considered by Dr. Finsch as the young male of *Ps. passerina*, but which I believe to be a distinct species. It may be described as follows :—

PSITTACULA CYANOCHLORA. (Plate XXXVIII. fig. 2.)

♂. *Supra psittacino-viridis, nonnihil obscurius adumbrata ; capitis lateribus et gastræo toto dilutius et subflavescenti-viridibus ; tergo, uropygio et supracaudalibus pulchre smaragdino-viridibus ; rectricibus viridibus, pogoniis internis marginem versus flavicantibus ; alarum tectricibus minoribus dorso concoloribus majoribus (remig. sec. ord.) cyanescentibus, in malachitaceum vergentibus, nonnullis subelongatis et angustatis, cobaltino-cæruleis ; subalaribus pulchre et extense cobaltinis ; margine interno alari e malachitaceo viridi ; rostro toto pallido ; pedibus incarnatis : crassitie* Ps. passerinæ.

Hab. Rio Brancho (*Natterer*).

There is a young male *Ps. passerina* in the Bremen Collection which resembles *Ps. cyanochlora* in most respects. But there are some differences, and amongst them there is *one* which I consider to be rather important. In this "young male" of Caracas the *cobalt-blue spot on the subalares is very small and has evidently not yet reached its full extension.* In *cyanochlora* you will observe that the cobalt-blue of the subalares has the *greatest possible extension*, just as in the *old male* of *passerina*. Now this is very curious, and very much in favour of my opinion.

The colour of the *tectric. major.* is very similar in the Caracas bird and in *Ps. cyanochlora*, but it is brighter in the latter. The curious one or two narrow elongated dark-blue feathers are to be found in both birds.

The emerald-green colour of the rump is also the same in both birds, it being only a little brighter in *Ps. cyanochlora*.

The green colour of the upper parts is much lighter and purer in the Caracas bird, and the sides of the head and the whole under-parts are of a different green, finer, more emerald, and less ellowish than in *Ps. cyanochlora*.

2. Report on the Collection of Birds formed during the Voyage of the Yacht 'Marchesa.'—Part VI. New Guinea and the Papuan Islands. By F. H. H. GUILLEMARD, M.A., M.D., F.L.S., &c.

[Received June 2, 1885.]

(Plate XXXIX.)

The 'Marchesa,' on leaving the Moluccas, proceeded to the islands lying off the north-west coast of New Guinea. Batanta and Waigiou were first visited ; and from the former, in the neighbourhood of a fine bay discovered at the east end (which was roughly surveyed,

and named after the yacht), several specimens of Wilson's Bird of Paradise were obtained. In Waigiou, during the month of October, we found many females and immature males of *Paradisea rubra*, but the male in full plumage seemed very rare. Our search for the lovely *Rhipidornis gulielmi* III. was quite unsuccessful, and though I inquired of many natives concerning it, none of them had any knowledge of it. Leaving some hunters both in this island and Salwatti, we proceded to Dorei Bay, where three Dutch missionaries are stationed ; the only white men in the whole of Dutch New Guinea. These gentlemen were of great help to us, and it was through their assistance that we were able to obtain so large a collection of birds from the slopes of the Arfak mountains ; a region that we ourselves were unfortunately unable to visit in person, owing to our restricted time and the fact that our flour and other provisions had already come to an end. After visiting Jobi, an island that proved, ornithologically speaking, very unproductive for us, save in specimens of *Paradisea minor*, we returned to Dorei Bay. After a short stay for arranging our Arfak specimens and various other purposes, we proceeded on our return journey ; and on arriving at Samatee in the island of Salwatti, we were pleased to find that our hunters had succeeded in obtaining for us a living specimen of the exquisite Twelve-wired Bird of Paradise (*Seleucides nigricans*). The island, however, not proving very rich in bird-life, we decided to go southward to Mysol, and found our way with some little difficulty through a network of small islands and shoals to Efbee, a little village on the south coast. Here we left five of our hunters with directions to proceed if possible to the west part of that island, and, after making a short survey of the harbour, we sailed for Amboina in order to reprovision the ship.

The Aru islands were the next localities visited by the 'Marchesa,' but the result was singularly unsuccessful. The season was unhealthy, and the ship's company suffered considerably from fever and scurvy. We accordingly returned to Mysol, picked up the hunters we had left upon the island, and, merely touching for a day or two at Batchian *en route*, we anchored once more in the roadstead of Ternate.

The collection thus obtained was a very large one, and numbered examples of close on two hundred and thirty species, of which two hundred and thirteen are noticed in the following pages. The collection of the Birds of Paradise was an exceedingly rich one, consisting of *Parotia sexpennis*, *Lophorhina superba*, *Paradigalla carunculata*, *Astrapia nigra*, *Epimachus speciosus*, *Drepanornis albertisi* and *D. bruijni*, *Ptiloris magnifica*, *Seleucides alba*, *Semioptera wallacei*, *Paradiseæ minor*, *apoda*, and *rubra*, *Diphyllodes speciosa*, *chrysoptera*, and *wilsoni*, *Cicinnurus regius*, and *Xanthomelus aureus*. The series of many of the above were very large, and the whole formed what is without doubt the finest collection that has hitherto been brought from New Guinea and its islands. But the thoroughness of the work of previous explorers, such as Wallace, Beccari, Von Rosenberg, and D'Albertis, is shown from the fact that among the many hundred skins obtained by the 'Marchesa's' party, not one single new species

occurs, although fresh localities have been assigned to many. The expedition likewise failed in solving the problem of the nesting of the *Paradiseidæ* in spite of every inquiry having been made, and large rewards offered for the eggs of any of the species. Among many living birds brought back by the 'Marchesa,' and presented by Mr. C. T. Kettlewell to the Society, were three fine examples of *Paradisea minor*, which have now been in the Gardens for nearly a year and are still in good health. The *Seleucides* unfortunately died on the voyage home.

The present paper concludes the series on the birds collected during the 'Marchesa's' voyage. It is to be regretted that, in the present days of ocean yachting, more yacht-owners do not follow Mr. Kettlewell's example, and strive by private enterprise to add somewhat to our knowledge of those countries that have been left so long unexplored.

1. Haliastur girrenera (Vieill.).

Haliastur girrenera, Salvad. *op. cit.* vol. i. p. 15.

a. Jr. Waigiou.

2. Baza reinwardti (Müll. et Schleg.).

Baza reinwardtii, Salvad. *op. cit.* vol. i. p. 26.

a. ♂. Dobbo, Aru.

b. Aru.

c. Waigiou.

Iris yellow; tarsus and feet yellow; bill dark slate. Length (example *a*) 40 centims.; wing 29 centims.

Salvadori does not mention the occurrence of this species in Waigiou.

3. Astur leucosoma (Sharpe).

Leucospizias leucosomus, Salvad. *op. cit.* vol. i. p. 42.

a. ♀. Arfak (*Bruijn*).

The feet and tarsi are yellow in the dried skin, and are doubtless so in the living bird.

4. Astur poliocephalus (G. R. Gr.).

Urospizias poliocephalus, Salvad. *op. cit.* vol. i. p. 45.

a. ♂. Wammar, Aru.

Iris brown; bill black; skin round eye and at base of bill orange; feet orange, claws black. Length 37·8 centims.; wing 21·2 centims.

5. Astur torquatus (Cuv.).

Urospizias torquatus, Salvad. *op. cit.* vol. i. p. 60.

a. ♀. Batanta.

Batanta is a new locality for this species, but Wallace obtained it in Waigiou.

6. Astur melanochlamys (Salvad.).

Urospizias melanochlamys, Salvad. *op. cit.* vol. i. p. 63.

a. ♂. Arfak (*Bruijn*).

Mr. Gurney, who has kindly assisted me in the identification of many of the birds of prey collected during the voyage of the 'Marchesa,' writes:—"This specimen agrees with the description given in Salvadori's Orn. della Pap. with the following exceptions:—The under wing-coverts are whole-coloured dark maroon like the breast, except the lowest row, which are pale fawn. Also no spots are visible either on remiges or rectrices, and the bill is only partially black, the lower mandible and the sides of the upper, next the gape, being horn-yellow."

7. Cacatua triton (Temm.).

Cacatua triton, Salvad. *op. cit.* vol. i. p. 94.

a. ♂. Salwatti.
b. ♀. Mysol.
c. Arfak.

Iris brown; bill and legs black. Length 48·6–49·5 centims.; wing 28·5–30 centims.

The Arfak bird is considerably larger than the other birds. The crest is very full and long, not pointed, and not recurved. From the base of the bill to the end of the crest is 17·0 centims., as against 13·0 and 13·5 centims. of the other examples. The bill also is much larger.

8. Microglossus aterrimus (Gm.).

Microglossus aterrimus, Salvad. *op. cit.* vol. i. p. 107.

a. ♂. Salwatti.
b. ♂. Dorei (*vix ad.*).
c. ♀. Waigiou.
d. Jr. Momos, Waigiou.

Iris dark brown; bare skin red; bill and legs black. In the young bird the maxilla is dark brown, whitish at tip; the mandible stone-colour, white at the tip; the feathers of the abdomen finely barred with light yellow, and the tail-feathers much pointed.

This species gets extremely tame in confinement, appears torpid, and is very deliberate in its movements.

9. Nasiterna bruijni, Salvad.

Nasiterna bruijni, Salvad. *op. cit.* vol. i. p. 115.

a, b. ♂. Arfak.
c. ♀. Arfak.

Obtained from Mr. Bruijn of Ternate.

10. Nasiterna pygmæa (Q. et G.).

Nasiterna pygmæa, Salvad. *op. cit.* vol. i. p. 117.

a. ♂. Mysol.
b. ♀. Mysol.

Iris, bill, and feet brown ; length 9·4–10·0 centims. (Salvadori gives 7·8 centims. !) ; wing 5·7–5·9 centims.

11. Tanygnathus megalorhynchus (Bodd.).

Tanygnathus megalorhynchus, Salvad. *op. cit.* vol. i. p. 129.

a, b. ♂. Momos, Waigiou.
c, d. ♀. Momos.
e. ♂. Samatee, Salwatti.

Iris whitish yellow ; bill scarlet ; tarsus dull olive. Length 38·0–42·3 centims. Salvadori gives 43–46 centims. as the total-length measurements ; these have possibly been taken from the dried skin. The Salwatti bird is bluish on the head, not green.

12. Aprosmictus dorsalis (Q. et G.).

Aprosmictus dorsalis, Salvad. *op. cit.* vol. i. p. 140.

a. ♂. Batanta.
b. ♀. Andai.
c. ♀. Chabrol Bay, Waigiou.
d. ♀. Samatee, Salwatti.
e. New Guinea.

Iris orange ; bill black, red at base of maxilla ; tarsus dirty yellow, sometimes olive-green or brownish.

One of the females only has the interscapulars green.

13. Psittacella brehmi (Rosenb.).

Psittacella brehmii, Salvad. *op. cit.* vol. i. p. 145.

a. ♂. Arfak.
b. ♀. Arfak.

Obtained by the hunters in the neighbourhood of Hatam.

The bill of the male is much larger than that of the female.

14. Cyclopsittacus occidentalis, Salvad.

Cyclopsittacus occidentalis, Salvad. *op. cit.* vol. i. p. 152.

a, b. ♂. Samatee, Salwatti.

Iris brown ; bare space round eye blackish ; bill black ; tarsus dark greenish. Length 23·0 centims. ; wing 11·3 and 11·6 centims.

Very like *C. blythi* from Mysol, but quite distinct in having the azure subocular spots, and differing from *C. desmaresti* in wanting the blue nuchal patch.

15. Cyclopsittacus blythi, Wall.

Cyclopsittacus blythi, Salvad. *op. cit.* vol. i. p. 154.

a–d. ♂. Mysol.
e–g. ♀. Mysol.

Iris brown ; bill black ; tarsus dull olive. Length 22·8–25 centims. ; wing 11·3–11·7 centims.

This series shows *C. blythi* to be a perfectly good species. The individuals vary a good deal in colour, some having the underparts much brighter than others. Thus in one they are almost grass-

green, while in another, a female, there is a broad pectoral band of orange, and the breast and abdomen are tinged with that colour. In two males and a female, all of which have a general green rather than orange colouring, a feather or two beneath the eye, corresponding to the position of the subocular spot in *C. occipitalis*, are slightly tipped with greenish blue.

16. Cyclopsittacus diophthalmus (Hombr. et Jacq.).

Cyclopsittacus diophthalmus, Salvad. *op. cit.* vol. i. p. 158.

a–d. ♂. Mysol.

e–h. ♀. Mysol.

Iris brown; bill black; feet dull olive. Length 14·5–15·4 centims.; wing 8·3–8·9 centims.

Besides the absence of the red on the cheeks, the female differs from the male in the red not shading into golden yellow on the vertex as in the latter.

17. Cyclopsittacus aruensis (Schleg.).

Cyclopsittacus aruensis, Salvad. *op. cit.* vol. i. p. 161.

a, b. ♂. Dobbo, Aru.

Iris dark brown; tarsus olive-green; bill dark slate. Length 15·8, 16·2 centims.; wing 8·6, 8·4 centims.

18. Geoffroyus pucherani, Bp.

Geoffroyus pucherani, Salvad. *op. cit.* vol. i. p. 184.

a. ♂. Batanta.

b. ♀. Batanta.

c. ♂. Waigiou.

d, e. ♂. Mysol.

Iris greyish yellow; bill, maxilla of ♂ red, white at the tip, mandible dark slate, both slate-colour in the ♀; tarsus olive-green. Length 27·5–28·0 centims.; wing 15·0–17·0 centims.

19. Geoffroyus jobiensis (Meyer.)

Geoffroyus jobiensis, Salvad. *op. cit.* vol. i. p. 187.

a. ♂. Ansus, Jobi.

b. ♀. Ansus.

Iris yellow; bill, in male maxilla red, mandible black; in the female both black; feet olive-grey. Length 27·2; wing 16·6 centims.

The red of the back is brighter than in *G. pucherani*; the under wing-coverts are light cobalt, not azure, and in the female the head is of a clearer brown.

20. Eclectus pectoralis (P. L. S. Müll.).

Eclectus pectoralis, Salvad. *op. cit.* vol. i. p. 196.

a–c. ♂. Waigiou.

d, e. ♀. Waigiou.

f. ♂. Batanta.
g. ♂. Dobbo, Aru.

Iris red in the male, yellow or orange in the female. Maxilla of male rosy red, mandible black; bill of female entirely black; feet dull olive-green. Length of birds from N.W. islands, 38·7–41·4 centims.; wing 24·8–27·0 centims. The Aru bird is larger (44·4 and 28·0 centims.); but does not otherwise differ. A Waigiou male is partially albino, having the 1st, 4th, and 7th primaries of the left side, and the 1st, 3rd, and 7th of the right snowy white.

21. Dasyptilus pesqueti (Less.).

Dasyptilus pesqueti, Salvad. *op. cit.* vol. i. p. 216.

a. Arfak.
b, c. Dorei.

All in similar plumage, except that in one the inner primaries are not tipped with red. These birds were obtained by the hunters; I never saw the species except one specimen in confinement, in the house of Mr. van Bruijn Morris, the Resident of Ternate. It was fed almost entirely upon bananas.

22. Lorius lory (Linn.).

Lorius lory, Salvad. *op. cit.* vol. i. p. 223.

a–c. ♂. Waigiou.
d–f. ♀. Waigiou.
g. Waigiou?
h, i. ♂. Andai.
k. ♂. Mysol.
l. Salwatti.

Iris light yellow in the adult, yellowish brown in immature birds. Bill bright orange-red; tarsus black. The individual marked "Waigiou?" has the throat and breast red, and the blue of the nape does not join that of the under surface. It thus corresponds to Salvadori's *L. erythrothorax*, but is evidently only a variety of *L. lory*. One of the examples from Andai is immature, and has the greater series of under wing-coverts yellow, with black tips, and the middle and lesser striped red and blue. The two median rectrices are green subterminally, and there are some scarlet feathers intermixed with the blue of the mantle. The only example obtained from Salwatti is characterized by the large extent of blue occupying the throat.

This species was found to be extremely abundant in Waigiou.

23. Eos wallacei, Finsch.

Eos wallacei, Salvad. *op. cit.* vol. i. p. 255.

a. ♀. Napriboi, Waigiou.

Iris "brick colour;" bill orange; tarsus greyish. Length 29·0 centims., wing 15·0 centims. A much brighter species than the Moluccan representative, *E. riciniata*, the red being more intense.

24. Eos fuscata, Blyth.

Eos fuscata, Salvad. *op. cit.* vol. i. p. 263.

a. ♂. Andai.

Iris, inner ring orange, outer white; bill orange; tarsus black; pectoral bands and abdomen red. Another individual, obtained alive from Jobi, was also of the red variety.

25. Chalcopsittacus ater (Scop.).

Chalcopsittacus ater, Salvad. *op. cit.* vol. i. p. 269.

a, b. ♂. Samatee, Salwatti.
c, d. ♀. Samatee.
e–h. ♂. Efbe, Mysol.
i, k. ♀. Efbe.

Iris, inner ring yellow, outer red; bill and feet black. Length 36–39 centims.; wing 18·5–19·8. These measurements are considerably in excess of those given by Salvadori (long. 33 centims., wing 17–18 centims.).

In this series the Mysol birds can at once be distinguished from those of Salwatti by the brighter blue of the back and uropygium, and by the tendency to red coloration in various parts of the body. Thus, in all the examples *e–k* the tibials are more or less red, in some very brightly so. There is no trace of this in any of the birds from Salwatti. All the Mysol birds have the feathers of the forehead washed with red, all have the carpal margin more or less marked with that colour, one of them very strongly so, and in four individuals the greater series of under wing-coverts are similarly characterized, while some of the primaries have a patch of reddish yellow on the inner web. While in Mysol I twice saw a bird in a flock of others, which had the front part of the head bright red, apparently much as in *C. scintillatus*.

This species was abundant in Mysol, in flocks of from 10 to 20 individuals. One that lived in confinement on board the 'Marchesa' for some months became excessively tame.

26. Chalcopsittacus scintillatus (Temm.).

Chalcopsittacus scintillatus, Salvad. *op. cit.* vol. i. p. 274.

a, b. ♂. Dobbo, Aru.

Iris yellow; bill and tarsus black.

27. Trichoglossus cyanogrammus, Wagl.

Trichoglossus cyanogrammus, Salvad. *op. cit.* vol. i. p. 279.

a–e. ♂. Mysol.
f–i. ♀. Mysol.
k. ♀. Chabrol Bay, Waigiou.
l, m. ♂. Salwatti.
n. ♂. Batanta.
o. ♀. Batanta.
p. ♀. Andai.

Iris orange-red; bill reddish orange; feet brownish olive. Length 25·5–29·0 centims.; wing 13·0–14·7 centims.

28. Trichoglossus nigrigularis, G. R. Gr.

Trichoglossus nigrigularis, Salvad. *op. cit.* vol. i. p. 292.

a–g. ♂. Dobbo, Aru.

h. ♀. Dobbo.

Iris orange; bill bright orange-red; feet greyish black. Length 27·0–31·7 centims.; wing 14·8–15·5 centims.

The last of the series has the breast yellowish orange, and the feathers tipped with green, not dark blue. There is a large amount of variation among the individuals, the abdomen being green in some, in others bluish black. In one, the nuchal collar is yellow-orange, much marked with red, instead of greenish yellow, as it is usually.

T. nigrigularis, a common bird at Dobbo especially, differs from *T. cyanogrammus* in the greater length of tail and wing.

29. Trichoglossus rosenbergi, Schleg.

Trichoglossus rosenbergi, Salvad. *op. cit.* vol. i. p. 298.

a. ♂.

Iris yellow; bill scarlet; tarsus dull olive-green. Length 23·5 centims., wing 12·4, tail 7·5, tarsus 1·6.

This bird was obtained from a native of Dorei Bay, and was kept in captivity for some time. It agrees in almost every particular with Salvadori's description, but is smaller. It is also much smaller than the example of *T. rosenbergi* in the British Museum. The only noticeable difference in the plumage is that the inner web of the first primary is yellow washed with red, the next is more red, and so on till the fourth, which is entirely red. The entirely blue head, the broad yellow nuchal collar, the narrow brownish-red collar above it, and, lastly, the red inner webs of the primaries, serve at once to distinguish this species from *T. cyanogrammus*.

30. Neopsittacus muschenbroeki (Rosenb.).

Neopsittacus muschenbroekii, Salvad. *op. cit.* vol. i. p. 300.

a, b. Arfak.

c, d. Vix ad. Arfak.

e, f. Jr. Arfak.

g. Jr. Arfak (*Bruijn*).

h. Arfak (*Bruijn*).

Examples *c* and *d* are nearly adult, but the tips of the greater series of under wing-coverts are dull greenish brown. Examples *e* and *f* have but a slight amount of red on the breast, but in *h* this colour commences at the chin.

31. Coriphilus wilhelminæ (Meyer).

Coriphilus wilhelminæ, Salvad. *op. cit.* vol. i. p. 302.

a. ♀. Arfak (*Bruijn*).

32. Coriphilus placens (Temm.).

Coriphilus placens, Salvad. *op. cit.* vol. i. p. 303.

a. ♂. Chabrol Bay, Waigiou.

b, c. ♀. Chabrol Bay.
d. Juv. ♂. Mysol.
e. ♂. Arfak.

Iris red or yellow; bill and feet bright red. Length 17·7–18·5 centims.; wing 8·6–9·0 centims.

The Arfak bird has no yellow on the first three primaries, in the others the first two only are without the yellow patch; the head is more distinctly yellow. The species has, I believe, not been previously obtained from this district.

33. Oreopsittacus arfaki (Meyer).

Oreopsittacus arfaki, Salvad. *op. cit.* vol. i. p. 315.

a. ♂. Arfak.
b. ♀. Arfak.

34. Charmosynopsis pulchella (G. R. Gr.).

Charmosynopsis pulchella, Salvad. *op. cit.* vol. i. p. 317.

a–c. ♂. Arfak.
d. ♂ *vix ad.* Arfak.
e. ♀ *vix ad.* Arfak.
f. Jr. ♂. Arfak.

The thighs are slightly streaked with yellow in all. The young bird has the plumage of the adult, except that the breast is greenish and unstriped with yellow. It is also peculiar in having the inner webs of the flight feathers (beginning with the third) yellow towards the base. This seems to be a not uncommon characteristic of immaturity in other allied genera.

35. Charmosyna papuensis (Gm.).

Charmosyna papuensis, Salvad. *op. cit.* vol. i. p. 320.

a–c. ♂. Arfak.
d–g. ♀. Arfak.
h–k. Vix ad. Arfak.
l. Jr. Arfak.

In all the last four examples, the inner webs of some of the primaries at the base are yellow. The individual *l* has the under surface barred, and the tail short.

The long tail-feathers of this species appear to be naturally wavy from their first appearance.

36. Charmosyna josephinæ (Finsch).

Charmosyna josephinæ, Salvad. *op. cit.* vol. i. p. 325.

a. ♂. Arfak (*Bruijn*).

37. Cuculus canoroides, S. Müll.

Cuculus canoroides, Salvad. *op. cit.* vol. i. p. 328.

a. ♂. Momos, Waigiou, Nov. 12.
b. ♀. Momos, Oct. 25.
c, d. Jr. Waigiou, Nov. 12 and 15.
e. ♀. Wammar, Aru, Dec.

Iris yellow, brown in the young bird; bill black, greenish or yellowish at base of lower mandible; tarsus chrome-yellow. Length of example *b*, 33·4 centims.; wing 20·5 centims.

None of the above are in perfect plumage.

38. Chrysococcyx meyeri (Salvad.).

Lamprococcyx meyerii, Salvad. *op. cit.* vol. i. p. 346.

a. ♀. Arfak.

Bill black; feet ash-coloured. Wing 9·4 centims. This individual has the whole sinciput chestnut, which was found to be the case in the only six females examined by Salvadori, though the colour was more restricted in some cases than in others. It is therefore not improbable that it is a constant sexual peculiarity.

39. ? Eudynamis rufiventer (Less.).

Eudynamis rufiventer, Salvad. *op. cit.* vol. i. p. 368.

a. ♂ *ad.* Traitors Islands (N. of Jobi I.).

b. ♂ (?). Traitors Islands.

c. ♂ (?). Traitors Islands.

d. ♀. Waigiou.

The above birds were all obtained from Mr. Bruijn of Ternate, and are unaccompanied by notes on the colour of the soft parts. The first, *a*, is a male in full plumage; *b*, also marked ♂, has the head, neck, and interscapulars shining bluish green, the rest of the back and wings spotted with white, the tail barred with rufous-white. The chin and throat are black, the upper breast rufescent, and the whole of the rest of the under surface white, barred with black. Example *c*, from the same locality, differs from the last in having the upper surface spotted indiscriminately with white and rufous, and the whole under surface rufous barred with black. The last individual, *d*, from Waigiou, has the upper surface spotted with rufous; the under parts rufous barred with black. The diagnostic points given by Salvadori—

"fœmina supra albo-maculata; gastræo albido .. *E. cyanocephala.*"
"fœmina supra rufo-maculata; gastræo rufescente. *E. rufiventer.*"

are thus inapplicable.

40. Nesocentor menebiki (Garn.).

Nesocentor menebiki, Salvad. *op. cit.* vol. i. p. 377.

a. ♂. Mysol.

b. ♂. Samatee, Salwatti.

c. ♀. Dorei.

Iris red, in the Dorei bird yellow, with an outer ring of brown; bill yellowish, dark at the base; feet dark horn-colour. Length 65·5–66·4 centims., wing 20–23.

41. Rhytidoceros plicatus (Penn.).

Rhytidoceros plicatus, Salvad. *op. cit.* vol. i. p. 392.

a. ♂. Momos, Waigiou.

b. ♀. Momos.

Iris of male orange, of female yellow; bill pale yellowish white, reddish at base; tarsus black. Length of male 90·5 centims., of female 78·5.

Both old birds, with the edges of the bill much notched. The male has six maxillary plaques; the female only four.

42. ALCYONE LESSONI, Cass.

Alcyone lessoni, Salvad. *op. cit.* vol. i. p. 410.

a. ♀. Batanta.

Iris brown; bill black; feet bright red-orange. Length 14·0 centims., wing 7·8.

A small specimen as compared with Salvadori's measurements, in which the length is given as 16·5–17·5 centims.

43. ALCYONE PUSILLA (Temm.).

Alcyone pusilla, Salvad. *op. cit.* vol. i. p. 414.

a. ♂. Waigiou.

b. Batanta.

Iris brown; bill black; feet clear brown. Length of Batanta example 13 centims.

Salvadori does not mention Batanta as a locality for this bird.

44. CEYX SOLITARIA, Temm.

Ceyx solitaria, Salvad. *op. cit.* vol. i. p. 420.

a, b. ♂. Salwatti.

c, d. ♀. Salwatti.

e. ♀. Waigiou.

Iris brown; bill black; tarsus orange. Length 13·5–14 centims.; wing 5·4 centims.

This species has never previously been recorded from Waigiou.

45. TANYSIPTERA GALATEA, G. R. Gr.

Tanysiptera galatea, Salvad. *op. cit.* vol. i. p. 438.

a–c. ♂. Batanta.

d, e. ♂. Andai.

f, g. ♀. Andai.

h, i. ♂. Waigiou.

k, l. ♀. Waigiou.

Iris brown; bill brilliant coral-red; feet yellowish green.

Common; but difficult to obtain in good plumage.

46. HALCYON NIGROCYANEA, Wall.

Halcyon nigrocyanea, Salvad. *op. cit.* vol. i. p. 457.

Halcyon quadricolor, Oustal. Le Nat. 1880, p. 323; Sharpe, Birds of N. G. part 13.

a, b. ♂. Ansus, Jobi (*Bruijn*).

c. ♂. Ansus (*Bruijn*).

The series is interesting as proving the identity of *H. nigrocyanea*,

and *H. quadricolor* of Oustalet. Example *a* is a typical individual of the former; *c* has the chestnut abdomen, and corresponds to the description and figure of the latter. It is noteworthy that in all other respects it agrees perfectly with *a*, though the colouring is somewhat brighter. The third, *b*, resembles *a*, but the blue abdomen shows a few scattered chestnut feathers, which are sufficient to make the identity of the two species evident. The skin is labelled ♂, which is most probably correct; and it would therefore seem most likely that *H. quadricolor* is a young stage of the male of *H. nigrocyanea*. It should be mentioned, however, that example *c* shows no sign of immaturity, and it is therefore quite possible that it may be a variety.

47. SAUROPATIS SAUROPHAGA (Gould).

Sauropatis saurophaga, Salvad. *op. cit.* vol. i. p. 468.

a–c. ♂. Mysol.
d. Jr. ♂. Mysol.
e. ♀. Mysol.
f. ♂. Waigiou.
g. ♀. Dorei.

Iris brown; bill as in *S. chloris*; feet brownish black. Length 28–29·8 centims.; wing 11·8–12·8 centims.

Individuals are of bluish or greenish shade, without reference to locality or sex. Example *d* has the beak and tail short, the breast delicately barred with brownish black, the wing barred with white. This species haunts the mangroves on the shores of most of the Papuan islands in abundance.

48. SAUROPATIS SANCTA (Vig. et Horsf.).

Sauropatis sancta, Salvad. *op. cit.* vol. i. p. 476.

a. ♀. Waigiou.
b. ♀. Batanta.

Iris brown; bill as in *S. chloris*; tarsus grey. Length 21 centims.

49. SYMA TOROTORO, Less.

Syma torotoro, Salvad. *op. cit.* vol. i. p. 482.

a, b. ♂. Salwatti.
c. ♂. Waigiou.
d. ♀. Waigiou.
e. Jr. ♀. Waigiou.

Iris brown; bill and feet bright yellow. Length 21·5–22·4 centims.; wing 8·2 centims.

The immature female has a shading of brownish black on the vertex and a regular black collar. Bill and tail shorter; the former dusky yellow; otherwise resembles adult.

S. torotoro seems somewhat rare. It is found in the forest, not on the coast, and appears to feed entirely on insects.

50. SAUROMARPTIS GAUDICHAUDI (Q. et G.).

Sauromarptis gaudichaudi, Salvad. *op. cit.* vol. i. p. 487.

a–h. ♂. Waigiou.
i–n. ♀. Waigiou.
o–r. ♀. Batanta.
s. Jr. ♂. Batanta.
t–x. ♂. Mysol.
y, z. ♀. Mysol.
a′, b′. ♀. Aru.
c′. ♀. Salwatti.

Iris brown; bill greenish yellow; tarsus pale olive-green. Length 31·7–34 centims.; wing 13·5–14·5 centims.

In spite of Salvadori's opinion to the contrary, I cannot help regarding the blue-tailed bird as the male, and the chestnut tail as, in adult individuals, an invariable mark of the female sex. Salvadori holds that the females also assume the blue tails, but only in extreme adult life; and, secondly, that the male has at first a chestnut tail, but assumes the blue tail at an early stage.

The present series does not bear this first assertion out. Without a single exception all the adult examples with chestnut tails are marked ♀; all those with blue tails ♂. Among the former are some which are undoubtedly old birds, with the maxilla worn and notched at the edge, but the tails show no sign of turning blue. Again, in Salvadori's series of 98 individuals, of those labelled as ♀, with the tail blue, two only have Beccari's initial appended; the rest are birds obtained from Bruijn. Conversely, of those labelled ♂ with a chestnut tail, all are from Bruijn with the exception of two, which are of Beccari's collecting. I do not for a moment wish to imply that Mr. Bruijn's collectors are more unreliable than natives usually are, but I can only say that of my own hunters there was but one on whom I could depend for the accurate determination of sex.

The females have not the same deep glossy black back as the males, and the scapulars are in no case edged with blue. Example *s* is a young bird, with a very short beak and tail; the collar, eye-streak, loral spot, and sides of throat are fulvous; the blue on the wings is much paler; the tail beneath is red as in the female, but on the upper surface the basal half is strongly tinged with blue. It is a male. The bill is greenish black; basal half of mandible whitish.

51. MELIDORA MACRORHINA (Less.).

Melidora macrorhina, Salvad. *op. cit.* vol. i. p. 500.

a. ♂. Waigiou.
b. Jr. ♂. Waigiou.
c. ♀. Waigiou.
d. Jr. ♀. Dorei.

Iris brown; bill—maxilla very dark brown, mandible greenish yellow; feet greenish brown. Length of adult 33·7 centims.; of immature birds 27·0 and 29·5 centims.; wing 11·5 centims.

The immature examples have the whole under surface fulvous, becoming albescent on the abdomen. On the breast and throat each feather is edged with brownish black. Feathers of forehead and vertex tipped with dull green, surrounded by a dull cobalt line, with an ill-marked rufous collar posteriorly. The ochraceous edging of the feathers of the back and wings is devoid of any green tinge.

52. EURYSTOMUS ORIENTALIS, Linn. (var. *pacificus*).

Eurystomus pacificus, Salvad. *op. cit.* vol. i. p. 503.
Eurystomus orientalis, Salvad. *op. cit.* vol. i. p. 508.

a. ♂. Jobi.
b. ♀. Jobi.
c. ♂. Batanta.
d. Andai.

53. EURYSTOMUS CRASSIROSTRIS, Sclat.

Eurystomus crassirostris, Salvad. *op. cit.* vol. i. p. 510.

a. ♀. Efbe, Mysol.

Bill orange-red, tip black; tarsus and feet dull red. Length 33 centims., wing 20·2; tail 11·5; bill from gape 4·3, breadth 2·9; tarsus 1·9.

Easily distinguishable from *E. orientalis* by its brighter colouring and larger size.

54. PODARGUS PAPUENSIS, Q. et G.

Podargus papuensis, Salvad. *op. cit.* vol. i. p. 513.

a. ♂. Waigiou.
b. ♀. Waigiou.
c. ♀. Arfak.

Iris red-brown; bill and feet greyish brown. Length 56–57 centims.; wing 29·4–29·8 centims.

The male is much whiter beneath, and without the ruddy tinge which is apparent on the scapulars of the female.

55. PODARGUS OCELLATUS, Q. et G.

Podargus ocellatus, Salvad. *op. cit.* vol. i. p. 517.

a. ♂. Waigiou.
b. ♀. Mysol.
c. ♀. Ansus, Jobi.
d (♂). Arfak.
e. ♀. Arfak.
f. Pullus. Andai.

Iris brown; bill brownish; feet flesh-coloured. Length 32·5–33·8 centims.; wing 18–19 centims.

The nestling is a little ball of white fluff; the feathers of the upper surface faintly barred with brown, and with the centre of the apical portion of each feather brownish black.

56. ÆGOTHELES ALBERTISI, Sclat.

Ægotheles albertisii, Salvad. *op. cit.* vol. i. p. 524.

a. ♀. Arfak (*Bruijn*).

Salvadori considers it possible that this species may be identical with *Æ. wallacei*. Compared, however, with a female of the latter species, the present example is seen to differ by the much greater delicacy of the feet, tarsus, and beak. The maxilla has a finer and sharper hook, and the nostrils are smaller, and considerably more covered by the frontal plumes than is the case in *Æ. wallacei*. The tarsus also is longer, and the toe shorter than in the latter.

57. ÆGOTHELES WALLACEI (G. R. Gr.).

Ægotheles wallacei, Salvad. *op. cit.* vol. i. p. 526.

a. ♀. Arfak.

Obtained from Mr. Bruijn of Ternate. It corresponds with the description of *Æ. wallacei* given by Salvadori, except that a tolerably distinct line of rufous extends down the centre of the under surface from the chin to the abdomen.

58. MACROPTERYX MYSTACEA (Less.).

Macropteryx mystacea, Salvad. *op. cit.* vol. i. p. 537.

a. ♀. Batanta.

b. ♀. Chabrol Bay, Waigiou.

Iris brown; bill black; feet greyish black. Length 31·0–33·2 centims.; wing 22·5–23·5 centims.

Tolerably abundant on the sea-coast of all the islands of the N.W. part of New Guinea.

59. COLLOCALIA ESCULENTA (Linn.).

Collocallia esculenta, Salvad. *op. cit.* vol. i. p. 540.

a. ♂. Efbe, Mysol.

b. ♀. Efbe.

Iris brown; bill black; feet clear brown, claws black. Length 9·6 centims.; wing 10 centims.

60. PELTOPS BLAINVILLEI (Less. et Garn.).

Peltops blainvillei, Salvad. *op. cit.* vol. ii. p. 8.

a, *b*. ♂. Momos, Waigiou.

c. ♂. Mysol.

d. ♀. Andai.

e. Arfak.

Iris red, surrounded by a faint ring of lavender; bill and feet black. Length 18·5 centims. (Andai) to 20·5 centims. (Mysol). Wing 9·8–10·2 centims.

The Andai and Arfak examples differ in having the white dorsal spot much larger than in the others. In the Arfak bird some of the white feathers of this region are marked with red.

61. MONARCHA FRATER, Sclat.

Monarcha frater, Salvad. *op. cit.* vol. ii. p. 17.

a. Arfak.

62. MONARCHA GUTTULATUS (Garn.).

Monarcha guttulatus, Salvad. *op. cit.* vol. ii. p. 22.

a. ♂. Waigiou.
b. (Locality unknown.)
c. Jr. Waigiou.

Iris dark brown; bill slate-blue, light at the edges; feet ashy. Length about 17 centims., wing 8.

In *b* the forehead and throat are ashy, while the breast is washed with pale rufous. It is probably an immature male. Example *c* has the whole under surface white, the breast washed with rufous, and a few feathers on the chin greyish. Cheeks and lores buffish white; wings brown; external rectrices tipped with white.

63. MONARCHA CHALYBEOCEPHALUS (Garn.).

Monarcha chalybeocephalus, Salvad. *op. cit.* vol. ii. p. 30.

a, b. ♂. Waigiou.
c. ♂. Waigiou.
d. ♂. Mysol.

Iris ruddy; bill slate-coloured; tarsus greyish black. Length 18 centims., wing 8·6–9·2. The species does not seem to have been recorded before from Mysol.

64. MONARCHA MELANONOTUS, Sclat.

Monarcha melanonotus, Salvad. *op. cit.* vol. ii. p. 38.

a, b. ♂. Mysol.
c. ♀. Mysol.
d. ♂. N. coast of Papua, long. 139° (*Bruijn*).

Iris brown; bill blue-black; feet bluish black. Length 14·5–15·8 centims., wing 7·4–7·6. In the male obtained from Mr. Bruijn the yellow of the uropygium is of less extent than in the others.

65. ARSES BATANTÆ, Sharpe.

Arses batantæ, Salvad. *op. cit.* vol. ii. p. 42.

a–c. ♂. Batanta.
d–g. ♀. Batanta.
h. ♀. Waigiou (*Bruijn*).

Iris brown; bill and tarsus dark cobalt-blue. Length 18·5–19·3 centims.; wing 8·5–8·6, male 9·0. The eyelid is bright cobalt-blue, not yellow as Mr. Sharpe has described it. The Waigiou bird is marked ♂, but is no doubt a female, unless the young male in the first stage has the plumage of the female. In this example the fulvous of the breast ends abruptly, not shading off into the white of the abdomen, as is the case in the others.

66. Arses insularis (Meyer).

Arses insularis, Salvad. *op. cit.* vol. ii. p. 47.

a. ♂. Jobi (*Bruijn*).

67. Sauloprocta melaleuca (Q. et G.).

Sauloprocta melaleuca, Salvad. *op. cit.* vol. ii. p. 48.
Rhipidura tricolor, Sharpe, Cat. B. vol. iv. p. 339.

a. ♂. Momos, Waigiou.
b. ♀. Momos, Waigiou.
c. ♀. Samatee, Salwatti.
d. Dorei.
e. ♀. Batanta.
f. ♂. Dobbo, Aru.

Iris brown; bill and feet black. Length 21·5–23·0 centims., wing 10·1–10·6.

68. Rhipidura setosa (Q. et G.).

Rhipidura setosa, Salvad. *op. cit.* vol. ii. p. 61.

a. ♂. Momos, Waigiou.
b. ♀. Chabrol Bay, Waigiou.
c. Momos.

Iris brown; tarsus dark grey; bill black. Length 17·0–17·7 centims., wing 8·0–9·5.

69. Muscicapa griseosticta (Swinh.).

Muscicapa griseosticta, Salvad. *op. cit.* vol. ii. p. 80.

a. ♀. Momos, Waigiou, Oct. 20.
b. Efbe, Mysol, Dec. 8.

Iris brown; bill and feet black. Length 13·3 centims., wing 8·6. The above localities are both new for this species.

70. Monachella mulleriana, Schl.

Monachella saxicolina, Salvad. *op. cit.* vol. ii. p. 83.

a. ♂. Arfak.
b. Arfak.

71. Pœcilodryas hypoleuca (G. R. Gr.).

Pœcilodryas hypoleuca, Salvad. *op. cit.* vol. ii. p. 86.

a. ♂. Salwatti.
b. Waigiou.

Iris brown; bill black; tarsus brown. In both individuals the black patches of the sides of the breast nearly, if not actually, meet in the middle line. Salwatti is a new locality for this species.

72. Micrœca flavovirescens, G. R. Gr.

Micrœca flavovirescens, Salvad. *op. cit.* vol. ii. p. 92.

a. ♂. Ansus, Jobi.

Iris brown; maxilla black, mandible flesh-colour; feet and tarsus flesh-colour. Length 15·8 centims., wing 7·8.

73. MACHÆRORHYNCHUS ALBIFRONS, G. R. Gr.

Machærorhynchus albifrons, Salvad. *op. cit.* vol. ii. p. 109.

a. ♂. Arfak.

Like *M. nigripectus*, this species has the long loose feathers of the back strongly tipped with yellow.

74. MACHÆRORHYNCHUS NIGRIPECTUS, Schleg.

Machærorhynchus nigripectus, Salvad. *op. cit.* vol. ii. p. 109.

a, b. ♂. Arfak.

75. MALURUS ALBOSCAPULATUS, Meyer.

Malurus alboscapulatus, Salvad. *op. cit.* vol. ii. p. 119.

a. ♂. Arfak.

76. GRAUCALUS CÆRULEOGRISEUS (G. R. Gr.).

Graucalus cæruleogriseus, Salvad. *op. cit.* vol. ii. p. 122.

a. ♀. Mansinam.
b. ♀. Dorei.
c. ♀. Arfak.

Iris brown; bill and feet black. Length about 34·0 centims., wing 16·0–16·6. The Mansinam example differs from the others in having the apices of all the flight-feathers edged with white. All the tail-feathers are also strongly tipped with white, the outer pair for half an inch or more. In the Arfak bird there are no white tips to the wing-feathers, and only a faint trace of that colour at the apices of the two external rectrices, and the under wing-coverts are a deeper isabelline. All three examples are darker on the under surface than are those in the British Museum from the Aru Islands.

77. GRAUCALUS BOYERI (G. R. Gr.).

Graucalus boyeri, Salvad. *op. cit.* vol. ii. p. 124.

a. ♀. Mysol.

Iris dark brown; bill and feet black. Length 24·5 centims., wing 12·8.

Lores white, nasal plumes buffish; no black on chin, the first two or three feathers of which are pale buff. The external pair of rectrices are faintly tipped with grey.

78. GRAUCALUS MAGNIROSTRIS, Forsten.

Graucalus magnirostris, Salvad. *op. cit.* vol. ii. p. 129.

a. ♂. Waigiou.

Iris dark brown; bill and feet black. Wing 17·2 centims., tail 16·0, bill 3·2, tarsus 2·7. This species has hitherto been considered as peculiar to the Halmaheira group, but a comparison of the present example with individuals from that island and Batchian shows that they are identical.

79. Graucalus melanops (Lath.).

Graucalus melanops, Salvad. *op. cit.* vol. ii. p. 130.

a (♀). Mysol.

b. ♀. Efbe, Mysol.

Iris brown; bill black; feet brownish black. Length 32·3 centims., wing 19·0.

Chin, throat, and forehead irregularly marked with grey and black in both examples. In *a* the breast and upper part of the abdomen are grey, with obsolete bars. In *b* the upper breast only is grey, with faint barring; the white of the under surface being more extended than in *a*. *G. melanops* has not previously been recorded from any of the islands of N.W. New Guinea, although it was obtained by Wallace as far north as Amboina. A comparison of the present specimens with others from the Aru Islands shows no differences of importance.

80. Graucalus papuensis (Gm.).

Graucalus papuensis, Salvad. *op. cit.* vol. ii. p. 132.

a, *b*. ♂. Mysol.

c. ♀. Mysol.

d. ♂. Salwatti.

e. ♀ ? Jobi (*Bruijn*).

Iris brown; bill black; tarsus brownish black. Length 28·6–30·2 centims., wing 14·5-15·3.

If the label of the bird obtained from Mr. Bruijn be correct, Jobi is apparently new as a locality for this species. It does not differ from the others. The sex is given as ♀, but no doubt erroneously, as the forehead and lores are jet-black.

81. Edoliisoma melan (S. Müll.).

Edoliisoma melas, Salvad. *op. cit.* vol. ii. p. 143.

a. ♀. Chabrol Bay, Waigiou.

b. ♀. Ansus, Jobi.

Iris brown; bill black; tarsus dark slate. Length 24·0–24·6 centims., wing 12·0. The example from Waigiou, a new locality for this species, is darker than the Jobi bird.

82. Edoliisoma montanum (Meyer).

Edoliisoma montanum, Salvad. *op. cit.* vol. ii. p. 147.

a. ♂. Arfak (*Bruijn*).

83. Edoliisoma schisticeps (G. R. Gr.).

Edoliisoma schisticeps, Salvad. *op. cit.* vol. ii. p. 148.

a. ♀. Mysol.

Length 21·5 centims., wing 10·7. The dull smoky grey of the head ill defined posteriorly, and shading into the dark cinnamon of the cervical region.

84. Edoliisoma incertum (Meyer).

Edoliisoma incertum, Salvad. *op. cit.* vol. ii. p. 152.

a. ♀. Jobi (*Bruijn*).

With no black on the chin, and with the median rectrices with a very small spot of that colour.

85. Lalage atrovirens (G. R. Gr.).

Lalage atrovirens, Salvad. *op. cit.* vol. ii. p. 159.

a. ♀ (?). Arfak (*Bruijn*).

This is probably a young male, not a female, the upper surface being shining greenish-blue. The species has hitherto only been recorded from Mysol, Salwatti, and the adjacent coast.

86. Artamus leucogaster (Valenc.).

Artamus leucogaster, Salvad. *op. cit.* vol. ii. p. 167.

a. ♂. Waigiou, Nov. 11.

Iris dark brown; bill greyish blue; feet slate-colour. But rarely seen in the Papuan islands during the cruise of the 'Marchesa.'

87. Artamus maximus, Meyer.

Artamus maximus, Salvad. *op. cit.* vol. ii. p. 172.

a–d. Arfak.

e. ♂. Arfak (*Bruijn*), January.

a–d without label, obtained by the hunters in the neighbourhood of Hattam.

88. Chibia carbonaria (S. Müll.).

Dicruropsis carbonaria, Salvad. *op. cit.* vol. ii. p. 177.

a, b. ♂. Dorei.

c. ♂. Chabrol Bay, Waigiou.

d, e. Momos, Waigiou.

f. Efbe, Mysol.

g. ♀. Batanta.

Iris crimson; bill and feet black. Length 31·0–32·7 centims.; wing 15·2–16·5 centims. The Batanta example is much smaller than the others, and is of a deeper blue-black on the breast and back. The spots are brighter, and there is a tendency to the development of a side neck-hackle.

89. Cracticus cassicus (Bodd.).

Cracticus cassicus, Salvad. *op. cit.* vol. ii. p. 184.

a. ♂. Dorei.

b. Arfak.

c. ♂. Waigiou.

d. Samatee, Salwatti.

e. ♀. E. Batanta.

f. ♀. Dobbo, Aru.

Iris dark brown, except in the Batanta bird, in which it was orange; bill slate-blue, dark at the tip; tarsus black. Length 33·4–

36·9 centims. (Batanta); wing 16·5–17·0 centims. *b* is an individual in imperfect plumage; the whole of the upper surface, with the exception of the uropygial region, black; the under surface dusky. It was brought down by the hunters from the Arfak, but I have no record as to its exact locality.

90. Cracticus quoyi (Less.).

Cracticus quoyi, Salvad. *op. cit.* vol. ii. p. 190.

a. ♂. Salwatti.
b. ♀. Salwatti.
c, d. ♂. Mysol.
e. ♀. Mysol.
f. ♂. Chabrol Bay, Waigiou.
g. ♀. Dobbo, Aru.

Iris brown; bill slate-blue, apical half black; tarsus and feet brownish black. Length 35·4–38·1 centims.; wing 17·0–18·8 centims. As in *C. cassicus*, the size of the bill is subject to great variation.

91. Rhectes uropygialis, G. R. Gr.

Rhectes uropygialis, Salvad. *op. cit.* vol. ii. p. 193.

a, b. ♂. Mysol.
c, d. ♀. Mysol.
e. ♂. Salwatti.

Iris brown; bill and feet black. Length 26·0–28·8 centims.; wing 12·0–12·6 centims. The females have the head a duller black than the males, and the forehead and lores are dull brown. The cinnamon of the back and under surface is paler.

92. Rhectes aruensis, Sharpe.

Rhectes aruensis, Salvad. *op. cit.* vol. ii. p. 194.

a. Jr.? Wanumbai, Aru.

Chin and throat fuscous; wings and tail brownish black; uropygium and upper tail-coverts brown. Under surface fulvous.

93. Rhectes dichrous, Bp.

Rhectes dichrous, Salvad. *op. cit.* vol. ii. p. 195.

a. ♂. N. coast of Papua, long. 139° E. (*Bruijn*).

94. Rhectes cerviniventris, G. R. Gr.

Rhectes cerviniventris, Salvad. *op. cit.* vol. ii. p. 200.

a. Arfak (?) (*Bruijn*).
b. Locality unknown.

Example *a* agrees with those in the British Museum. It is labelled "Arfak," but most probably erroneously. *b* is without label, and differs considerably from the other, though it is possible that these differences are only sexual. There is an entire absence of the hoary appearance of the head and upper part of the back noticeable in the other skin; the wings have no tinge of rufous;

the chin and throat are darker, with an ill-marked narrow rufous band below; the rest of the under surface is buff.

95. RHECTES JOBIENSIS, Meyer.

Rhectes jobiensis, Salvad. *op. cit.* vol. ii. p. 201.

a. ♂. Ansus, Jobi.

b. ♀. "Mount Arfak" (?) (*Bruijn*).

Iris brown; bill light fleshy horn; feet greyish brown. Length 27·6 centims.; wing 12·0 centims.

The second example is probably another instance of erroneous locality. It does not differ in any way from the Ansus bird.

96. RHECTES FERRUGINEUS, S. Müll.

Rhectes ferrugineus, Salvad. *op. cit.* vol. ii. p. 203.

a. ♀. Andai.

Iris chocolate-brown; bill black; feet slate-colour. Length 29·0 centims.; wing 14·2 centims.

The loose feathers of the lower part of the back are strongly tipped with fulvous.

97. RHECTES LEUCORHYNCHUS, G. R. Gr.

Rhectes leucorhynchus, Salvad. *op. cit.* vol. ii. p. 206.

a. ♂. Momos, Waigiou.

b. ♀. Momos.

c. Pullus. Waigiou.

Iris pale yellow; bill pale yellowish; feet light grey. Length 30·5 centims., wing 13·5–14·5. The male has the ear-coverts more rufous than the female. The young bird resembles the adult, but is browner.

98. COLLURICINCLA MEGARHYNCHA (Q. et G.).

Colluricincla megarhyncha, Salvad. *op. cit.* vol. ii. p. 211.

a. ♂. Batanta.

b, c. ♀. Batanta.

d. Batanta.

Iris brown; bill dull purplish grey; feet greyish. Length 19·1–20·5 centims., wing 9·0–9·5.

99. COLLURICINCLA AFFINIS (G. R. Gr.).

Colluricincla affinis, Salvad. *op. cit.* vol. ii. p. 213.

a. ♂. Momos, Waigiou.

b. ♂. Waigiou.

Iris grey-brown; bill horn-colour; feet brownish black. Length 18·5 centims., wing 9·1–9·3.

A smaller species than the preceding, and without the rufous on the under surface.

100. PACHYCEPHALA SOROR, Sclat.

Pachycephala soror, Salvad. *op. cit.* vol. ii. p. 222.

a. ♀. Arfak.

101. PACHYCEPHALA SCHLEGELI, Rosenb.

Pachycephala schlegelii, Salvad. *op. cit.* vol. ii. p. 223.

a–d. ♂. Arfak.

e. ♀. Arfak.

102. PACHYCEPHALA RUFINUCHA, Sclat.

Pachycephala (?) *rufinucha*, Salvad. *op. cit.* vol. ii. p. 225.

a. Arfak.

103. PACHYCEPHALOPSIS HATTAMENSIS (Meyer).

Pachycephalopsis hattamensis, Salvad. *op. cit.* vol. ii. p. 236.

a. Arfak.

104. PACHYCARE FLAVOGRISEA (Meyer).

Pachycare flavogrisea, Salvad. *op. cit.* vol. ii. p. 238.

a. ♂. Arfak (*Bruijn*).

b. Arfak.

105. CLIMACTERIS PLACENS, Sclat.

Climacteris placens, Salvad. *op. cit.* vol. ii. p. 241.

a (♀). Arfak.

This example has the reddish cheeks which by Salvadori are said to be the characteristic of the female.

106. SITTELLA PAPUENSIS (Schleg.).

Sittella papuensis, Salvad. *op. cit.* vol. ii. p. 242.

a (♂). Arfak.

Bill in the dried skin yellow, black at apex; feet lemon-yellow. Wing 8·3 centims.

Entire head, chin, and throat white, eyelid bright yellow. Breast and abdomen fuscous, with well-marked dark striæ. Upper surface like the under, but less striated. Wings brown, the secondaries and tertiaries paler towards the tip. Lesser wing-coverts blackish, with a faint blue gloss; under wing-coverts the same, but with some of the greater series white at the tip. Upper tail-coverts white; under tail-coverts barred black and white, each feather being of four colours—ashy, fawn-colour, black, and white, from base to apex. Tail black; the three or four outer rectrices tipped with white.

This specimen is without the obsolete white spots on the breast, abdomen, and upper surface described by Salvadori, neither is there any trace of white marking on the inner web of the third, fourth, and fifth primaries [1].

107. CINNYRIS JOBIENSIS (Meyer).

Hermotimia jobiensis, Salvad. *op. cit.* vol. ii. p. 246.

a. ♂. Ansus, Jobi.

b. ♀. Ansus.

[1] In the above description Salvadori writes "rectricibus *tertia, quarta et quinta*" &c., but it is evident from the context that *remigibus* should be read.

Iris brown; bill and feet black. Length 10·9 centims.; wing 6·1, of female 5·1.

The male bird has a few greenish-yellow feathers on the breast, abdomen, and mantle.

108. CINNYRIS ASPASIÆ, Less.

Hermotimia aspasia, Salvad. *op. cit.* vol. ii. p. 247.

a. ♂. Waigiou.
b. ♀. Waigiou.
c. ♂. "New Guinea."
d. ♂. Mysol.
? *e.* ♀. Aru.

Iris dark brown; bill and feet black. Length of Mysol male 11·7 centims., wing 6·1.

The Aru bird may perhaps be the female of *C. chlorocephala*.

109. CINNYRIS FRENATUS (S. Müll.).

Cyrtostomus frenatus, Salvad. *op. cit.* vol. ii. p. 265.

a. ♂. Waigiou.
b. ♀. Waigiou.
c, d. ♂. Mysol.
e–h. ♀. Mysol.
i, k. ♂. Dorei.
l. ♂. Jobi.
m. ♂. Aru.

Iris brown; bill and feet black. Length 10·7–12·2 centims. The Jobi bird, which from the narrow yellow moustachial streak is evidently not quite adult, is considerably lighter in colour on the head, neck, and upper surface than the others.

110. DICÆUM PECTORALE, Müll. et Schleg.

Dicæum pectorale, Salvad. *op. cit.* vol. ii. p. 273.

a. ♂. Napriboi, Waigiou.
b. ♂. Andai.
c. ♂. Arfak.

Iris brown; bill brownish black; feet dark greyish brown. Length 9·0–9·5 centims., wing 5·2.

111. PRISTORHAMPHUS VERSTERI, Finsch.

Pristorhamphus versteri, Salvad. *op. cit.* vol. ii. p. 286.

a, b. ♂. Arfak.
c. ♀. Arfak (*Bruijn*).

The female corresponds with Salvadori's description of the female of *P. versteri*, but has no trace of white on the tail-feathers!

112. OREOCHARIS ARFAKI (Meyer).

Oreocharis arfaki, Salvad. *op. cit.* vol. ii. p. 289.

a, b (♂). Arfak.

In one example there is no trace of white in the middle of the breast and abdomen, these parts being much more strongly tinged

with vinous brown than in the other specimen. The yellow apical spot on the external web of the wing-feathers is not confined to the three last tertiaries, but is found also on all the secondaries.

113. MYZOMELA NIGRITA, G. R. Gr.

Myzomela nigrita, Salvad. *op. cit.* vol. ii. p. 291.

a. ♂. Dobbo, Aru.

Iris brown; bill and feet black. Length about 11·5 centims., wing 5·7.

114. MYZOMELA ROSENBERGI, Schleg.

Myzomela rosenbergii, Salvad. *op. cit.* vol. ii. p. 294.

a. ♂. Arfak (*Bruijn*).
b. ♀ (?). Arfak (*Bruijn*).
c. Jr. ♂ (?). Arfak (*Bruijn*).
d. Jr. ♀ (?). Arfak (*Bruijn*).

This series, if the sex be in each case rightly given, would confirm Meyer's assertion that the adult male and female are alike in plumage. Examples *a* and *b* do not differ except that the latter is less bright in colouring; *c* resembles Salvadori's description of an adult female, and *d* that of the young bird, the latter being without the red uropygium. It is, however, most probable that the sex has been wrongly determined by Mr. Bruijn's hunters in at least two out of the four individuals.

115. MYZOMELA ADOLPHINÆ, Salvad.

Myzomela adolphinæ, Salvad. *op. cit.* vol. ii. p. 299.

a. ♂. Arfak.

116. MYZOMELA ERYTHROCEPHALA, Gould.

Myzomela erythrocephala, Salvad. *op. cit.* vol. ii. p. 500.

a, b. ♀. Dobbo, Aru.

Iris brown; bill black; tarsus brown. Length 10·8–11·0 centims., wing 5·0–5·2.

117. MYZOMELA EQUES (Less.).

Myzomela eques, Salvad. *op. cit.* vol. ii. p. 301.

a. ♂. Mysol.

Bill black; tarsus blackish brown. Length 16·2 centims. (Salvadori gives 11·5–14·0 centims.!); wing 6·9.

118. MYZOMELA OBSCURA, Gould.

Myzomela obscura, Salvad. *op. cit.* vol. ii. p. 303.

a. ♂. Wammar, Aru.

Iris brown; bill black; tarsus grey. Length 15·1 centims., wing 7·0.

With no trace of vinaceous on the head.

119. Glyciphila modesta, G. R. Gr.

Glyciphila modesta, Salvad. *op. cit.* vol. ii. p. 307.

a. ♀. Dobbo, Aru.

Iris brown; bill and feet clear brown. Length 11·5 centims., wing 6·5.

120. Melilestes megarhynchus (G. R. Gr.).

Melilestes megarhynchus, Salvad. *op. cit.* vol. ii. p. 313.

a. ♂. Momos, Waigiou.

Iris red; bill black; feet lead-colour. Length 25·0 centims., wing 9·9.

121. Melilestes novæ guineæ (Less.).

Melilestes novæ guineæ, Salvad. *op. cit.* vol. ii. p. 315.

a. Waigiou.

Iris brown; bill and tarsus black.

122. Melipotes gymnops, Sclat.

Melipotes gymnops, Salvad. *op. cit.* vol. ii. p. 317.

a, b. Arfak.

123. Melidectes torquatus, Sclat.

Melidectes torquatus, Salvad. *op. cit.* vol. ii. p. 319.

a. ♂. Arfak (*Bruijn*).

Anterior part of the cheeks rufous. Below the black pre-pectoral collar is another of light fawn colour.

124. Melirrophetes leucostephes, Meyer.

Melirrophetes leucostephes, Salvad. *op. cit.* vol. ii. p. 320.

a. Arfak.

Apparently not adult, the feathers of the back with ochraceous margins; caruncle small.

125. Ptilotis analoga, Rchb.

Ptilotis analoga, Salvad. *op. cit.* vol. ii. p. 327.

a. ♂. Momos, Waigiou. (Length 17·2 centims., wing 7·9.)

b. ♀. Momos. (Length 18·5 centims., wing 8·8.)

Iris brown; bill brownish black; tarsus grey. Example *a* is considerably smaller than *b*; the auricular tufts are shorter and whitish, and the feathers of the side of the uropygium are not tipped with white as in *b*.

126. Ptilotis sonoroides, G. R. Gr.

Ptilotis sonoroides, Salvad. *op. cit.* vol. ii. p. 335.

a. ♂. Mysol.

b. ♀. Mysol.

Iris brown; bill black; feet grey. Length 26·0 centims., wing 10·3–11·2.

127. PTILOTIS CINEREA, Sclat.

Ptilotis cinerea, Salvad. *op. cit.* vol. ii. p. 338.

a. Arfak.

Under wing-coverts ashy, posteriorly rufous.

128. PTILOTIS CHRYSOTIS, Less.

Xanthotis chrysotis, Salvad. *op. cit.* vol. ii. p. 346.

a. ♂. Salwatti.

Iris brown; bill and feet black. Length 23·0 centims., wing 10·5.

This species is not found in Waigiou and Batanta, where it is replaced by *P. fusciventris*. Dr. Gadow (Cat. B. vol. ix. p. 238), although admitting the latter as a subspecies, has placed the example under *P. chrysotis*, and erroneously given Waigiou as a habitat.

129. PTILOTIS FUSCIVENTRIS (Salvad.).

Ptilotis fusciventris, Salvad. *op. cit.* vol. ii. p. 348.

a, b. ♂. Waigiou.

c. ♀. Momos, Waigiou.

Iris brown; bill black; feet bluish grey. Length 23·7 centims., wing 10·5–10·9.

Differs from the preceding species in being greener on the upper surface, and without the rufous on the breast and sides of the body.

130. ? EUTHYRHYNCHUS GRISEIGULARIS, Schleg.

Euthyrhynchus griseigula, Salvad. *op. cit.* vol. ii. p. 341.

Euthyrhynchus flavigula, id. ibid. p. 341.

a. ♂. Andai.

Iris gamboge-yellow; bill horn-colour, lower mandible yellowish; feet bluish slate. Length 19·8 centims., wing 9·4.

Above uniform olive, vertex and occiput dark brown; beneath dull rufescent, faintly washed with olive-yellow. Inner web of remiges whitish, not rufescent.

In the absence of any specimen with which to compare the present example, I am uncertain to what species it should be referred. *E. flavigula* comes from the same locality as *E. griseigula*, is "very like *E. griseigula*, but smaller, and with the rufescent underparts slightly washed with olive." Possibly the two species are not really separable. Salvadori's measurements (17·5 and 16·0 centims.) are probably given from the dried skin.

131. TROPIDORHYNCHUS NOVÆ GUINEÆ.

Tropidorhynchus novæ guineæ, Salvad. *op. cit.* vol. ii. p. 357.

a. ♂. Wokan, Aru.

b. ♂. Dobbo, Aru.

c. ♀ *juv.* Dobbo.

d. ♂. Waigiou.

e. ♂. Batanta.

Iris brown; in the Waigiou example red. Bill and feet black. Length 35–37 centims. The young bird is without frontal tubercle,

and in addition to the olive tinge on the wing, and the white and yellowish-white edged feathers of the back and side of the throat mentioned by Salvadori, there is a very conspicuous white nuchal collar. The feathers of the head and throat are not lanceolate as in the adult, and the chin is brownish black. The feathers of the rump are rusty brown.

132. ZOSTEROPS NOVÆ GUINEÆ, Salvad.

Zosterops novæ guineæ, Salvad. *op. cit.* vol. ii. p. 367.

a. ♂. Arfak (*Bruijn*).

133. PITTA NOVÆ GUINEÆ, Müll. et Schleg.

Pitta novæ guineæ, Salvad. *op. cit.* vol. ii. p. 380.

a, b. ♂. Andai.
c, d. ♂. Mysol.
e. ♂. Salwatti.
f. ♀. Salwatti.
g. ♂. Dorei.
h. ♀. Batanta.

Iris brown; bill black; feet pinkish brown. Length 17·0–19·4 centims., wing 10·1–10·7.

The white patch on the primaries is extremely irregular: in some cases it is to be found on one side and not on the other.

This species never seemed very abundant, and, like others of the same genus, examples were most difficult to shoot owing to their shyness.

134. PITTA MACKLOTI, Temm.

Pitta mackloti, Salvad. *op. cit.* vol. ii. p. 395.

a. ♂. Salwatti.
b. ♀. Salwatti.
c. ♂. Waigiou.
d. ♀. Waigiou.
e, f. ♀. Batanta.
g. ♂. N. New Guinea, long. 139° E. (*Bruijn*).
h. ♂. Andai.
i–m. ♂. Mysol.
n. Jr. ♂. Mysol.
o, p. ♀. Mysol.

Iris brown; bill black; tarsus pinkish slate. Length 18·0–21·5 centims., wing 10·0–10·9. Salwatti birds largest. No constant differences between island and island.

135. POMATORHINUS ISIDORII, Less.

Pomatorhinus isidori, Salvad. *op. cit.* vol. ii. p. 409.

a, b. ♂. Andai.
c. ♀. Efbe, Mysol.

Iris yellow-brown; bill yellow, base of upper mandible horn; tarsus blackish. Length 25·8–26·7 centims., of female 23·0; wing 11·6–11·8.

136. EUPETES CÆRULESCENS, Temm.

Eupetes cærulescens, Salvad. *op. cit.* vol. ii. p. 412.

a. ♂. Andai.

137. CALOBATES MELANOPE (Pallas).

Calobates melanope, Salvad. *op. cit.* vol. ii. p. 431.

a. ♂. Waigiou.
b. ♀. Waigiou.
c. Momos, Waigiou.

Iris brown; bill brown; tarsus yellowish brown. Length 18·7–18·8 centims., wing 8·0–8·2.

This species has not previously been obtained from Waigiou, though it was met with by Meyer on the Arfak range. The present examples were shot from the 22nd–29th October, on the south side of the island of Waigiou.

138. CALORNIS METALLICA (Temm.).

Calornis metallica, Salvad. *op. cit.* vol. ii. p. 447.

a–d. ♂. Mysol. (Length 22·0–25·4 centims.)
e, f. ♀. Mysol. (Length 22·2–23·1 centims.)
g. Efbe, Mysol. (Length 25·4 centims.)
h. ♂. Samatee, Salwatti. (Length 24·2 centims.)
i, k. ♂. Dobbo, Aru. (Length 25·3–26·2 centims.)
l. ♀. Wammar, Aru. (Length 26·2 centims.)
m. ♂ *jr.* Wammar, Aru. (Length 23·6 centims.).

Iris bright orange-red; bill and feet black. Length 22·0–26·2 centims.; the dimensions of the Aru bird the largest, though this seems chiefly dependent on the greater length of the tail; wing 10·8–11·3. The Mysol are more brilliant than the Aru birds. The young bird from the latter locality has the upper surface as in the adult; the whole under surface is white, with a few metallic feathers on the breast; the feathers of the throat with black shafts.

139. CALORNIS CANTOROIDES, G. R. Gr.

Calornis cantoroides, Salvad. *op. cit.* vol. ii. p. 456.

a. ♂. Mysol.
b–d. ♀. Mysol.
e, f. ♂. Samatee, Salwatti.
g. ♀. Samatee.

Iris bright orange-red, with an outer ring of yellow; bill and feet black. Length 21·0–23·7 centims., wing 9·7–10·5.

140. MELANOPYRRHUS ANAIS (Less.).

Melanopyrrhus anais, Salvad. *op. cit.* vol. ii. p. 461.

a. ♂. Salwatti.

Iris yellow; bill and tarsus pale yellow. Length about 25·0 centims., wing 13·9.

141. MELANOPYRRHUS ORIENTALIS (Schleg.).

Melanopyrrhus orientalis, Salvad. *op. cit.* vol. ii. p. 463.

a. Arfak (*Bruijn*).

This species, as far as I am aware, has not as yet been recorded from the Arfak Mountains, but it is possible that the locality may be erroneous, as has apparently been the case in several instances of birds collected by Mr. Bruijn's hunters. The present example has a broad occipital black bar.

142. MINO DUMONTI, Less.

Mino dumonti, Salvad. *op. cit.* vol. ii. p. 466.

a–d. ♂. Waigiou.
e. ♀. Waigiou.
f. ♀. Batanta.
g, h. ♂. Dorei Bay.
i. ♀. Dorei Bay.
k, l. ♂. Aru.

Iris pale yellow; bill and tarsus orange; papillæ round eye orange. Length 27·5–29·0 centims., wing 14·2–15·2 (of the Batanta bird 13·8 centims.). The development of the papillæ varies considerably. In one male from Waigiou they are very large, and the intervening space on the vertex is only 0·4 centims. in breadth. This is the first recorded instance of the occurrence of this species in Batanta. The example does not differ from the rest of the series except in having the yellow of the abdomen more extended in area.

143. MIMETA STRIATUS (Q. et G.).

Mimeta striata, Salvad. *op. cit.* vol. ii. p. 473.

a. ♀. Batanta.

Iris dull red; bill red-brown; feet dull grey. Length 30·2 centims., wing 14·3.

144. CORVUS ORRU, Müll.

Corvus orru, Salvad. *op. cit.* vol. ii. p. 483.

a. ♂. Momos, Waigiou. (Iris pearly grey.)
b. ♀. Neosmapi I., Dorei Bay. (Iris sky-blue.)
c. ♀. Mysol.
d. ♀. Samatee, Salwatti. (Iris brown.)

Colour of iris variable, all the above examples being apparently adult. Bill and tarsus black. Length 46·4–49·1 centims., wing 30·0–34·7.

145. GYMNOCORAX SENEX (Less.).

Gymnocorax senex, Salvad. *op. cit.* vol. ii. p. 490.

a. ♀. Jobi (*Bruijn*).

Both Beccari and D'Albertis describe this species as being very common, which is certainly contrary to my experience as far as regards N.W. New Guinea.

146. MANUCODIA CHALYBEATA, Penn.

Manucodia chalybeata, Salvad. *op. cit.* vol. ii. p. 498.

a. ♂. Mysol.

Iris red; bill and feet black. Length 39·0 centims., wing 19·0, tail 16·5, bill from gape 4·8.

Salvadori separates *M. chalybeata* from *M. atra* by the wavy feathers of the upper back and by the black velvety band at the apex of each feather of that part and the under surface, which characteristics he states to be constant at all ages. The feathers of the anterior part of the neck are, he considers, broader and more golden, and the measurements somewhat smaller.

The present example is evidently an old male, and is in splendid plumage. It corresponds to Salvadori's description of *M. chalybeata* in every way, and I have accordingly placed it under this designation, as I have only twenty-four individuals of this and the allied species, as against a series of nearly five times that number catalogued in the 'Ornitologia della Papuasia.' At the same time I am strongly inclined to regard the two species as identical. The black velvety bands on the feathers of the breast and back are, I think, a characteristic of not much value, since Salvadori himself describes them as "in very old individuals *extending* on to the uropygium," thereby admitting that age can produce them in feathers in which they were not previously apparent. With regard to dimensions, the present example slightly *exceeded* the average of twenty *M. atra*, and the beak was considerably larger, so that size as a diagnostic point is of no value. With regard to the plumage of *M. atra* no constancy is apparent; all colours between oily green and deep violet or purple being observable, while in some the wrinkled plumes of the breast are beginning to appear.

It seems improbable that there should be two such closely allied, yet distinct species coexisting in the same districts; and I should therefore be inclined to consider *M. chalybeata* as an older stage of *M. atra*.

147. MANUCODIA JOBIENSIS, Salvad.

Manucodia jobiensis, Salvad. *op. cit.* vol. ii. p. 502.

a. ♂. Near Ansus, Jobi; November 11th.

Iris red; bill and feet black. Length 33·5 centims., wing 17·5, tail 15·0, bill from gape 3·8, tarsus 3·4.

The above measurements are considerably less than those given by Salvadori.

This Manucode, which is easily recognizable as a distinct species, was apparently uncommon in Jobi.

148. MANUCODIA ATRA (Less.).

Manucodia atra, Salvad. *op. cit.* vol. ii. p. 504.

a. ♂. Mysol.

b, c. ♀. Mysol.

d–m. ♂. Waigiou.

p–t. ♀. Waigiou.
u. ♀. Dorei.
v. Patr. incert.

Iris brilliant red, dull orange in the female; bill and feet black. Length 33·0–42·1 centims., the female always smaller than the male; wing 17·0–18·7, tail 16·0–18·5, bill from gape 3·6–4·6.

This species was very abundant in Waigiou.

149. Parotia sexpennis (Bodd.).

Parotia sexpennis, Salvad. *op. cit.* vol. ii. p. 515.

a–f. ♂. Arfak.
g. Juv. ♂. Arfak.
h–k. ♀. Arfak.
l–y. ♂. Arfak (*Bruijn*).
z–b'. ♀. Arfak (*Bruijn*).
c', d'. Jr. ♂. Arfak (*Bruijn*).

Iris blue, with a narrow external ring of yellow; bill and feet black. Wing 16·0 centims. Arfak name *Kurangan*.

The young males much resemble the females, but the latter seem to be somewhat smaller and to have shorter wings, while the inner webs of the primaries are bordered with rufous-brown, which does not appear to be the case with the immature males; the light eyebrow seems also more distinct. But it must be admitted that the sexes in the above series may very possibly have been wrongly identified.

In the male bird the patch of metallic silver on the head forms when at rest a triangle with the apex forward, but in some skins these feathers are seen standing erect, or even depressed over the nostrils. Immediately above is a small osseous tuberosity, which doubtless gives origin to some muscular fibres whose other ends are attached to the bases of the above-mentioned plumes, which can be erected at will. This tuberosity appears, as might be expected, not so well marked in the female.

150. Lophorhina superba (Penn.).

Lophorhina superba, Salvad. *op. cit.* vol. ii. p. 524.

a. ♂. Arfak.
b. Vix ad. ♂. Arfak.
c. Arfak.
d–w. ♂. Arfak (*Bruijn*).
x–z. ♀. Arfak (*Bruijn*).

Iris brown; bill and feet black. Arfak name *Niet*—a phonetic rendering of its cry.

Example *b* is nearly in full plumage; but the metallic green of the head and pectoral shield (the feathers of which latter are incomplete at the sides) is peculiar in being glossed with violet. This violet tinge is apparently a common if not invariable characteristic of immaturity.

151. PARADIGALLA CARUNCULATA, Less.

Paradigalla carunculata, Salvad. *op. cit.* vol. ii. p. 530.

a. ♂. Arfak.
b, c. ♂. Arfak (*Bruijn*).
d–g. ♀. Arfak (*Bruijn*).

Iris red; bill and feet black. M. Laglaize informed me that the colour of the upper caruncle is orange, of the middle bright leaf-green, of the lower red.

The females only differ in their smaller size, in the caruncles and nasal tufts being smaller, and in the absence of the brilliant metallic purple reflections of the upper surface.

152. ASTRAPIA NIGRA (Gm.).

Astrapia nigra, Salvad. *op. cit.* vol. ii. p. 535.

a, b. ♂. Arfak (*Bruijn*).
c–f. ♀. Arfak (*Bruijn*).
g, h. ♂. Arfak.
i. ♀. Arfak.

Iris bright red; bill and feet black. Tail 58–62 centims., wing 18·3–18·7. In the female the tail measures from 30–35 centims., the wing 16·3–17·8. Native name *Aroma*.

The natives say that they do not think that this bird is really much less abundant than the *Epimachus*, although so few skins are ever obtained. They are found in the same district as the latter bird, and, like it, frequent the tops of the high trees, but are very silent; whereas the loud cry of the Great Bird of Paradise at once calls attention to its presence, and causes it to fall a tolerably easy prey to the hunter.

The shafts of the tail- and wing-feathers in this species project beyond the web of the feather, as is the case in *Paradigalla* and *Ptilorhis*.

153. EPIMACHUS SPECIOSUS (Bodd.).

Epimachus speciosus, Salvad. *op. cit.* vol. ii. p. 541.

a–o. ♂. Arfak.
p–v. ♀. Arfak.
w–y. ♂. Arfak (*Bruijn*).
z. Vix ad. ♂. Arfak (*Bruijn*).
a'. Jr. ♂. Arfak (*Bruijn*).
b', c'. ♀. Arfak (*Bruijn*).

Iris yellow, brown in the young bird; bill and feet black. Length very variable, according to the development of the tail, which in 15 adult males measured from 69 to 84 centims.; wing in male 19·0–20·5, in female 15·7–17·7. Native name in the Arfak *Kambilaia*.

Example *z* has the plumage of the adult bird, except that the side plumes and tail-feathers are just bursting through the feather-cases; there is no trace of brown in the plumage; and it is therefore an old

bird, as in the first acquirement of the adult dress the change is effected by means of the gradual assumption of the metallic colours in pre-existing feathers, not by moult.

The hunters found this bird not uncommon in the Arfak, and informed me that it perched on the summit of the trees, and revealed its presence by its loud, harsh cry.

154. Drepanornis albertisi, Sclat.

Drepanornis albertisii, Salvad. *op. cit.* vol. ii. p. 549.

a–c. ♂. Arfak (*Bruijn*).

d. ♂. Arfak.

e, f. ♀. Arfak (*Bruijn*).

Iris, according to the hunters, brown; bill black. Length of wing 15·0–15·4; female 14·7–14·8 centims.

The female, though much resembling the male on the upper surface, is of a darker brown in the interscapular region. The small wattle-like expansion of the rictus is less marked.

155. Drepanornis bruijni, Oustal.

Drepanornis bruijnii, Salvad. *op. cit.* vol. ii. p. 553.

a. Jr. ♂. ? N. New Guinea, long. 139° E. (*Bruijn*).

b. ♀. Long. 139° E. (*Bruijn*).

While in Ternate Mr. Bruijn showed me the above skins of two birds of the genus *Drepanornis* obtained by his hunters on the north coast of New Guinea a little to the eastward of the mouths of the Amberbaki River. One was marked ♀, the other ♂; but both were destitute of any brilliant colouring whatsoever. The species, though not unlike *D. albertisi*, was recognizable as distinct at a glance, and was evidently not a local variation or representative form of that bird. The greater thickness of the bill, and its colour (buffish horn, not black), the bareness of the base of the maxilla and the nostrils, the large postocular bare patch, the dark-brown head, the brown (not rufous) upper tail-coverts, the dark moustache, the complete and regular barring of the whole of the under surface, including the under tail-coverts—all these easily distinguish it. Each feather on the under surface is barred with from three to five dark brown bars, the last of which is always subterminal. The dimensions seem to be nearly the same as those of *D. albertisi*. Length about 38·0 centims., wing 14·5–15·0, bill from gape (chord) 6·7–7·1.

Mr. Bruijn informed me that his hunters had obtained seven or eight examples of this species, but that, though of different sexes, they were all of the same sober colouring. Judging from the habits of others of the *Paradiseidæ*, notably in the case of *P. rubra*, where the immature males and females appear to live in districts quite apart from the adult male at certain seasons of the year, and from the fact that in this group of birds the males are all of brilliant colouring, we can safely predict that the adult male of this species has yet to be discovered, and that it will probably show a development of subalar plumes closely resembling that of *D. albertisi*.

156. CRASPEDOPHORA MAGNIFICA (Vieill.).

Craspedophora magnifica, Salvad. *op. cit.* vol. ii. p. 554.

a–d. ♂. Near Andai.

e, f. Locality unknown.

g. ♀. Locality unknown.

Iris lemon-yellow with a shade of green, as in *P. minor*; bill and feet black. Wing 17·3–18·3 centims. Native name *Isap*.

The female much resembles that of *Seleucides nigricans*; the general tone of the breast is dirty white, instead of dull yellowish, and the primaries are all chestnut instead of having the inner webs black; but otherwise there is but little difference. While at Samatee, the Rajah of Salwatti informed me that this species existed on the island, but it was neither obtained nor seen by ourselves or our hunters.

157. SELEUCIDES NIGRICANS (Shaw).

Seleucides nigricans, Salvad. *op. cit.* vol. ii. p. 561.

a. ♂. Samatee, Salwatti.

b. Jr. ♂. Samatee.

c–g. Jr. ♂. Salwatti.

h. ♂. Locality unknown.

i. ♀. Locality unknown.

Iris holly-berry red, of female orange; bill black; inside of mouth and throat grass-green; legs and feet the colour of pink coral. In the young bird the feet are flesh-coloured. Length 34·8–37·6 centims. (Salvadori gives 25·0 !); wing 16·5–17·2.

During our visit to Salwatti we were fortunate enough to acquire a living specimen of this exquisite species. The way they are caught appears almost incredible. The native searches in the forest until, by the droppings, he has discovered the usual roosting-place of the species. He conceals himself beneath the tree to discover the exact branch chosen by the bird, and then climbing up at night, quietly places a cloth over it! The species being exceedingly fond of the fruit of the Pandanus the roosting-places are easily recognized by the *dejecta*, but in three weeks our hunters only secured one bird. This was a male in full plumage (*a*), which afterwards became very tame and lived for many weeks on board the 'Marchesa,' though we were unfortunate enough to lose him before our arrival in England. I find the following notes in my diary:—"The *Seleucides alba* is now wonderfully tame, and will eat out of one's hand. He feeds on the fruit of the Pandanus, on Papaw (*Carica papaya*) when it can be obtained, on cockroaches, and occasionally on banana. He is fond of resting motionless with the head sunk low on the chest. The top of the head is very flat and low, so that the upper margin of the eyes protrudes above it. He remains more or less quiet during the day, but in the morning and evening is more restless, moving from perch to perch with a peculiar bounding hop. In feeding he is most wonderfully *neat*. With his long sharp bill he catches a cockroach with lightning rapidity, taking it across the

body. He then gives it a sudden snap with the beak, throws it up in the air, catches it lengthwise, and it is out of sight in an instant. In this operation he displays to advantage the lovely colouring of the inside of the mouth and throat. The only note he has as yet uttered in confinement is a single unmelodious croak."

From the above series and from some native-prepared skins in my possession, the change to adult plumage seems to be thus acquired. The head first assumes its black plumes, with darkening of the feathers, from within outwards, on the neck; the shield appearing gradually meanwhile. The neck now gets darker, and the wing-feathers begin to be tinged with violet, apparently commencing with the secondaries. As yet the lower breast and abdomen have remained unchanged, except that on the flanks the feathers are more plumose. In the next stage the upper parts, head, neck, and breast are complete, the wings tolerably so, while the tail is tinged with violet. The subalar plumes have appeared, but are short, of a dull buff, and barred with brown, though the wires are almost as long as in the adult, but are black with pale tips. The breast is still almost unchanged, except that it is somewhat yellower. The final change that appears to take place is the assumption of the yellow on the breast and plumes, and the deep violet-black tail.

The native name for this bird in Salwatti and the *Rajah ampat* generally is "Palengo."

158. PARADISEA MINOR, Shaw.

Paradisea minor, Salvad. *op. cit.* vol. ii. p. 577.

a–z. ♂. Near Ansus, Jobi.
a′–p′. Jr. ♂. Near Ansus.
q′. Sex. incert. Near Ansus.
r′–b″. ♂. Dorei Bay.
c″–e.″ Jr. Mysol.

Iris lemon-yellow, with a tinge of green. This green shade is sufficiently well marked during life, but fades immediately after death, when the iris appears yellow. Feet and tarsus bluish slate; bill almost lavender. Length of adult Jobi males, without the central tail-feathers, 36·7–41·2 centims.; wing 19·2–20·9.

The above birds, which are only a part of the whole series collected during the voyage of the 'Marchesa,' demonstrate well the gradual change from immature to adult plumage.

The young birds in first plumage exactly resemble the females, but in a short time the purity of the white on the under surface and a marked increase in size render apparent the difference in sex. The yellow of the scapulars becomes more marked, and the green of the throat and yellow of the head begin to appear simultaneously. This green is assumed by the gradual tipping of each feather with that colour (in the adult the apex only of each feather is green), while on the head the brown feathers gradually become yellow from beneath. The plumage of the head and throat having become complete, the two median rectrices begin to elongate, and the lower part of the throat becomes tinged with chestnut. At a further stage

the mantle has become more yellow, the chestnut on the throat and breast has extended, and median rectrices, which are still slightly webbed at the tip, protrude some six inches beyond the other feathers. At a still further advanced stage the yellow mantle is complete, the entire breast is chestnut, and the abdomen is becoming so, the wire-like tail-feathers have reached their extreme length, and nothing is therefore wanting to complete the full plumage except the chestnut abdomen and the long subalar plumes, of which latter there is as yet no trace.

I am rather inclined to the belief that the bird remains for some time in this half-perfect plumage. We were fortunate enough in our expedition to New Guinea to obtain no less than four living examples of this species, three of which are at the present moment in the Gardens of this Society. When first obtained, in the month of December, they were in the dress I have just described, and remained thus for some two or three months. The yellow feathers of the head then fell off in two of the four, the birds becoming quite bald in patches, leaving nothing but the black skin showing. At the same time the subalar tufts began to appear. New feathers rapidly appeared on the head; they were almost white at first, but soon assumed the yellow shade. The subalar tufts grew quickly, and were tolerably long within three weeks of their first appearance.

The food given to the birds while on board consisted of boiled rice, banana, papaw fruit, cockroaches, and chopped egg.

We obtained *P. minor* from the mainland of New Guinea, from Mysol, and from Jobi. When in Salwatti I made many inquiries for it, but we did not obtain it, and I was assured that it did not exist on the island. Its abundance in Jobi was wonderful. In the neighbourhood of Ansus, at an altitude of about 1000 feet or less, we obtained no less than fifty-one examples in five days. The known segregation of the older males at certain (or all?) periods of the year partly explains the great preponderance of that sex in the present series. Immature males are also very common, but it is difficult to get females, and there is no doubt a considerable actual preponderance in numbers in favour of the male sex.

159. Paradisea apoda, Linn.

Paradisea apoda, Salvad. *op. cit.* vol. ii. p. 594.

a–s. ♂. (Native skins.) Aru.

t. ♀. Wanumbai, Aru.

During our stay in the Aru Islands, we were only able to procure a solitary individual of this species. At the end of the month of December, we were informed by natives and others that the males were not in plumage, and would not assume the adult dress until April. Mr. Wallace's experience also bears this out, and the males in full plumage in Salvadori's collection were shot during the months of April, May, and June only. It is curious therefore to note that the closely allied *P. minor* appears to remain in plumage the whole year round.

It seems that *P. apoda* is decreasing in numbers in the Arus, or at

any rate in the northern islands, where they have been collected for export for more than a hundred years. In the southern islands they may possibly exist in undiminished numbers; but the prices have risen of late years, and while Wallace, in 1857, paid as little as sixpence for the native-prepared skins, they cannot now be obtained at Dobbo under two dollars.

The largest market in the East for the skins of the *burong mati*, or Paradise birds, is at Macassar. Here the commoner sorts are brought in great numbers, made up in parcels of twenty skins, known in the trade as *koddies*. These are all native-prepared skins, for the most part devoid of legs, and useless to the naturalist, besides being generally much moth-eaten. Practically, only six species come into the market:—"males" (*P. apoda*), "females" (*P. minor*), "red birds" (*P. rubra*), "many-wires" (*S. alba*), "green birds" (*D. speciosa*), and "king birds" (*C. regius*); and the trade prices for skins of medium quality per *koddy* are as follows:—

P. apoda	90–100	gulden.
P. minor	70– 90	,,
P. rubra	80–110	,,
S. alba	110–130	,,
D. speciosa	50– 70	,,
C. regius	30– 40	,,

The gulden may be reckoned at one shilling and eightpence.

The trade in Macassar is carried on chiefly by a few Dutch merchants, and by various Chinamen, who likewise deal in gum-dammar, pearls, pearl-shell, and other productions of the eastern islands. The greater portion of the skins are sent to Paris, although London absorbs a considerable quantity. But few of them, however, find their way to Holland.

160. Paradisea rubra, Lacép.

Uranornis rubra, Salvad. *op. cit.* vol. ii. p. 623.

a–g. ♂. Waigiou.
h–m. *Vix ad.* ♂. Waigiou.
n–s. *Jr.* ♂. Waigiou.
t–i'. ♀. Waigiou.
k'–n'. ♀. Batanta.
o'. *Jr.* ♂. Batanta.

Iris ruddy brown; bill greenish yellow; feet greenish brown. Length 34·0–36·0 centims., wing 15·5–18·4. Female smaller, length 30·0–34·0 centims., wing about 16·0.

As in the case of most of the Paradiseidæ, the young males are not to be distinguished from the females as far as regards plumage, though the latter are somewhat inferior in size. The first change appears to be the assumption of the metallic green of the head, simultaneously with a slight darkening of the chestnut on the upper breast, and a brightening of the yellow on the neck and wing-coverts. The two median rectrices then commence to elongate, and after a

time the web of the feather becomes eroded. It still remains webbed at the base, however, and generally carries a spatula for some time. Indeed, this spatula may sometimes be seen in the full, or nearly full, plumaged bird. In the process of elongation the shaft becomes thin and widened, though still remaining of a brown colour; and although Salvadori doubts whether the curious quill-like plumes of the full plumage are assumed without moult, an individual of the present series shows that this is the case, and that the result is produced by the gradual incurving of the already flattened shaft. The last stage is in the appearance of the red subalar plumes, from which the bird derives its specific name.

I have noticed that the females and quite young males seem alike to have the two median rectrices somewhat narrow and rather *shorter* than the others, and that the prolongation of these is not invariably a change of the earliest period.

The Batanta birds appear to have the yellow less bright. There is less of it on the back, and it merges into the black of the forehead without the distinct line over the vertex as in the others.

161. Diphyllodes magnifica (Penn.).

Diphyllodes magnifica, Salvad. *op. cit.* vol. ii. p. 634.

a–c. ♂. Salwatti? (*Bruijn*).

d. ♂. Salwatti.

Iris brown; bill greyish blue; feet bright blue. Length about 22·0 centims., wing 11·3. This bird is known to the hunters of the Rajah Ampat as *Bila rotan*, Malay for "cut rattan"—from the appearance of the yellow mantle, which is certainly not unlike a sloping section of a large rattan.

I cannot help regarding this species as decidedly rare, for in spite of the large collections we obtained in Mysol, Salwatti, and the Arfak, not one single example of this species was shot either by ourselves or our own hunters.

162. Diphyllodes chrysoptera, Gould.

Diphyllodes chrysoptera, Salvad. *op. cit.* vol. ii. p. 641.

a. ♂. Ansus, Jobi (*Bruijn*).

b. ♀. Ansus (*Bruijn*).

Mr. Laglaize informed me that the iris of the male is yellowish. The bill and feet are as in *D. magnifica*.

We were unable to obtain this species during our visit to Jobi, and it seems to be far from common on that island. I have seen skins intermediate between this and the last species from the eastern side of Geelvink Bay; and I feel certain that a series from this locality and Jobi would show that the two so-called species are in reality not separable.

163. Diphyllodes wilsoni (Cass.).

Schlegelia respublica, Salvad. *op. cit.* vol. ii. p. 642.

a–d. ♂. Marchesa Bay, Batanta.

e–g. ♀. Marchesa Bay.

h–k. Jr. ♀. Marchesa Bay.
l. Jr. ♂. Chabrol Bay, Waigiou.
m. ♂. Waigiou.

Iris brown, of female greyish brown; bill black, tip of upper mandible brownish; feet and legs bright blue, darker in the female. Inside of mouth bright greenish yellow in both sexes. Length, exclusive of long rectrices, 18·5–20·0 centims., wing 9·4–9·8. Shot in October and November. Malay name *Kapala kruis* (Cross-head).

The bare occipital patch is of the brightest imaginable blue during life; the figure in Gould's 'Birds of New Guinea' gives no notion of the extreme brilliancy of the colouring of this part. In the female and young male it is not quite so bright. It begins to fade almost immediately after death, is quite dull in four or five hours, and by next day the skin is as black as in a long-shot specimen. The curved tail-feathers also seem to lose their colour, contrary to what is usually the case in plumes of metallic colouring. Before fading they are of a bright steely purple.

The immature male differs in no way from the female. Of the change of plumage to the adult dress, I can, however, give no information. The species occurred to us most commonly at the east end of Batanta, but it was far from abundant. It frequented hills of about 1000 feet in height, at a distance of about half a mile from the sea.

164. Cicinnurus regius (Linn.).

Cicinnurus regius, Salvad. *op. cit.* vol. ii. p. 646.

a, b. ♂. Arfak.
c–f. ♂. Andai.
g–l. Jr. ♂. "New Guinea."
m–o. ♂. Salwatti.
p. ♀. Salwatti.
q. Jr. ♂. Salwatti.
r–r'. ♂. Mysol.
s'–g''. Jr. ♂. Mysol.
h''–l''. ♀. Mysol.
m''–q''. ♂. Jobi.
r''–t''. Jr. ♂. Jobi.
u''. ♀. Jobi.
v''–b'''. Mysol.

Iris brown; bill yellowish horn-colour, becoming quite yellow in the dried skin, in the female and young male brownish; legs and feet bright blue, somewhat duller in the female; inside of mouth bright yellowish green. Total length, not including median rectrices, 17·0–19·4 centim., of females and young males 19·0–21·0, the larger measurements depending on the greater length of the tail in the latter. Wing 9·8–10·4 centims. Native name among the hunters of the Rajah Ampat, *Kepin-kepin*.

In the large series obtained on the 'Marchesa's' cruise, of which the above are a portion only, the various changes in the plumage

from youth to adult age are well exemplified. The young male is at first not to be distinguished from the female, but after a time the first signs of the full plumage become evident in the case of the former, either by the appearance of a few scattered red feathers on the head and neck, or by the gradual reddening of the external surface of the wings. At the same time the median rectrices begin to elongate. At first brown, they soon acquire a red tinge, and, when an inch or two longer than the others, become eroded on the inner web, and somewhat curved, so that the feather is sickle-shaped. This curvature becomes more pronounced, ultimately assuming the shape of the perfect feather, though the colour of the web still remains brown. The shaft then becomes completely denuded of feather, and the terminal disk acquires the brilliant metallic green colouring of the perfect plume.

This development has gone on contemporaneously with the change in the general plumage. The whole of the back and upper surface having become more or less red in patches, the colour being assumed gradually by each feather, and not by moult, each feather becoming at first yellowish, then red,—a change is seen in the under surface, the feathers of the abdomen turning gradually white, while simultaneously signs of the metallic green pectoral band appear. Simultaneously also, the subalar plumes commence to grow, a process which in the genus *Paradisea* is the final stage towards the completion of the full plumage. They are at first ruddy, barred with greyish brown, while the tips, which are destined later to become metallic green, are buff. The final change consists in the assumption of the colour in the tips.

It is impossible to examine a large series of *C. regius*, such as the above, without noticing certain differences with regard to locality, which, though slight, appear to be tolerably constant. Taking the Mysol examples, which seem to be possessed of no marked characteristics, as a standard, the birds from Aru, Jobi, and the Arfak region present the most noteworthy peculiarities. They may be shortly summarized as follows:—

Aru. Birds large; very yellow on the head; supraocular spot large; tails long; disks small. Tendency to a bronze tint on the metallic green.

Jobi. Beak shorter, the apex projecting but a short distance beyond the nasal tufts. Supraocular spot small. Violet tinge of throat strongly marked.

Arfak. Birds small. Tail very short; disks large.

A female from Jobi island is characterized by being of a dark mouse-brown on the back and head.

Although we never obtained *C. regius* in Batanta, I on one occasion doubtfully, and on another certainly, saw it at the south-east end of that island. But for this, I should have had great doubts of its existence in that locality.

165. Xanthomelus aureus (Linn.).

Xanthomelus aureus, Salvad. *op. cit.* vol. ii. p. 658.

a, b. Jr. ♂. Near Dorei (?).

The above two skins, the sex of which is not indicated, were obtained from a Malay in Dorei, in which locality they were supposed to have been shot. The upper surface is brown, slightly olivescent, darker on the head, the mantle streaked with yellow, owing to the shaft of each feather being of that colour. Throat and sides of the head pale brown; upper breast barred with brown, producing an imbricated appearance; rest of under surface bright yellow. Under wing-coverts and inner webs of primaries yellow, the former marked with brown. Shafts of wing- and tail-feathers yellow beneath. Bill and feet brownish black in the dried skin. The specimens are, no doubt, immature males.

We were unable ourselves to obtain examples of this species in Salwatti, but at Samatee on that island we procured three flat skins of adult males from a native. Their origin was, however, uncertain, and it is more than possible that they were brought from Sorong on the mainland.

The Arfak name for *X. aureus* is *Kumeda*.

166. Ælurœdus buccoides (Temm.).

Ælurœdus buccoides, Salvad. *op. cit.* vol. ii. p. 675.

a. Dorei.
b. ♂. N. New Guinea, long. 139° E. (*Bruijn*).
c. ♂. Ansus, Jobi.
d. ♀. Batanta.
e. ♀. Salwatti.

Iris red-brown; bill and feet slate-coloured. Length 25·5 centims., wing 13·3–14·3 centims. Jobi is a new locality for this species, but the present example differs but little from the others, except in its somewhat larger size. Examples *a* and *d* have the apices of the outer tail-feathers slightly tipped with white.

167. Ptilopus superbus (Temm.).

Ptilopus superbus, Salvad. *op. cit.* vol. iii. p. 6.

a, b. ♂. Mysol.

Iris yellow; bill slate, yellow at tip; feet red. Length 23·3–24·0 centims., wing 13·0.

Both skins are characterized by the great breadth of the purple pectoral band.

168. Ptilopus pulchellus (Temm.).

Ptilopus pulchellus, Salvad. *op. cit.* vol. iii. p. 13.

a–d. ♂. Waigiou.
e. ♀. Waigiou.
f. ♂. Mysol.

Iris dark yellow; bill yellow, green in the female *e*, tarsus dark red. Length 19·5–20·4 centims., wing 10·1–10·8. Sexes alike.

169. PTILOPUS GEMINUS, Salvad.

Ptilopus geminus, Salvad. *op. cit.* vol. iii. p. 19.

a. ♂. Jobi (*Bruijn*).

Salvadori's description, "*macula abdominis medii transversa pallide violacea, croceo circumdata,*" is perhaps not strictly accurate. The small violet patch is bounded below and on the sides only by the saffron of the abdomen.

170. PTILOPUS HUMERALIS, Wall.

Ptilopus humeralis, Salvad. *op. cit.* vol. iii. p. 23.

a. ♂. Waigiou.

Bill greenish, yellow at apex; tarsus dull red. The existence of this species in Waigiou has not been previously recorded.

171. PTILOPUS WALLACEI, G. R. Gr.

Ptilopus wallacei, Salvad. *op. cit.* vol. iii. p. 30.

a. ♂. Dobbo, Aru.

b. ♂. Locality unknown.

Iris dirty yellow; bill greenish yellow; tarsus red. Length 25·5 centims., wing 14·5–15·5.

172. PTILOPUS ORNATUS, Rosenb.

Ptilopus ornatus, Salvad. *op. cit.* vol. iii. p. 32.

a. ♂. Andai.

Iris orange; bill yellow; feet reddish purple. The under tail-coverts are white rather than pale yellow as in Salvadori's description.

173. PTILOPUS PRASINORRHOUS, G. R. Gr.

Ptilopus prasinorrhous, Salvad. *op. cit.* vol. iii. p. 41.

a–d. ♂. Traitors Islands, N. of Jobi (*Bruijn*).

e. ♀. Traitors Islands (*Bruijn*).

These examples do not differ from others obtained from more western localities.

174. PTILOPUS BELLUS, Sclat.

Ptilopus bellus, Salvad. *op. cit.* vol. iii. p. 45.

a. ♂. Andai.

b–d. ♀. Arfak (*Bruijn*).

Iris yellow; bill yellow; feet dark red. In two of the females the secondaries towards the apex are strongly edged on the outer web with bright yellow.

From the occurrence of this bird at Andai it is evident that the species is not, as has previously been supposed, confined to the mountainous districts.

175. PTILOPUS SPECIOSUS, Rosenb.

Ptilopus speciosus, Salvad. *op. cit.* vol. iii. p. 47.

a, b. ♂. Traitors Islands (*Bruijn*).

c. ♀. Traitors Islands (*Bruijn*).

The little group to the S.E. of Biak, known as the Pade Aido, or Traitors Islands, appear, as far as I could judge from a small collection obtained by Mr. Bruijn's hunters, to belong, ornithologically speaking, to the Mysory division of the Geelvink-Bay islands.

176. PTILOPUS PECTORALIS (Wagl.).

Ptilopus pectoralis, Salvad. *op. cit.* vol. iii. p. 60.

a. ♂. Mysol.
b. ♀. Waigiou.
c. ♀. Locality unknown.

Iris dark yellow; bill yellow; feet dark red. Length 20·5–22·5 centims., wing 11·0.

The female of this species much resembles that of *P. prasinorrhous*, but is distinguished by its smaller size and its shining green wings; and also by the under tail-coverts being white tipped with yellow, the inner web green, while in *P. prasinorrhous* the tail-coverts are dark green edged with yellow.

177. MEGALOPREPIA PUELLA (Less.).

Megaloprepia puella, Salvad. *op. cit.* vol. iii. p. 66.

a–d. ♂. Waigiou.
e, f. ♀. Waigiou.
g, h. ♂. Batanta.
i. ♀. Batanta.
k. ♂. Mysol.
l, m. ♀. Mysol.
n, o. ♀. Salwatti.

Iris bright red, orange, or yellow, irrespective of locality; bill red at base, tip yellow; tarsus green, or yellowish green. Length variable, 31·8–36 centims., wing 15·8–17·1. Sexes alike. But little variation is apparent in the plumage of the above examples.

178. CARPOPHAGA MYRISTICIVORA (Scop.).

Carpophaga myristicivora, Salvad. *op. cit.* vol. iii. p. 74.

a. ♂. Waigiou (Nov. 11th).
b. Batanta.

Iris indian red, brown in *a*; bill and cere black; feet red. Length 45–46 centims., wing 27·5. Cere not large.

Salvadori doubts the accuracy of the locality in two of Bruijn's examples said to have been obtained from Halmaheira. It is, however, not improbably correct, as we obtained this species in numbers on the Weda Islands, which lie at the S.E. extremity of Gilolo.

179. CARPOPHAGA ZOEÆ (Less.).

Carpophaga zoeæ, Salvad. *op. cit.* vol. iii. p. 94.

a. ♂. Wammar, Aru.

Iris white; bill greenish slate; tarsus dull pinkish red. Length 43·2 centims., wing 22.

180. CARPOPHAGA RUFIVENTRIS, Salvad.

Carpophaga rufigaster, Q. et G.

Carpophaga rufiventris, Salvad. *op. cit.* vol. iii. p. 98.

a–d. ♂. Waigiou.

e. ♀. Salwatti.

f. ♂. Mysol.

g. ♀. Andai.

h. ♀. Batanta.

i. Locality unknown.

Iris red; bill dark brown or black; feet dull red; bare space round eye red. Length 36·8–38·0 centims., wing 18·5–19·2.

The prolonged upper tail-coverts of one of the Waigiou birds are very dark, almost greenish black. The Andai bird is characterized by the brilliant cupreous-red iridescence of the back.

181. CARPOPHAGA CHALCONOTA, Salvad.

Carpophaga chalconota, Salvad. *op. cit.* vol. iii. p. 100.

a–d. Arfak.

Four birds, sex unknown, brought down by the Arfak hunters. Wing 19·5–21·0 centims.

C. rufiventris much resembles this species, but may be distinguished by its vinaceous head, by the bright rufous of the upper breast, and by the purple-brown (not dark blue) tail. The beak also is smaller in the former.

182. CARPOPHAGA MUELLERI (Temm.).

Carpophaga müllerii, Salvad. *op. cit.* vol. iii. p. 101.

a. Dobbo, Aru (Dec. 4th).

Iris brown; bill dark slate; tarsus dark vinous red. Length 45·5 centims., wing 23·7, bill from gape 3·8.

This was the only occasion on which we met with this fine Pigeon, which does not seem common in the Arus.

183. CARPOPHAGA PINON (Q. et G.).

Carpophaga pinon, Salvad. *op. cit.* vol. iii. p. 103.

a–d. ♂. Waigiou.

e. ♀. Waigiou.

f, g. ♂. Batanta.

h. ♀. Batanta.

i, k. ♂. Mysol.

l. ♀. Mysol.

m, n. ♂. Dobbo, Aru.

o. ♀. Dobbo.

Iris, outer ring dull, inner bright red. In others this double ring is absent, the iris being dull indian red, sometimes purple. Bill greyish horn-colour, bluish at the apex. Bare space surrounding the eye bright red. Feet red.

This species appears to vary very much in size. The average length is from about 47 to 48 centims., but a Mysol example only measures 40·0 centims. The Waigiou birds seem largest.

C. pinon is an abundant bird in the Papuan Islands mentioned above, and is often to be found in small flocks of four or five individuals. In several examples of the present series the web of the feather is worn off in the white bar which crosses the tail, thus producing a singular fenestrated appearance.

184. MYRISTICIVORA SPILORRHOA, G. R. Gr.

Myristicivora spilorrhoa, Salvad. *op. cit.* vol. iii. p. 111.

a. ♀. Dobbo, Aru.

Iris almost black; bill slate, yellow at apex. Feet slate-blue. Length 44·0 centims., wing 24·6.

Under tail-coverts and tibials with a subterminal black spot; external rectrices with a very narrow apical black band. It is worthy of note that, whether "the assertions of Bonaparte, Cassin, and Lord Walden are founded on individuals with two tail-feathers accidentally wanting," or not, the present example has only 12 rectrices.

185. GYMNOPHAPS ALBERTISI, Salvad.

Gymnophaps albertisii, Salvad. *op. cit.* vol. iii. p. 118.

a–c. Arfak (*Bruijn*).

d. ♂? Jobi.

Iris in the Jobi bird blood-red; bill and circumocular space brilliant red.

This example, *d*, differs in having the chin and gular region grey rather than chestnut; the latter colour being confined to the auricular region. The breast is slightly spotted with grey, which is not the case in the other skins. The species has not, as far as I am aware, been hitherto recorded from Jobi.

186. REINWARDTŒNAS REINWARDTI (Temm.).

Reinwardtœnas reinwardtii, Salvad. *op. cit.* vol. iii. p. 124.

a–c. ♂. Waigiou.

d. Jr. ♂. Waigiou.

e. Jr. ♀. Waigiou.

f. ♂. Waigiou.

g. ♀. Batanta.

h. Batanta.

Iris, inner ring yellow, outer red; bill red at base, apex brown or slate-coloured. Feet and bare space round eye red. Length very variable; wing 23·0–24·2 centims.

In *d* the head is brown, with a few scattered white feathers. There are splashes of brown on the upper breast and back, and the bill and feet have not yet assumed the red colour of the adult. Example *e* is also immature, and has ruddy feathers on the breast and neck.

187. MACROPYGIA NIGRIROSTRIS, Salvad.

Macropygia nigrirostris, Salvad. *op. cit.* vol. iii. p. 149.

a. Locality unknown.

With faint barring on the back and interscapulars, and over the whole of the outer surface of the wing.

188. PHLOGŒNAS RUFIGULA (Puch. et Jacq.).

Phlogœnas rufigula, Salvad. *op. cit.* vol. iii. p. 161.

a. ♂? Salwatti.

b. Arfak.

Iris pink ; bill brown ; feet purple-madder. Length 23·5 centims., wing 12·5–13·2.

The Arfak bird differs in having the grey supraocular stripe much more marked, and the rufous of the vertex merging gradually into the brownish occiput. In the Salwatti bird there is a sharp boundary line here, and the occipital region is much darker. Beneath, in the latter example, the crissum and tibials are isabelline.

189. HENICOPHAPS ALBIFRONS, G. R. Gr.

Henicophaps albifrons, Salvad. *op. cit.* vol. iii. p. 183.

a. ♂. Waigiou.

Iris black ; bill slate ; feet coral.

With the white forehead edged round faintly with pale fulvous, more marked posteriorly.

190. EUTRYGON TERRESTRIS (G. R. Gr.).

Eutrygon terrestris, Salvad. *op. cit.* vol. iii. p. 186.

a. ♀. Andai.

Iris red ; bill with the base dark slate-colour, the apex whitish ; feet pink. Length 37·5 centims., wing 18·0.

191. OTIDIPHAPS NOBILIS, Gould.

Otidiphaps nobilis, Salvad. *op. cit.* vol. iii. p. 188.

a. Dorei (?).

b, c. Arfak.

Example *a* was obtained from a native in Dorei Bay, and was believed to have been shot in the vicinity. While in Waigiou I was informed by the natives that a bird, apparently of this species, inhabited the island, which is not improbable, as Von Rosenberg has met with it in Batanta. The hunters of the Rajah Ampat know this species by the name of *Rajah Maleo* !

192. GOURA CORONATA (Linn.).

Goura coronata, Salvad. *op. cit.* vol. iii. p. 191.

a, b. ♂. Waigiou.

c. ♀. Waigiou.

d. ♂. Mysol.

e. ♂. Dorei.
f. ♀. Dorei.
Iris red; tarsus dull red, irregularly marked with white; feet brighter; bill bluish.

The above are only a portion of the large series of skins obtained during the voyage of the 'Marchesa.' The abundance of the species is wonderful, especially in Waigiou, and the fact that at one time we had twenty-five living birds on board shows the facility with which they are trapped by the natives.

193. GOURA VICTORIÆ (Fraser).

Goura victoriæ, Salvad. *op. cit.* vol. iii. p. 205.

a. ♀. Near Ansus, Jobi.
b. Juv. Near Ansus.
Iris red; feet dull red; bill bluish, lighter at apex.

The young bird only differs in its much smaller size (48·1 centims.), in the absence of the chestnut tips to the greater wing-coverts, and in the lesser amount of white on the crest.

We obtained only three of these birds while in Jobi, from which it is probable that the species is not very abundant.

194. CALŒNAS NICOBARICA (Linn.).

Calœnas nicobarica, Salvad. *op. cit.* vol. iii. p. 209.

a–c. ♂. Waigiou.
d. ♂ *juv.* Waigiou.
e. ♀. Waigiou.
f. ♂. Salwatti.
Iris dull red, or reddish brown; bill and cere black; feet dull reddish, yellowish beneath. Length about 38·0 centims., wing 24·0–25·5.

195. MEGAPODIUS DUPERREYI, Less. et Garn.

Megapodius duperreyi, Salvad. *op. cit.* vol. iii. p. 219.

a. Dorei.
Iris brown; bill brown; tarsus reddish orange.

196. MEGAPODIUS FREYCINETI, Q. et G.

Megapodius freycineti, Salvad. *op. cit.* vol. iii. p. 230.

a, b. ♂. Waigiou.
c. ♀. Waigiou.
d. ♀. Momos, Waigiou.
Iris brown, or dark indian red; bill brown, lighter at the apex; tarsus and feet dark brown or black, claws black. Length 35·3–39·8 centims., wing 22·0–22·7.

An apparently abundant species in Waigiou.

197. TALEGALLUS JOBIENSIS, Meyer.

Talegallus jobiensis, Salvad. *op. cit.* vol. iii. p. 243.

a. ♂. Jobi (*Bruijn*).
In the dried skin the beak is brown.

198. TALEGALLUS CUVIERI, Less.

Talegallus cuvieri, Salvad. *op. cit.* vol. iii. p. 245.

a. ♂. Salwatti.

b. Juv. Salwatti.

c. ♀. Dorei Bay.

Iris yellowish red; bill orange-red; feet orange; bare skin of throat reddish brown. Example *c* has a small collar of brown feathers on the nape. The young bird differs in being much smaller, and of a duller black.

199. RALLICULA RUBRA, Schleg. (Plate XXXIX.)

Rallicula rubra, Salvad. *op. cit.* vol. iii. p. 270.

a. ♂. Arfak (*Bruijn*).

Under wing-coverts and whole of the under surface of the wing, barred with white.

200. ORTHORHAMPHUS MAGNIROSTRIS (Geoffr.).

Orthorhamphus magnirostris, Salvad. *op. cit.* vol. iii. p. 290.

a. ♂. Mysol.

Iris yellowish; bill black; tarsus olive-green. Length 52·0 centims., wing 28·0.

201. CHARADRIUS FULVUS, Gm.

Charadrius fulvus, Salvad. *op. cit.* vol. iii. p. 294.

a. ♀. Momos, Waigiou (Oct. 25th).

In changing plumage; breast and abdomen yellowish, interspersed with black feathers.

202. ÆGIALITIS GEOFFROYI (Wagl.).

Ægialitis geoffroyi, Salvad. *op. cit.* vol. iii. p. 298.

a. Momos, Waigiou (Oct. 27th).

In winter plumage, and with no grey pectoral band.

203. ÆGIALITIS MONGOLICA (Pall.).

Ægialitis mongolica, Salvad. *op. cit.* vol. iii. p. 299.

a. ♂. Batanta (Oct. 22nd).

In winter plumage.

204. TRINGA ACUMINATA (Horsf.).

Tringa acuminata, Salvad. *op. cit.* vol. iii. p. 313.

a. ♂. Momos, Waigiou (Oct. 26th).

Iris brown; bill brown; feet and tarsus olive. Length 22·0 centims., wing 14·0. Plumage changing.

205. TRINGOIDES HYPOLEUCUS (Linn.).

Tringoides hypoleucus, Salvad. *op. cit.* vol. iii. p. 318.

a. ♂. Waigiou.

b. ♀. Mysol.

Iris dark brown; bill brown; tarsus dull olive. Length 20·0 centims. Obtained in November.

206. TOTANUS INCANUS (Gm.).

Totanus incanus, Salvad. *op. cit.* vol. iii. p. 320.

a. ♂. Waigiou (Nov. 11th).
b. ♀. Waigiou (Oct. 29th).
In *a* there are only slight traces of barring on the breast.

207. TOTANUS GLAREOLA (Linn.).

Totanus glareola, Salvad. *op. cit.* vol. iii. p. 323.

a. ♂. Momos, Waigiou (Oct. 24th).
This species has not hitherto been recorded from the Papuan subregion.

208. SCOLOPAX ROSENBERGI, Schleg.

Scolopax rosenbergii, Salvad. *op. cit.* vol. iii. p. 335.

a. ♀. Arfak (*Bruijn*).
This individual corresponds with Salvadori's description of *S. rosenbergi*, but I have had no opportunity of comparing it with skins of that species.

209. DEMIEGRETTA SACRA (Gm.).

Demiegretta sacra, Salvad. *op. cit.* vol. iii. p. 345.

a. ♂. Samatee, Salwatti.

210. ARDETTA SINENSIS (Gm.).

Ardetta sinensis, Salvad. *op. cit.* vol. iii. p. 363.

a. ♀. Andai.
Iris chrome-yellow; bill yellowish horn; culmen brown; tarsus and feet light green, soles of feet yellow. Length 37·0 centims., wing 14·0.

211. NYCTICORAX CALEDONICUS (Gm.).

Nycticorax caledonicus, Salvad. *op. cit.* vol. iii. p. 372.

a. ♂. Salwatti.

212. TADORNA RADJAH (Garn.).

Tadorna radjah, Salvad. *op. cit.* vol. iii. p. 391.

a. ♀. Waigiou (January).
b. ♀. Ansus, Jobi (November).
Iris white; bill and tarsus yellowish white; claws blackish. Length 49·7 centims., wing 24·7–28·0.
Jobi is apparently a new locality for this species.

213. MICROCARBO MELANOLEUCUS (Vieill.).

Microcarbo melanoleucus, Salvad. *op. cit.* vol. iii. p. 410.

a. ♂. Mysol.
b. ♀. Chabrol Bay, Waigiou.
Iris brown; bill yellow, reddish at base; culmen black. Length 59·5–61·0 centims.
Example *a* has some of the wing-coverts white.

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