other differences I cannot see. Some years ago I sent a trade-skin, which I now know to have come from the Sula Islands, to Dr. Büttikofer, who kindly compared it with the type of P. irena, and informed me that it did not differ from it. The slight difference in the form of the bill (if constant) was probably not noticed by him. It is thus clear that the form from Timor and the one from the Sula Islands are most nearly allied, if they can be separated at all. It is certainly most unlikely that they are entirely the same forms, there being between Sula and Timor an enormous sea, and Burn,

Celebes, Banda, etc., being inhabited by other species. If they are separable by the bill only, then there arises the question whether to treat them as subspecies or species. The difference is so small that one is not easily convinced that it is of specific value, but the distribution seems to speak more in favour of specific separation. Doherty only got one \mathcal{P} on Sula Mangoli, in October 1897. He describes "the iris as deep brown; feet flesh-colour, claws slightly greyer; bill brown-black, gape reddish."

There is, in my opinion, no doubt whatever that Brisson's Merle vert des Moluques (Orn. II. p. 316) and Daubenton's Merle de Bengale (Planche 258) are referable to P. irena. Their localities are of course wrong, but the figure agrees with no other Pitta except P. maria Hart., which they cannot have known then, Sumba birds never having reached Europe in the last century. Fortunately the name brachyurus which was based on Daubenton's plate cannot be used, as Linnaeus had already named the South Indian Ant-Thrush Corvus brachyurus, though he confounded Brisson's description with it, in which the black throat peculiar to P. irena and absent in P. brachyurus is described.

18. Pitta dohertyi Rothsch.

In Bull. Orn. Club No. LI. (February 26th, 1898) this remarkable new Pitta has been described about as follows: & ad. Top of the head and nape brownish red, darker on the forehead, in the middle of which, at the base of the culmen, are a few pale bluish feathers. Entire throat and a ring round the neck black; the feathers in the middle of the throat with concealed white bases. A broad band across the lower throat and upper back-interrupted on the sides of the neck by a pale greenish spot—pale blue (each feather with black base), followed by a broad black band across the upper breast. Lower breast, entire abdomen, and under tail-coverts red, with white and black bases to the feathers. Back and scapulars olive-green, darker in the middle of the feathers. Least wing-coverts dark olive, the remainder blue with light whitish blue edges, those near the shoulder with partially or almost entirely white outer webs. Rump, upper tail-coverts, and tail pale blue. Quills black, tips brownish with a bluish wash; second to fifth primary with a white speculum, occupying the inner web only on the second, both webs on the third and fourth, and becoming smaller or even obsolete on the fifth primary. Secondaries with blue borders to the outer webs. Under wing-coverts brown. "Iris deep chestnut-brown; feet purplish grey; bill black, gape and tip of culmen dull ochreous." 99 mm.; tail 39; bill 20; tarsus 40. The female has the throat brownish black, the iris, according to the note on the label, "white, slightly bluish." Dimensions of the female a little smaller. The young bird has the iris "deep brown," the abdomen pale brown, mixed with the new red feathers, which come out by a perfect moult, the feathers of the throat light brown at base and at the tip, black on the sides.

Mr. Doherty got only three specimens, a male, a female, and a young male, all from Sula Mangoli.

The deep black throat and breast-band and the scaly appearance of the upper parts distinguish this bird at a glance from the other species with red abdomen.

19. Phylloscopus borealis (Blas.).

9, Sula Besi, November 1897.

20. Hypothymis puella blasii subsp. nov.

A series of 14 skins from Sula Besi and Sula Mangoli are at a glance distinguished from *Hypothymis puella puella* of Celebes, of which I have 22 before me, by their much deeper azure-blue colour on the entire upper surface as well as on the throat and fore-neck. This difference has already been noticed by Sharpe (cf. Cat. B. Brit. Mus. IV. p. 277). It is very constant. Judging from two poor native-made skins from Peling and Banggai, the birds inhabiting these islands belong also to H. p. blasii. They certainly are not H. puella puella. This subspecies is named after Prof. Wilhelm Blasius, who wrote several very careful articles on the birds of Celebes, and first drew attention to the differences of Celebensian Cinnyris frenata.

The iris of *Hypothymis puella blasii* is "dark brown; feet dark slaty blue; the bill blue, with black tip and nostrils."

21. Rhinomyias colonus sp. nov.

♂ ad. Above rufous brown, more olive on the head, and with the forehead indistinctly showing some of the pale basal shaft-stripes. Upper tail-coverts rufous. Wings dark brown, with rufous outer webs and narrow buff borders to the inner webs, innermost secondaries rufous on both webs. Rectrices bright rufous. Sides of the head pale brown, lores whitish. Throat and middle of abdomen whitish. Breast and sides of body light brown. Under tail-coverts pale rusty buff. "Iris brown; feet very pale purplish, claws darker; bill dull brown, culmen deep brown." L. t. ca. 170 mm., a. 77—78, c. 65—67, t. 18, r. (from end of feathering) 11 mm., culm. (from base of forehead) 18.5 mm. ♀ ad. Like the male, but smaller, wing only about 73 mm., and darker below. The darker colour below seems to be also due to immaturity.

Doherty collected this most interesting new species in Sula Mangoli and Sula Besi. It is not without some hesitation that I place it in the genus *Rhinomyias*, for its tail is rather long, its bill somewhat slenderer than in most species of that genus; the distribution too does not extend so far east to our knowledge, but there is no other genus into which it fits. *Rhinomyias insignis* Grant also differs somewhat from other species of the genus.

22. Monarcha inornatus (Garn.).

Common in Sula Besi and Sula Mangoli.

23. Pachycephala lineolata Wall.

Two skins from Sula Besi, both evidently adult birds, one marked &, the other \(\frac{2}{3}, \) both with brown iris, feet and bill blackish. Both are ashy grey above, white below, with a faint buff tinge in the middle of the abdomen, flanks somewhat brownish, breast distinctly washed with pale brownish grey in the male, less distinctly in the female. Quills deep blackish brown, with pale ashy outer edges and buff inner borders.

There is some difficulty about the name which this bird should bear. Messrs. Salvadori (Orn. Papuas. II. p. 229) and Gadow (Cat. B. Brit. Mus. VIII. p. 217) call it P. griseonota Gray. His type, however, seems to be an immature bird, and its locality is doubtful. In addition to this it seems very probable that the different

islands of the archipelago have produced different forms of this group of Pachycephala. Therefore more evidence should come forth to make sure that P. griseonota of Gray is the same as the Sula bird. Then Wallace described on p. 341 of P. Z. S. 1862 P. lineolata and P. rufescens, both from "Sula and Bourn Islands" (sic). It is Salvadori's opinion that P. lineolata is the young bird, while Gadow seems to consider it to be the female. I believe it is the immature dress. If P. lineolata and P. rufescens refer to the same species, then the name P. lineolata must stand, coming first on the page. It is, in my opinion, doubtful if the Burn form is exactly the same as the one from Sula, but more material must come to hand before we can decide about this. If the Burn bird differs, it will require a new name. Two specimens named P. rufescens, one from Sula and one from Burn (the latter with a "?"), are marked "type" in the British Museum, but these words were not written by the author himself.

24. Pachycephala clio Wall.

A large series from Sula Besi and Sula Mangoli. 3 ad. "Iris deep brown; feet bluish black; bill black." \$\gamma\$ ad. "Iris dull brown; feet pale leaden; bill black." Dr. Gadow's conclusion (Cat. B. Brit. Mus. VIII. p. 187) that P. merula (Less.) from the Moluccas, P. melanura Gould from Australia, P. clio Wall. from Sula ("and Buru"), and P. obiensis are all the same is not correct. There are three, if not four, distinct species or subspecies. The name clio clearly belongs to the Sula form.

25. Graucalus melanops (Lath.).

One male from Sula Besi. Messrs. Meyer & Wiglesworth have recorded it from Peling.

26. Graucalus schistaceus (Sharpe).

Sharpe (Cat. B. Brit. Mus. IV. p. 11) described a female. The male has the entire head and neck glossy black. The specimens from Peling and Banggai are exactly like those from Sula Mangoli, and the under wing-coverts are always of the colour of the breast and abdomen. "Iris very dark brown; feet and bill black." It was not found on Sula Besi.

27. Lalage leucopygialis Walden.

♀, October 1897, Sula Besi.

28. Edoliosoma obiense Salvad.

There is a series marked as *males* from Sula Mangoli and Sula Besi. With three *male* skins before me from Obi Major I cannot detect any tangible differences. The bill, nevertheless, is generally—but not always—a little shorter in the Sula specimens.

Then there are three specimens marked as females, which differ from the males in having the under parts paler grey and no black on the head. One of them shows remains of bars on the abdomen and rufous edges on some of the wing-feathers. I am not sure that these three so-called females are wrongly "sexed," for one male in moult from the first rufous plumage shows already traces of the black on the lores and sides of the head. If the sexes are right, then we are entirely in error about

the sexes of *E. obiense*; if they are wrong, then we must suppose that there is a plumage of paler colour and without black on the head between the rufous plumage of the youngest birds and that of the mature *male*.

29. Artamus monachus Bp.

One & from Sula Besi, with a shorter wing than our Celebes skins. The wing only 142 mm. long. "Iris dull crimson, outwardly orange."

30. Dicrurus pectoralis Wall.

A number from Sula Mangoli and Sula Besi. The iris of two adult birds is marked as orange, of a young bird as brown.

This form is distinguished from *D. leucops* Wall. from Celebes by the colour of the iris, which in the latter is white in adult birds. The differences supposed by Dr. Sharpe (Cat. B. Brit. Mus. III. p. 241) to exist in the coloration are not really to be found, but the bill is generally somewhat more elongated in *D. pectoralis*, and the wing distinctly shorter. While the latter measures 160—170 mm. in *D. leucops*, it is generally only about 150 in *D. pectoralis*, and in none of the 12 birds before me reaches above 155 mm.

31. Dicaeum sulaense Sharpe.

Sula Mangoli and Sula Besi.

"Iris deep brown; feet blackish; maxilla black, mandible deep brown with blackish tip."

32. Cinnyris frenata (S. Müll.) (? subsp.).

One immature male from Sula Besi. The bill seems very long.

33. Anthreptes malaccensis celebensis (Shell.).

From Sula Besi and Sula Mangoli. Quite like Celebes specimens.

34. Hermotimia auriceps (G. R. Gray).

Sula Besi and Sula Mangoli. They are quite different from the Celebensian *H. porphyrolaema*, and seem to be quite like Moluccan *H. auriceps*, but the Sula material is poor, and it is not impossible that there is a difference in size.

35. Zosterops subatrifrons M. & Wg.

Messrs. Meyer & Wiglesworth described this species from Peling. Doherty sent it from Sula Besi and Sula Mangoli. The latter do not seem to differ from the Peling form. Doherty describes the iris as "sepia-brown; the feet leaden grey; bill black, with the base of the mandible whitish."

36. Iole longirostris (Wall.).

Sula Mangoli and Sula Besi. 3 ad. "Iris dull crimson; feet pale purplish, with rosy soles; bill black, with the middle of the mandible paler." 2 ad. "Iris sepia, inwardly fuscous; feet very pale purplish, with rosy soles and greyish claws; bill blackish brown." The female is smaller. Wing of the male about 120—122 mm., of the female 110—111 mm Most of the specimens from Peling and Banggai are duller, but this difference does not seem to be quite constant, besides

that the Peling and Banggai skins before me are of the detestable "Celebes-make," the neck very much shortened, tail pushed in, part of lower abdomen and belly cut away, while Doherty's skins are rather thickly filled up. A nest with two eggs was found on Sula Mangoli. They are pinkish white, blotched and spotted all over with mostly somewhat longitudinal markings of brownish red, and deeper lying pale pinkish grey patches. The markings are more accumulated on the thicker end. The eggs thus resemble eggs of some species of the genus *Criniger* and *Pycnonotus*. They are large and measure 24 to 24·2: 20 to 21 mm.

37. Munia molucca molucca (L.).

Sula Besi and Sula Mangoli.

38. Calornis sulaensis Sharpe.

This excellent species (described Cat. B. Brit. Mus. XIII. p. 149) may, on account of its long tail, be described as a C. metallica with the colour of C. panayensis. It differs from C. panayensis and C. neglectus by its very much longer tail, which measures from about 95 to 110 mm., although in one female it is only 92 mm.

Doherty has sent specimens from Sula Besi and Sula Mangoli. The iris of adult and immature birds in striped plumage is red, but of very young ones it is brown.

Mr. Wallace records a specimen of *C. metallicus* as being collected on the Sula Islands by his assistant, Mr. Allen, which is now in the British Museum. Doherty did not find *C. metallica*.

39. Charitornis albertinae Schl.

Doherty has sent us one adult male and two adult females of this rare bird, all from Sula Mangoli. The sexes do not differ in plumage, but the colour of the iris is different, according to Doherty. The iris in the 3 is "white; the feet ochreous, with paler claws; the bill orange-yellow, more reddish orange towards the base of the mandible, which is black, like the naked throat and sides of the head." In the female these colours are the same, except that the iris is "chestnut."

40. Basileornis galeatus A. B. Meyer.

An evidently young male from Sula Mangoli. The feathers of the throat and foreneck have dull brown edges, the rectrices are rather pointed, the crest is very much shorter than in adult birds, of which I have a series before me from Banggai and an uncertain locality. "The feet are ochreous, claws nearly black; the maxilla blackish brown, pale towards the cutting edge, mandible and gape dull greyish white."

41. Corvus enca Horsf.

Several skins from Sula Mangoli. "Iris deep brown."

42. Oriolus frontalis Wall.

A large series from Sula Besi and Sula Mangoli. The young birds have the bills black; the *female* does not seem to acquire a totally black tail as old *males* do, but the basal part at least of the central rectrices is always more or less green. The iris of the adult *male* and *female* is "dull crimson; feet pale bluish leaden grey; bill whitish pink, somewhat purplish towards the tip."

43. Carpophaga paulina (Bp.).

There are seven skins from Sula Mangoli, but none from Sula Besi. Most of these birds are females or immature specimens; but it is remarkable that the spot on the hindneck is somewhat duller, and without the strong gloss which is seen in C. paulina from Celebes. If more adult males were at hand, it could no longer remain doubtful that the Sula bird differs subspecifically from the Celebes bird, but at present we cannot be certain about this. Mr. Doherty describes the iris of the Sula birds as "dull crimson; the feet beet-red, with blackish claws; the bill pale leaden blue, with whitish tip, the basal half purple above."

I may here remark that I do not believe in the distinctness of *C. pulchella* Wald. from the Togian Islands. It seems to differ from *C. paulina* merely in being more of a golden coppery colour above, but we have in the Tring Museum specimens from Celebes which are of the same golden coppery gloss, while others are quite green. The alleged smaller size of the single specimen of *C. pulchella* may well be disregarded, as it is very little and may be due to individuality.

44. Myristicivora luctuosa (Temm.).

Three females and one male from Sula Mangoli. Wings of the females 226—240 mm., of the male 223 mm.

45. Osmotreron wallacei Salvad.

A series from Sula Mangoli and Sula Besi.

46. Ptilinopus mangoliensis Rothsch.

"Resembles P. subgularis M. & Wg. in the absence of the rust-coloured spot on the abdomen, but differs from both P. gularis and P. subgularis in being greenish yellow on the under surface, all the feathers of these parts being light grey with very broad greenish yellow borders. The feathers of the crown have narrow subterminal yellowish lines. Wing: ♂ 165, ♀ 156 mm.; tail: ♂ 136, ♀ 130 mm." (W. Rothschild in Bull. Ornith. Club 1898. p. 34.) "Iris, outer ring crimson, inner greyish fuscous; feet beet-red, claws blackish; bill bright ochreous, nostrils and base of mandible laterally bright crimson."

Mr. Doherty has sent one ♂ and two ♀♀, all perfectly adult, shot on Sula Mangoli in November 1897.

47. Ptilinopus chrysorrhous Salvad.

Mr. Doherty sent a series of twenty specimens, nearly all adult males, from Sula Mangoli and Sula Besi. He notes the feet as being "beet-red or carmine, claws blackish; the iris greenish yellow; the bill brownish black, with a pale tip."

Comparing with this large series six males and three females from the islands of Peling and Banggai, between the Sula Islands and Celebes, I find that the latter are distinctly smaller. The wings of the males from Peling and Banggai are generally about 110 mm. long; those of the males from Sula Mangoli and Sula Besi are from 115 to 121 mm. long. Peling and Banggai males have the wings 109 to 114 (only one!) long, while those from the Sula Islands have them all 115 to 121 mm., but mostly about 120. Also the tails of the latter are longer. The race from Peling and Banggai should therefore be distinguished as

Ptilinopus chrysorrhous pelingensis subsp. nov.

48. Columba albigularis (Bp.).

One female, Sula Mangoli, October 1897. "Iris orange; feet anteriorly pale beet-red, posteriorly yellowish; bill, basal half carmine, terminal yellow." This specimen is rather brownish on the underside, the under tail-coverts are rather pale grey, the feathers of the chin and throat have dark greyish speckled edges, the wing is rather short, measuring only 215 mm., while in skins from New Guinea and the islands to the north of Celebes (Gunong Api, Tagulandang) it measures 225 to 240 mm. However, all these differences should be registered from more than a single skin before a name is given to the Sula bird. It must also be said that the wings are very much abraded, and can therefore not be measured minutely, and that the throat appears to be somewhat soiled.

49. Macropygia albicapilla Bp.

Sula Besi and Sula Mangoli.

50. Chalcophaps indica (L.).

Sula Besi and Sula Mangoli.

51. Megapodius bernsteini Schl.

A magnificent series from Sula Mangoli. "Iris chestnut; feet bright red or bright orange, toes blackish in front; bill brownish fuscous." The *female* seems to be a little smaller than the *male*. The chick is like that of other species.

52. Hypotaenidia sulcirostris (Wall.).

There is a series of six from Sula Mangoli, none from Sula Besi. In both sexes the iris is "bright crimson, the feet greyish fuscous, the bill black." This rare species is easily distinguished from *H. celebensis* by its much more rufous brown and less olive upper surface. It is also a stronger, more massive bird, with a larger beak. The entirely black throat, which generally distinguishes it from *H. celebensis*, is sometimes also found in very old *H. celebensis*, while young *H. sulcirostris* have the throat also finely streaked with white.

Dr. Sharpe redescribed *H. sulcirostris*, which had been described by Wallace in 1862 and figured in *Ibis* 1880 (tab. vi.), under the name of *H. jentinki* in *Notes Leyden Museum* XV.p. 268.

53. Amaurornis moluccana (Wall.).

One female from Sula Mangoli, October 1897. "Iris dull orange; feet light fuscous brown; bill pea-green, culmen darker, base of maxilla orange." Wing 140 mm.; tarsus 43 mm.; bill 26 mm.

I can see no differences between this and specimens from New Guinea.

54. Numenius phaeopus variegatus (Scop.).

Sula Mangoli.

55. Querquedula querquedula (L.).

One female, November 1897, Sula Mangoli.



Hartert, Ernst. 1898. "List of a collection of birds made in the Sula Islands by William Doherty." *Novitates zoologicae : a journal of zoology in connection with the Tring Museum* 5, 125–136. https://doi.org/10.5962/bhl.part.1648.

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