

# ON THE BIRDS COLLECTED ON THE TUKANG-BESI ISLANDS AND BUTON, SOUTH-EAST OF CELEBES, BY MR. HEINRICH KÜHN.

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BEING particularly interested in the ornithology of the Celebes group, whence we had received such fine collections from Everett and Doherty, Mr. Walter Rothschild and I have for a long time been trying to induce collectors to go to the entirely unexplored Tukang-Besi Islands and Buton, south-east of Celebes, but in vain. Doherty had no inclination to go there, and Everett was unable to obtain the required permission from the Dutch authorities. The Tukang-Besi Islands belong to the Sultan of the island of Buton, which is a free tributary state of Holland. The Dutch have no power nor even any influence on Buton and the Tukang-Besi, Toekan-Besi, or Token-Besi Islands, which can only be visited by white men with the consent of the Dutch authorities at Makassar, after the Sultan of Buton has given formal permission. Mr. Kühn succeeded in obtaining these permissions, started for the islands in the autumn of 1901, and collected there in November and December 1901 and January 1902, though the permissions were apparently given somewhat reluctantly, for a limited time only, and not without restrictions and conditions. Mr. Kühn had to take four men of high rank from Buton, who travelled with him on his prau at his expense. They were a source of trouble to him, being constantly about him and doing their best, evidently by order of the Sultan, to keep the native population away from him. On the boat they filled the air with the unpleasant odour of their opium pipes, which they smoked most of the time. In addition to the four officials from Buton, a prau with thirteen men followed him everywhere. These people were, of course, a great bother, and were very troublesome when he was collecting, on account of their constant inquisitiveness and obtrusiveness. From Wantjee (Wangi, Wangi-Wangi) Mr. Kühn was at first turned back to Buton, and the return journey to Wantjee was one of nine days' beating against the wind.

The Tukang-Besi (Toekan-Besi, Token-Besi, or Toecambaro) Islands form an extensive but almost unknown archipelago to the eastward of Buton. They are of moderate elevation, with numerous rocks and reefs around and among them. Mr. Kühn visited Wantjee, Kalidupa, Tomia, and Binongka.

Wantjee (Wangi-Wangi, Wangi, Wantyi) is the largest and nearest to Buton. Though only eighteen miles eastward of the east point of Buton, a depth of 1070 fathoms has been found in the channel between them. The island is high, being visible for about twenty to twenty-five miles. The natives here and on the other islands always walk about with one or two kris in the belt, and on Wantjee they were insolent and in no way afraid of the Butonese officials. Binongka, or Binungku, is a geologically young, thickly populated island, which does not produce enough to feed its population, so that every year hundreds of men are obliged to emigrate to Amboina, Banda, and Celebes to trade or to work. There is no forest, or hardly anything that deserves the name; wherever the rugged and sharp coral limestone admits it, the



soil is planted with maize and other cultivated plants, which, however, yield but a poor crop. There is no fresh water on Binongka—only a brackish, objectionable fluid in the cavities of the coral rocks.

Tomia is a little more comfortable, there being at least some smooth and clean sandbanks on the coast, and the coral rock is a little more covered with soil. Nevertheless the thick population cannot obtain sufficient food from the land.

Kalidupa (Kaledoepa, Kadupa) is more fertile, being covered almost all over, even on the mountain-tops, with fertile soil. Although forests have almost entirely disappeared, and vast stretches are covered with the uniform long stiff alang-alang grass (*Imperata arundinacea*), Mr. Kühn believes that at the right season some good Lepidoptera might be found; but he had to leave Kalidupa after a short stay, the time which he was permitted to remain having elapsed.

The islands called Mattheus and Velthoen, to the east of the above-named ones, are uninhabited, but said to be full of birds. They were not visited.

The inhabitants of the Tukang-Besi Islands are of a very light colour, probably of Buginese origin. Most of the men and all the women had never seen a white man in their lives, and generally ran away to a distance of over a hundred yards. Mr. Kühn, however, suspects that this fear was partly due to the Butonese officials, who were overbearing and unkind to a degree, and did what they could to prevent Mr. Kühn's getting into contact with the natives.

No zoological collector has ever before touched the Tukang-Besi Islands, and all honour is due to Mr. Heinrich Kühn for having brought together, under most inconvenient and trying circumstances, the very interesting collection hereafter enumerated.

From the nature of the islands, which consist apparently of geologically young coral rock, being almost or entirely devoid of old forest, very thickly populated, and highly cultivated, a very rich fauna cannot be expected, and, in fact, Mr. Kühn calls it very poor. Many otherwise ubiquitous genera of birds of the Eastern Archipelago are indeed absent.

Buton has also remained ornithologically unknown, though it appears that Labillardère, one of the naturalists who accompanied D'Entrecasteaux's expedition in search of the lost ship *La Pérouse*, collected some birds on Buton or Muna. D'Entrecasteaux passed through the Strait of Buton, between Buton and Muna; eighteen days were spent in making the passage, and parties landed on both islands. On either of them they must have collected a number of birds, such as *Streptocitta albigollis*, *Gazzola typica* and others, which were partly, through some carelessness in labelling, attributed to New Caledonia. (Cf. Meyer & Wigglesworth, *B. Celebes* ii. pp. 576. 584.)

Altogether Mr. Kühn sent from his expedition seventy-three species, mostly in large series. Of these nine or ten are migrants from the north, the rest resident birds. While the birds from Buton are—as far as the very small collection from that island shows—practically the same as those of South Celebes, the birds from the Tukang-Besi Islands show on the whole a very different aspect. Though mainly the same as those of Celebes, or closely allied, there is among them also a fair mixture of Southern forms, just as we find it on Djampea, Kalao, and even, to some degree, on Saleyer. It is, to me, most strange that a number of forms (*Astur torquatus wallacei*, *Baza subcristata reinwardti*, *Tanygnathus megalorhynchos*, *Carpophaga concinna*) inhabit the islands quite close, sometimes all around, north and south of Celebes, but avoid the mainland, if we may call it so. The birds from Wantjee, Kalidupa



Binongka, and Tomia are entirely similar. The proportion of peculiar forms on the Tukang-Besi Islands is, in proportion to the number of species, fairly large, being :

1. *Pisorhina manadensis kalidupae* : Kalidupa.
2. *Tanygnathus megalorhynchos viridipennis* : Kalidupa, Binongka, Tomia.
3. *Dicaeum külni* : Kalidupa, Binongka, Tomia.
4. *Cinnyris infrenata* : Wantjee, Kalidupa, Tomia, Binongka.
5. *Zosterops flavissima* : Wantjee, Kalidupa, Tomia, Binongka.
6. *Oriolus broderipi oscillans* : Wantjee, Kalidupa, Tomia, Binongka.
7. *Hypotaenidia kuehni* : Kalidupa, Binongka.

It is quite possible, and even probable, that on account of the thick population and the destruction of forests some interesting local forms have disappeared.

The systematical arrangement of the following list is, for the sake of convenience for those who wish to compare the lists, that of Meyer & Wiglesworth's *Birds of Celebes*. Though the system of giving full references to the original description and habitat has met with universal approval, and though I should like to adhere to it generally, at least in the more important instances, I could not carry it through in every case, for want of time.

### 1. *Astur torquatus wallacii* Sharpe.

[*Falco torquatus* Temminck, *Pl. Col.* 43 (1821 : ex Cuvier : Australia, Timor, Java, etc.!—Australia, *errore*! I accept Timor as the typical habitat, because the plate and description agree best with the Timor form).]

*Astur wallacii* Sharpe, *Cat. B. Brit. Mus.* i. p. 128 Pl. V. (1874 : Lombok, Buru. Lombok is the typical locality, the Buru example being a young bird, probably belonging to a totally different bird).

Tomia Island ; ♂♂ ad., 20. xii. 1901. "Iris orange, feet ochreo-chromeous, bill black, greyish at base below, about the nostrils and eyelids sulphur-yellow." ♀ juv., 23. xii. 1902.

Kalidupa : ♀♀ ad., 2, 10. i. 1902. (Nos. 4403, 4404, 4608, 4609, 4611.)

I have called these birds as above not without consideration. Restricting the habitat of typical *Astur torquatus* to the Timor group of islands, we have the following forms :—

*Astur torquatus torquatus* : Underside white, sharply barred with a more or less pale rufous, under tail-coverts often pure white, breast more or less washed with pale ash-grey. Timor, Savu, Alor.\*

*Astur torquatus wallacii* : Underside much more rufous, the ground-colour generally much less pure white, more tinged with pale grey or rufous-grey ; the bars generally wider, often less sharply defined ; the chest much more rufous, less greyish ; the barring less distinct on chest and breast. Lesser Sunda islands : Lombok, Flores, Java to Jampea, Kalao, and Tukang-Besi islands.

It is true that the Tomia and Kalidupa specimens are lighter grey on head and cheeks, but I do not venture to separate them without more evidence.

*Astur torquatus cruentus* : Much like *A. t. wallacii*, but the under wing-coverts much more distinctly and regularly barred. W. Australia and Southern New Guinea.

\* Everett sent an adult pair from Alor, but in my Alor list (Nov. Zool. 1898) this species has inadvertently been omitted. On Alor *Astur sylvestris*, a species which is quite different and has no rufous collar above, also occurs (Nov. Zool. 1898. p. 462).



*Astur torquatus sumbaënsis*: Underside white with rufous-brown or greyish rufous bars, reaching quite down over the abdomen, even the thighs being strongly barred. Upperside rather dark, tail somewhat more distinctly barred. Sumba.

2. *Astur soloensis* (Lath.).

♀, S.W. Buton, 25. xi. 1901. "Iris sulphureous, feet chrome-yellow, bill black, grey at base, cere red-orange." (No. 4139.)

3. *Accipiter rhodogaster* (Schleg.).

*Nisus virgatus rhodogaster* Schleg., *Mus. P.—B., Astures* p. 32 (1862: Celebes).

♀, S.W. Buton, 25. xi. 1901. Moulting from the juvenile kestrel-like plumage to that of the adult bird. "Iris sulphureous, feet yellow-ochreous, bill black, cere olive-yellowish." (No. 4157.)

4. *Haliastur indus girrenera* (Vieill.).

Tomia, Binongka. One of the *Tomia* specimens (No. 4362) has distinctly dark brown shafts to the pectoral feathers, the other not a trace of them. (Nos. 4276, 4277, 4362, 4614.)

5. *Tinnunculus moluccensis occidentalis* Mey. & Wigl.

[*Tinnunculus moluccensis* Bonaparte, *Consp. Av.* i. 1850. p. 27 (ex Hombron et Jacq., Amboina!).]

*Tinnunculus moluccensis occidentalis* Mey. & Wigl., *Abh. Mus. Dresden* 1896, No. 2. p. 8.

A large series from Binongka, Kalidupa, Tomia. (Nos. 4612, 4613, 4278—4283, 4304—4309, Kühn coll.).

6. *Pandion haliaëtus leucocephalus* Gould.

♂, Kalidupa, 5. i. 1902. A typical *leucocephalus*, in my opinion. (No. 4615.)

7. *Baza subcristata reinwardti* (Müll. & Schleg.).

(Cf. *Nov. Zool.* 1901. p. 379.)

♂ ad., Kalidupa, 4. i. 1902; ♂ jun., Wantjee Island, 3. xii. 1901. (Nos. 4446, 4610.)

8. *Pisorhina manadensis kalidupae* subsp. nov.

An adult pair and a young little horned owl from Kalidupa (Nos. 4486, 4487, and 4488) appear to belong to a new subspecies of this vexed group. They differ widely from *P. manadensis manadensis* of Celebes and the latter's close ally *P. manadensis albiventris* (apparently only distinguishable, as a rule, when a series is compared, by its whiter abdomen) in their much larger size. In their dimensions they agree with *P. manadensis leucospilus* from the Northern Moluccas, rather than with *P. manadensis magica* from the Southern Moluccas. They are, in fact, hardly distinguishable from *P. manadensis leucospilus*, but there is a remarkable difference in the extent of the feathering on the metatarsus. In typical *P. manadensis leucospilus* (and *P. manadensis magica*) the feathers do not reach quite down to the toes, so that about four millimetres of the lower metatarsus remain bare. In *P. manadensis kalidupae* the feathers extend fully down the metatarsus, right on to the beginning of the toes. The specimens from Kalidupa are also remarkable for the



finer pattern of their markings, the black median lines of the feathers, both above and below, being narrower, less bold, the whole bird thus appearing to be more uniform. A skin from Batjan (Platen coll.) in the Tring Museum, however, approaches them in this respect. "The iris is sulphureous or ochreous yellow, feet dirty whitish, bill blackish, base of mandible light." Wing "♂" 170, "♀" 169, tail 85—89, metarsus 30, bill 23 mm.

Type in Mus. Tring No. 4486, ♀, Kalidupa, 29. xii. 1901. Heinrich Kühn coll.

It may be said that *P. manadensis manadensis* and *P. manadensis albiventris* differ so strikingly in their smaller size, and especially smaller bills, from *magica*, *leucospilus* and *kalidupae*, that one cannot help seeing a wider gulf between the former two and the latter three forms, so that one might almost say they were two species, each with some subspecies; but sometimes the differences are less than usual.

#### 9. *Strix candida* Tick.

♀ ad., Kalidupa Island, 6. i. 1902. "Iris blackish brown; feet pale brownish grey; bill white." (No. 4489.)

This is the second specimen known from the Celebes region. One was obtained by Professor Max Weber in the Luwu district in 1889, and only this one *female* has been sent by Kühn. Ornithologists agree that the "grass-owl" extends its range from India to Australia. I have not sufficient before me to discuss the possibility of several local forms of this bird, but I am certainly not *à priori* convinced that they are all exactly the same from the various countries.

#### 10. *Trichoglossus ornatus* (L.).

Common on Kalidupa, where a good series has been collected. "The iris is reddish orange, feet olive-grey, bill vermillion." Specimens from Kalidupa are entirely similar to those from Celebes. (Nos. 4515—4521.)

#### 11. *Cacatua sulphureus* (Gm.).

*Psittacus sulphureus* Gmelin, *Syst. Nat.* i. p. 330 (1788: ex Brisson, Buffon, Albin, Edwards, and Latham. "Habitat in ins. Moluccis"; *errore*: the typical locality is Celebes.

Tomia, Binongka, and Wantjee Islands. Altogether seven specimens, four marked "♂," three "♀."

The sexing undoubtedly correct, as the *males* have much larger bills. The bills of these *males* are exactly as large as those of specimens from Celebes, while those of the *females* are not larger than those of the Djampea specimens, separated by me (Nov. Zool. 1896. p. 176) under the name *C. sulphurea djampeana*, on account of their smaller bills. I am therefore afraid that the Djampea form is not distinguishable, my *djampeana* having been founded on two *females* only. Mr. Kühn has marked the iris of the *males* as "blackish brown," "coffee-brown," and "brownish black," that of the *females* as "bright red," "blood red," and "dark vermillion." I do not know if this difference in the colour of the iris in the sexes is known, but cannot find it described. (Nos. 4248, 4249, 4250, 4363, 4364, 4365, 4456.)

#### 12. *Tanygnathus megalorhynchos viridipennis* subsp. nov.

*Tanygnathus* *T. megalorhynchos* dicto typico simillimus, sed remigibus extus viridibus, minime caeruleis, rostro alisque minoribus.

*Hab.* In insulis Tukang-Besi dictis.



A very fine series of fourteen specimens from Kalidupa, Binongka, and Tomia (Nos. 4184, 4185, 4186, 4187, 4345, 4346, 4347, 4527, 4528, 4529, 4530, 4531, 4532, 4533) differ strikingly from typical *megalorhynchos*, of which I have a large series for comparison, in the outer aspect of the wings being green, not at all blue. The primary coverts only have more or less of a blue tinge, but the quills never. The wing measures, in this fine series of fourteen skins, not more than 230 to 245 mm., while in typical *megalorhynchos* it is 240 to 266. The bill (forehead to tip with compass) measures not more than 46 mm., but generally less, while in typical *megalorhynchos* it measures from 45 to 53 mm. The iris is pale yellow of various shades.

There are, it will be remembered, several more subspecies of *T. megalorhynchos*.

*T. megalorhynchos megalorhynchos* has the most peculiar distribution. It extends from N.W. New Guinea over the western Papuan Islands to the northern Moluccas, to Flores, Djampea between Celebes and Flores, and the islands north of Celebes—not only to Talaut, Sangi, Siao, but even to the small islands close to the coast: Mantehage, Biarro, and Tagulandang. There is, however, no evidence that it occurs on Celebes itself! The specimens said to have come from Manado (Musschenbroek) and Tondano (Reinwardt) were probably brought to Celebes from one of these islands.

The typical *megalorhynchos* may be described as a large bird with deep yellow under wing-coverts, a yellowish underside, and outwardly blue wings.

Specimens from Djampea and Flores have the wings outwardly green, hardly with any blue tinge at all, and are perhaps a shade darker greenish; but our series is too small for us to be certain if they belong to a distinct race, or if they can be united with *viridipennis*. They are, however, larger than *viridipennis*, and should probably receive a special name.

*T. megalorhynchos sumbensis* inhabits the island of Sumba. It is of the same size as typical *megalorhynchos*, and has outwardly blue quills, but the under wing-coverts are greenish yellow, the under-surface greener and darker. This is a very distinct race.

*T. megalorhynchos viridipennis* from the Tukang-Besi Islands is smaller than typical *megalorhynchos* and *sumbensis*, and has outwardly green wings without blue. The under wing-coverts are hardly more greenish.

*T. affinis* from the Southern Moluccas and *T. subaffinis* from Timorlaut (Tenimber) are also closely allied, and might be looked upon as subspecies of *megalorhynchos*; but all the other forms of the genus *Tanygnathus* are widely different from the group of *megalorhynchos* and allies.

The type of *Tanygnathus megalorhynchos viridipennis* is a female from Tomia Island (No. 4346).

### 13. *Cacomantis sepulcralis* (S. Müll.).

*Cuculus sepulcralis* S. Müller, *Land-en Volkenkunde* p. 177 (1839—1844: Java).

*Cacomantis sepulcralis* Finsch, *Notes Leyden Mus.* xxii. (1900) p. 82.

One ♂, 3 ♀♀, Tomia, Binongka, and Kalidupa. "Iris greyish brown, eyelid yellowish; feet ochreous yellow; bill black, mandible, except tip, yellowish grey." Wings 106—110 mm. (Nos. 4384, 4385, 4386, 4571.)



14. *Centropus javanicus* (Dumont).

A good series from Kalidupa. The very much larger size of the *females* is well shown by this series. *Centropus bengalensis* (from India alone) is distinguishable by its rufous-red mantle, which is sharply separated from the blue-black neck. If the two forms strictly represent each other geographically, they should be treated subspecifically. (Cf. Nov. Zool. 1900. pp. 232, 233.) Moulting specimens show of course that the change from the juvenile plumage to that of the adult is effected by moult, and not by "colour-change" within the feathers. (Nos. 4490—4498.)

15. *Pyrrhocentor celebensis rufescens* Mey. & Wigl.

Two specimens, *male* and *female* (Nos. 4164 and 4165), from S.W. Buton, Celebes, agree with *P. c. rufescens*, if that is a well-marked subspecies, and not with typical *celebensis* from North Celebes. (Cf. Mey. & Wigl., *B. of Celebes* i. p. 223; Hart., Nov. Zool. 1897. pp. 160. 164.)

16. *Phoenicophaus calorhynchus rufiloris* subsp. nov.

*Ph. Ph. calorhynchus calorhynchus* et *Ph. calorhynchus meridionalis* dictis simillimus, sed loris cinnamomeo-rufis distinguendus.

*Hab.* Buton. ♂ ♀, 25 xi. 1901. "Iris scarlet, feet black, bill sulphur-yellow, tip blackish for about 1 cm. with utmost point white for 2 or 3 mm., sides of base (round nostril) and under mandible dark scarlet." (Nos. 4162, 4163, H. Kühn coll.)

These two specimens closely resemble the northern typical *Ph. calorhynchus* and its southern very close representative *Ph. calorhynchus meridionalis*. The feathers of the crown are somewhat worn, and it is therefore difficult to say to which of the two forms they are nearer in the colour of the crown. The mantle and breast, which are generally lighter in *Ph. c. meridionalis*, are very rich cinnamon-chestnut-rufous. The wings are rather short, measuring only 172—174 mm., but they are partly moulting.

The majority of *Ph. calorhynchus calorhynchus* and all *Ph. calorhynchus meridionalis* in the Tring Museum are larger, having wings from 180—185 mm. and more, but several *Ph. calorhynchus calorhynchus* have wings only 174—178 mm. long. Messrs. Meyer & Wigglesworth quote for the northern form wings 174—185, for the southern (generally larger) form 174—202.

The bills of the two Buton examples are also smaller than in most examples of the two other forms, but here, too, we find several specimens closely approaching and practically equalling them. Altogether neither the measurements nor differences of colour (only two specimens being to hand) are of any importance, except that the Buton birds have on the lores a large cinnamon-rufous patch, almost of the same colour as the throat, though a shade duller. The discovery of this form, though closely allied (but better distinguished, I think, than *meridionalis*), is of great interest.

Type: No. 4163, ♂, S.W. Buton, 25. xi. 1901, H. Kühn leg., in Mus. Rothschild.

17. *Scythrops novaehollandiae* Lath.

Kalidupa, Tomia, Binongka, Wantjee. "Iris scarlet, lores and eyelid (naked skin round eye) crimson, feet bright grey (bright plumbeous), bill dark grey, dirty whitish towards tip, but varying." Nos. 4348, 4349, 4457, 4470, 4471, Kühn coll.)



18. *Alcedo ispida hispidoides* Less.

*Alcedo hispidoides*\* Lesson, *Compl. Buffon* ix. 1837 p. 345 ("Bourou, une des Moluques").

A large series from Kalidupa and Buton. (Nos. 4499—4508, 4547, 4129—4131.) The adult *male* has the entire bill invariably uniform black, but the adult *female* has the base of the under bill largely red. ♂: "black"; ♀: "bill black, base below dirty red (pale vermilion, brownish red)". This kingfisher is undoubtedly merely a form of *Alcedo ispida*. The four familiar races of the latter may briefly be diagnosed as follows:—

1. { Ear-coverts cinnamon-rufous: 2.  
     { Ear-coverts deep blue or blackish blue, colour above very bright and very  
        blue: *A. ispida hispidoides*.
2. { Colours above paler, less bright and less blue: 3.  
     { Colours above brighter and more blue: *A. ispida floresiana*.
3. { Size larger: *A. ispida ispida*.  
     { Size smaller: *A. ispida bengalensis*.

Within the area inhabited by *A. i. bengalensis* brighter and bluer specimens occur in certain places, as for example in Ceylon, where they have been called "*var. taprobana*" by Kleinschmidt; such individuals closely resemble *A. i. floresiana*, but may be distinguished by their slenderer bills, which are higher and thicker in *A. i. floresiana*.

19. *Halcyon coromanda* (Lath.).

♂ juv., North Buton, 16. i. 1902. "Iris dull dark brown, feet pale brownish vermilion, bill bright yellowish vermilion." (No. 4177, Kühn coll.)

I have not adopted the name *Halcyon coromanda rufa* (*Halcyon rufa* Wallace, *P. Z. S.* 1862. p. 338, ex Celebes) for this form, as I cannot see that the Celebes specimens differ from many others. They average rather large, but not strikingly; the colour is not darker than in specimens from the Malay archipelago, and not often darker than in Indian ones. There must either be a number of local forms, or none are clearly enough defined to be recognised by names, but the separation of only a typical form and *rufa* (Celebes alone!?) seems to be most confusing and not in accordance with facts.

20. *Halcyon chloris* (Bodd.).

Tomia, Kalidupa, Binongka, Wantjee and S.W. Buton. (Nos. 4132, 4244, 4245, 4246, 4247, 4353, 4354, 4356, 4357, 4444, 4445, 4540, 4541, 4542, Kühn coll.)

21. *Coracias temmincki* (Vieill.).

♂, Buton, S.W., 25. xi. 1901 (No. 4166, Kühn coll.) Iris coffee-brown, bill black." The specimen agrees perfectly with those from Celebes.

22. *Eurystomus orientalis* (L.).

♂, Binongka, 20. xii. 1901; ♀, Kalidupa 31. xii. 1901. (Nos. 4286, 4551, Kühn coll.)

\* This is the spelling, not *ispidoides* or *ispidiodes*, as generally quoted.



23. *Pitta vigorsi* Gould.

♀ ad., Kalidupa, 3. i. 1902. "Iris coffee-brown, feet pale flesh-colour, bill black." (No. 4586, Kühn coll.)

The occurrence of this bird on the Tukang-Besi Islands is most unexpected, and I am inclined to think that it is only an accidental visitor there. If there was a resident race, one would expect it to differ from typical *vigorsi*, though the distribution of the latter is much wider than we knew formerly.

24. *Hirundo javanica* Sparrm.

Common on Kalidupa and Binongka. (Nos. 4267, 4268, 4269, 4270, 4271, 4593, 4594, 4595, 4596, Kühn coll.)

25. *Monarcha inornata kisserensis* A. B. Meyer.

[*Muscicapa inornata* Garnot, Voy. "Coquille," Zool. Atl. Pl. XVI. fig. 2 (1826); i. 2. p. 591 (1828: New Guinea).]

*Monarcha inornatus* var. *kisserensis* Meyer, Sitzungsber. & Abh. Isis, Dresden, 1884. p. 22 (Kisser).

A series from Kalidupa and Binongka. (Nos. 4265, 4266, 4293, 4294, 4295, 4296, 4297, 4410, 4573, 4574, 4575, 4576.)

I have doubtfully applied the above name to these specimens. One thing is certain: they differ from the (typical!) New Guinea birds as follows: the grey, especially on the head, neck and mantle, is lighter, more whitish; the abdomen is of a deeper chestnut colour; the bill is smaller. They seem to agree very well with Kisser specimens (Kühn coll.). It is, however, doubtful if the name *cinerascens* of Temminck, based on Timor specimens, is not available for these forms, but I have no Timor specimens to compare. The subspecies of this flycatcher are difficult to study. Dr. Finsch (*Notes Leyden Mus.* xxii. 1901. p. 259) denies the possibility of distinguishing any local forms. He says that the different colorations are due, in both sexes, to age. While freely admitting that Dr. Finsch is quite correct in remarking that the grey of the head, hindneck and foreneck is darker in young birds, lighter in adult ones, while the abdomen is lighter rufous in the young, deeper and more chestnut in old ones, I have sufficient adult birds for comparison to show that New Guinea birds are lighter rufous and darker grey (having also larger bills), and that those from the South-West Islands, Dammer, Timorlaut, the Tukang-Besis and other places have a lighter grey and deeper chestnut-rufous colour.

*Monarcha inornata commutata* [*Monarcha commutata* Brügg., Abh. Ver. Bremen 1876 v. p. 68 "Manado"—errore: Siao (?Sangi)] is evidently a darker grey form, and well recognisable as a subspecies; nevertheless, I cannot understand why Messrs. Meyer & Wilesworth, who fully grasped the value of recognising subspecies, and used trinomials frequently, allowed "*commutatus*" to stand as a species, with two names, side by side with "*inornatus*," while "*commutatus*" is no more distinct, in my opinion, than "*kisserensis*"—the exact distribution of which is not yet understood, and obscured by the occurrence of young birds and probably also sometimes by aberrant individuals.

26. *Pratincola caprata* (L.).

♀, S.W. Buton, 25. xi. 1901. (No. 4135, Kühn coll.)



27. *Edoliisoma obiense* Salvad. (?)

*Edoliisoma obiense* Salvad., *Ann. Mus. Civ. Gen.* xii. p. 329 (1878 : Obi).

It is with some hesitation that I call these birds *E. obiense*. The *males* do not differ from those of *E. obiense*—neither in coloration nor in dimensions can I find any differences. The question is about the *females*: we have no red *females*! If the birds sent by Mr. Kühn are adult *females*, then this bird differs (in the female sex) appreciably from *E. obiense*, but I am not quite certain about this. There are eight *males*, two (Nos. 4406, 4407) from Tomia, and six from Kalidupa (Nos. 4556, 4557, 4558, 4559, 4560, 4561, Kühn coll.). “Iris deep brown (blackish brown, black), bill and feet black.” Then there is a specimen from Tomia (No. 4408) marked “♂.” Its underside is creamy white, abdomen washed with buff, under tail-coverts buff, the whole under-surface narrowly barred with brownish black, these bars becoming obsolete on the under tail-coverts. Upperside brownish grey, with remains of a spotted plumage. This specimen is, I think, an immature *male*. Then there are two (Nos. 4409, 4563), from Tomia and Kalidupa, both marked “♀,” both perfectly alike, with the underside very pale buff, sparsely marked with stump arrow-shaped cross-marks, chiefly on the sides; under tail-coverts and middle of throat uniform pale buff. Upperside grey-brown, crown bluish grey. I think these must be adult *females*. If this surmise is correct they cannot be called *Edoliisoma obiense*, because the adult *female* of the latter is below uniform cinnamon, above cinnamon-brown, with a slaty-grey or bluish grey crown. In view, however, of an immature bird received from Obi Major, and described by me in the list of Obi birds, which is somewhat similar to the two supposed adult *females* from the Tukang-Besi Islands, though evidently immature, as shown by the crown, which is not bluish slate, but of the colour of the back, with white tips to the feathers, I am not absolutely certain on this point. Another bird, marked “♂?” (No. 4562, from Kalidupa), is similar to the supposed adult *females*, but moulting into bluish grey on the throat.

The question arises: Can the supposed adult *females* be really immature *males*, and is the actual adult *female* cinnamon, like that of *E. obiense*?

*Edoliisoma obiense* occurs not only on Obi, but also on the Sula Islands, and on Peling and Banggai, between Sula and Celebes.

28. *Lalage timoriensis* (S. Müll.).

2 ♂♂, Binongka, 10. xii. 1901 (Nos. 4299, 4300). “Iris coffee-brown, feet blackish, bill black.” Both these specimens agree with *L. timoriensis*, but the white superciliary stripe is only very narrowly indicated. From our series of over twenty adult *males* from various localities, I deduct that the narrowness and even absence of the white superciliary line is not a local character, but purely individual. The absence of this stripe may be more frequent in Celebes, but we have not such large series as to show this, and there are Celebesian specimens with wide white superciliary stripes.

29. *Artamus leucogaster* (Valenc.).

Buton (Nos. 4136, 4173), Binongka (Nos. 4301, 4302), Tomia (Nos. 4387, 4388, 4389, 4390, 4391, 4392), Kalidupa (Nos. 4509, 4510, 4511, 4512, 4513, 4514, Kühn coll.).



30. *Dicrurus leucops* Wall.

*Dicrurus leucops* Wallace, *P. Z. S.* 1865. p. 478 (Celebes).

Seventeen specimens from Tomia (Nos. 4310, 1112, 1113, 1114, 1115), Binongka (Nos. 4272, 4273, 4274, 4275), Wantjee (No. 4454), and Kalidupa (Nos. 4522, 4523, 4524, 4525, 4526, 4534). Fourteen of these have large white tips to the axillaries and under wing-coverts, thus showing the characters said to be peculiar to the race from Sangi. Only two or three of these fourteen examples show the slightest trace of immaturity. Three only (♂ Tomia, No. 4315, ♂ ♀ Binongka, Nos. 4275, 4272) show no sign of white tips to either the axillaries or the under wing-coverts. The iris of the adults of these birds is marked as yellowish white, brownish white, or ochreous white, that of apparently immature ones as bright reddish brown or brownish white. Whether the iris is really less white than that of *D. leucops*, which is said to have a "white" or milk-white iris, is impossible to say. I cannot find any tangible difference in size, colour, and markings.

31. *Dicaeum celebicum* S. Müll.

*Dicaeum celebicum* S. Müll., *Verh., Naturk. Comm.* 1839-44. p. 162 (Celebes).

Two males (Nos. 4133 and 4134) shot on Buton, November 24th and 25th, 1901, are evidently indistinguishable from *D. celebicum*. Kühn has marked the iris, feet, and bill as "black."

32. *Dicaeum kühni* spec. nov.

*Dicaeum*: ♂ supra nigro-chalybaeus, nitore purpureo-cyaneo; mento albo; collo antico pectoreque pulcherrime rubris; pectoris lateribus chalybaeo-nigrescentibus, abdomine medio flavo-albido, stria mediana nigro-chalybaea; hypochondriis cinereo-olivaceis; subcaudalibus albidis, vix flavidis; subalaribus axillaribusque copiosis albis; rostro nigro; pedibus nigris. Al. 53—54, caud. 27½—29, rostr. 10, metatars. 13—13½ mm. ♀ feminae *D. celebicum* dictae simillima, sed minor.

*Hab.* In insulis Tukang-Besi dictis.

Typus ex Kalidupa, 31. xii. 1901, No. 4587 Kühn leg., in Mus. Tring.

♂, Kalidupa, 31. xii. 1901 (No. 4587).

3 ♂♂, Tomia, 21, 22. xii. 1901 (Nos. 4427, 4428, 4429).

♂ ♀, Binongka, 8, 9. xii. 1901 (Nos. 4232, 4233).

"Iris dark brown (blackish brown, black), bill and feet black."

This very pretty new *Dicaeum*, which I have named in honour of its discoverer, is more similar to *D. sanghirense* Salvad. than to any other species I know. Its upperside is deep steel-blue with a purplish gloss, slightly more purplish than in *D. sanghirense*. The chin is whitish. The throat, foreneck, and entire breast are scarlet, while in *D. sanghirense* only the throat and foreneck to the chest are scarlet. Sides of breast, feathers bordering the red breast, and line along the middle of the abdomen black, washed with blue; middle of the abdomen, with the exception of the median black line, yellowish white. Flanks greyish olive, not ashy grey as in *D. sanghirense*. Under tail-coverts whitish, slightly tinged with yellow, but not so white as in *D. sanghirense*. Under wing-coverts, and the long silky axillaries pure white. Size the same as that of *D. sanghirense*. The female is like that of *D. celebicum*, but larger.

*D. kühni* differs widely from *D. celebicum*. It is much larger, the upperside is



deep steel-blue, with a purplish gloss, but not dark purple, the red extends farther down, over the breast; the flanks are dark greyish olive, more grey, not so dingy olive; the middle of the abdomen and under tail-coverts are much more yellowish.

### 33. *Cinnyris infrenata* sp. nov.

*Cinnyris*: ♂ supra obscure olivaceus, capite saturatiore, brunnescentiore; lineis superciliaribus malaribusque nullis; jugulo purpurascens, lateribus chalybeis; abdomine toto flavissimo, subcaudalibus pallidioribus; lateribus pectoris fasciculo plumarum aurantio-flavo ornatis, pectore pro usu paullo aurantiaco tincto; alis fuscis, anguste olivaceo marginatis; rectricibus nigris, tribus lateralibus utrinque plus minusve albo terminatis; subalaribus albis, sulphureo tinctis; rostro pedibusque nigris. Al. 53—55, caud. 34—37, rostr. 27—28½, metatars. 25—26 mm. ♀ supra brunneo-olivacea, subtus gastraeo toto flavo, cauda alisque ut in mari.

*Hab.*: In insulis Tukang-Besi dictis.

Typus ex Tomia insula, No. 4419 Kühn leg., in Mus. Tring.

5 ♂♂, 3 ♀♀, Tomia, December 1901. (Nos. 4414, 4415, 4416, 4417, 4418, 4419, 4420, 4421).

3 ♂♂, Wantjee, December 1901. (Nos. 4458, 4459, 4460.)

1 ♂, 3 ♀♀, Kalidupa, December 1901 and January 1902. (Nos. 4589, 4590, 4591, 4592.)

5 ♂♂, 2 ♀♀, Binongka, December 1901. (Nos. 4225, 4226, 4227, 4228, 4229, 4230, 4231.)

This very interesting new species differs from all the forms of *C. frenata* by the entire absence of the yellowish superciliary and malar stripes, and from the typical *C. frenata* very much in the colour of the upper surface. The colour of the upper-side is very dark olive, deepest on the head. In this respect it differs most from typical *frenata*, which has an olive-yellow upperside, and is nearest to *C. frenata plateni* from the Makassar region, but still considerably darker, especially on the head. It is larger than *C. frenata*. The breast and abdomen are deep yellow, often more or less tinged with orange on the breast. The inner webs of the remiges are margined with dusky white. The outermost pair of rectrices have large whitish tips, varying in extent and generally clouded with brown, the second pair have tips of less extent, the third only a narrow margin. The *female* is very much like that of *C. f. plateni*, but darker above and below, and larger.

In the absence of the yellowish superciliary and malar lines, *Cinnyris jugularis* from the Philippine Islands comes very near to *C. infrenata*. Specimens from North Luzon, first separated by Mr. Grant as *C. obscurior*, but afterwards united with *C. jugularis*, are rather dark brownish and small, but very doubtfully distinct from *C. jugularis*. Our *C. infrenata* is easily distinguished from *C. jugularis*, and even from the dark birds from North Luzon, by its much darker, more brownish olive upperside, and the entire absence of the more or less marked orange-brown band bordering the metallic jugulum. (*C. jugularis* and *C. frenata* differ in many respects.)

### 34. *Zosterops flavissima* sp. nov.

*Zosterops* supra ceraceo-flava; fronte et loris aureis, annulo periophthalmico sericeo-albo, sub oculo macula parva nigrescente; remigibus fuscis, pogoniis externis ceraceo-flavo, internis albido marginatis; rectricibus atro-brunneis, anguste flavido marginatis; gastraeo toto aureo-flavo, lateribus vix viridi tinctis; rostri maxilla



fusca, mandibula pallida; iride chocolatino-brunnea. Al. 54—58, caud. 40, rostr. 10, metatars.  $16\frac{1}{2}$  mm.

*Hab.* In insulis Tukang-Besi dictis.

Typus ♂ ad. (No. 4215), ex Binongka insula, 9. xii. 1901, in Mus. Tring.

6 ♂♂, 4 ♀♀, Binongka, December 1901. (Nos. 4215—4224.)

1 ♀ Wantjee, 2. xii. 1902. (No. 4448.)

4 ♂♂, Kalidupa, January 1901. (Nos. 4577—4580.)

3 ♂♂ ♀ Tomia, December 1901. (Nos. 4422—4424.)

*Zosterops flavissima* is a very distinct form. It is probably nearest related to *Z. intermedia*, though it differs from the latter in the much more yellow upper side, brighter and more golden yellow lores and forehead, and smaller blackish spot under the eyes. In appearance *Z. stuhlmanni*, from Africa, is most similar to *Z. flavissima*, being about as yellow above and below; but the bill of *Z. stuhlmanni* is stronger and all black above and below, and the white ring round the eyes is less wide. M. Kühn describes the iris of *Z. flavissima* as chocolate (bright chocolate, pale chocolate), the feet as yellowish grey (bright yellowish grey, pale plumbeous), the bill blackish above, pale below.

### 35. *Zosterops intermedia* Wall.

*Zosterops intermedia* Wallace, *P. Z. S.* 1863. p. 486. (Typical locality Celebes—typus in Mus. Brit. ex Makassar.)

♂♀, S.W. Buton, 25. xi. 1901 (Nos. 4152, 4169, Kühn leg.). These two specimens are typical *Z. intermedia*.

### 36. *Trichostoma finschi* Walden.

*Trichostoma finschi* Walden, *Ibis* 1876. p. 378. Pl. XI. fig. 1. (Makassar, S. Celebes.)

♀, S.W. Buton, 24. xi. 1901. "Iris chocolate, feet pale plumbeous, bill blackish, greyish below." (No. 4154, H. Kühn coll.) This specimen is paler and less rufous than a dozen examples from Makassar. A series from Buton might possibly show that the Buton form is separable as a paler subspecies (?).

### 37. *Cisticola cisticola* (Temm.).

S.W. Buton, November 1901. (Nos. 4140, 4153, 4163.)

Kalidupa. January 1902. (Nos. 4598, 4601, 4602, 4603, 4605.)

Tomia, December 1901. (Nos. 4393—4399.)

### 38. *Cisticola exilis* (Vig. & Horsf.).

*Malurus exilis* Vig. et Horsf., *Trans. Linn. Soc.* xv. p. 223 (1827, ex Latham's MS., Australia).

Kalidupa, January 1902. (Nos. 4599, 4600, 4604, 4606, 4607.)

### 39. *Locustella fasciolatus* (Gray). (Migrant.)

*Acrocephalus fasciolatus* Gray, *P. Z. S.* 1860. p. 349. ("Batchian.")

Binongka, ♂ (?) ad., 12. xii. 1901. (No. 4298.)

Kalidupa, ♀ ad., 10. i. 1902. (No. 4583.)

Tomia, 2 ♂ ad., December 1901. (Nos. 4412, 4413.)

Wantjee, ♀ juv., 3. xii. 1902. (No. 4449.)

(Migrant from the north.)



40. *Motacilla boarula melanope* Pall. (Migrant.)

[*Motacilla boarula* Linn., *Mantissa Plant.* p. 527 (1771 : "Hab. in Europa : Suecia").]

*Motacilla melanope* Pallas, *Reise Russ. Reich.* iii. *App.* p. 696 (1776 : "Dauria").

2 ♂♂, 4 ♀♀, Tomia, December 1901. (Nos. 4430—4435.)

♂♀, Kalidupa, January 1902. (Nos. 4584, 4585.)

41. *Anthus gustavi* Swinh. (Migrant.)

*Anthus gustavi* Swinhoe, *P. Z. S.* 1863. p. 90 (Amoy, China).

♂♀, Kalidupa, 3. i. 1902. (Nos. 4581, 4582.)

(Migrant from the north.)

42. *Munia molucca* (Linn.).

*Loxia molucca* Linné, *Syst. Nat.* ed. xii. 1. (1766) p. 302 (ex Brisson : Isles Moluques, envoyé à M. le Comte de Bentinck, Mus. Réaumur. I accept Amboina as the typical habitat).

♀, Wantjee, December 1901. (No. 4447.)

♀, Kalidupa, January 1902. (No. 4588.)

♂, Tomia, December 1901. (No. 4426.)

3 ♂♂, 5 ♀♀, Binongka, December 1901. (Nos. 4236—4243.)

Some of these specimens agree perfectly with typical *Molucca*, others with *M. m. propinqua*. (Cf. Meyer & Wigglesw., *B. Celebes* ii. pp. 5495—51; Hartert, *Nov. Zool.* ix. 1901. p. 439.)

43. *Calornis minor* (Bp.).

*Lamprolornis minor* Bonaparte, *Consp. Av.* i. p. 417 (1850 : ex Müll, MS. in Mus. Lugd., Timor).

4 ♂♂, Binongka, 11. xii. 1901. Nos. 4289—4292.) "Iris vermilion, bill and feet black." *Calornis minor* is known to extend to South Celebes, where it has been obtained by Messrs. Ribbe & Kühn, Weber, the Sarasins, and Everett. (Cf. Mey. & Wigglesw., *B. Celebes* ii. p. 561.)

44. *Streptocitta albicollis* (Vieill.).

*Pica albicollis* Vieill., *Nouv. Dict. d'Hist. Nat.* xxvi. p. 128 (1818 : ex Labillardière, etc. Hab. "La Nouvelle Calédonie"—*errore*, loc. typ. Buton vel Muna ins. (Cf. Mey. & Wigl., *B. Celebes* ii. p. 576.)

3 ♂♂, 3 ♀♀, S.W. Buton, November 1901. "Iris deep brown (coffee-brown, blackish), bill blackish, tip sulphur-yellow, feet black." (Nos. 4137, 4138, 4041, 4142, 4155, 4160.)

45. *Gazzola typica* Bp.

*Gazzola typica* Bp., *Comptes Rend.* xxxvii. p. 828 ("Nouvelle Calédonie"—*errore*! I accept Buton as the original locality. (Cf. Mey. & Wigglesw., *B. Celebes* ii. p. 584.)

♂♂, S.W. Buton, 25. xi. 1901. "Iris coffee-brown, bill and feet black." (Nos. 4149, 4150.)



This is a somewhat rare bird, but still more remarkable is perhaps *Gazzola unicolor* Rothsch. & Hart. (*Bull. B. O. C.* xi. p. 29, November 1900), which is exactly like *G. typica* in form and dimensions, but uniform black, with a fine purplish blue gloss above, while the hindneck and underside are dull slaty-black. Two skins in the Tring Museum from a native-made collection from Banggai, containing, among others, *Basileornis galeatus* and *Pitta dohertyi*, are apparently the only ones known at present.

#### 46. *Corvus enca* (Horsf.).

*Fregilus enca* Horsf., *Trans. Linn. Soc.* xiii. p. 164 (1820: Java).

3 ♂♂, 1 ♀, Buton, November 1901. (Nos. 4159, 4174—4176.)

3 ♂♂, 3 ♀♀, Binongka, December 1901. (Nos. 4178—4183.)

1 ♂, 2 ♀♀, Tomia, December 1901. (Nos. 4350—4352.)

3 ♂♂, 3 ♀♀, Kalidupa, January 1902. (Nos. 4472—4477.)

"Iris dark sepia-brown (coffee-brown or blackish brown), bill and feet black."

#### 47. *Oriolus broderipi oscillans* subsp. nov.

A large series of *Orioles* from Kalidupa (Nos. 4461—4467, 5 ♂, 2 ♀, January 1902), Binongka (Nos. 4194—4205, 9 ♂, 3 ♀, December 1901), Tomia (Nos. 4377—4383, 5 ♂, 2 ♀, December 1901), Wantjee (Nos. 4438, 4439, 4401—4403, 3 ♂, 2 ♀, December 1901), are difficult to distinguish from *Oriolus boneratensis* Mey. & Wigl., from Bonerate, Kalao, and Djampea, while single specimens of *O. broderipi* are also hardly distinguishable. *Oriolus boneratensis* is a large form of *O. broderipi*. The three subspecies can be separated as follows:

1. *O. broderipi broderipi* Bp. (*P. Z. S.* 1850. p. 279, Pl. XVIII., ex ins. Sambawa): Smaller, bill comparatively more elongate, being less high and stout, inner webs of remiges black, without whitish edges; yellow tips to secondaries wider. Lesser Sunda Islands, from Lombok and Sumbawa to Sumba, Flores, Alor, Pantar, and Lomblen. (Specimens from Alor, Pantar, and Lomblen are usually bigger, and closely approach *O. b. oscillans*, but there are no whitish edges to the inner webs of the remiges.)

2. *O. broderipi oscillans* subsp. nov.: Generally a little larger, bill stronger, inner webs of remiges with more or less wide but always conspicuous whitish edges; yellow tips to secondaries narrow, sometimes obsolete. Tukang-Besi Islands, S.E. of Celebes. The iris is described as purple (dark purple, blood-red, dark blood-red), feet as plumbeous grey, bill as pinkish flesh-colour. (The whitish edges are never absent, though ranging in width. In *O. broderipi broderipi* they are entirely absent or only very narrowly indicated.)

Type ♂, No. 4201, Binongka, 12. xii. 1901, Kühn leg., in Mus. Tring.

3. *O. broderipi boneratensis* Mey. & Wigl. (*Abh. Mus. Dresden*, 1896, No. 1, p. 16; Hart., Nov. Zool. 1896. p. 169; Mey. & Wigl., *B. Celebes* p. 589). Like *O. b. oscillans*, but with a stouter and higher bill, the distance from the cutting edge to the top of the culmen of the upper bill being 1 to 2 mm. more; wings generally a little longer; whitish edges to the inner webs of the remiges and yellow tips to secondaries as in *O. b. oscillans*. Islands of Bonerate, Kalao, and Djampea, south of Celebes.

It is of little avail to give detailed measurements, as such differences as exist



between these subspecies can only be seen when series are compared. In general colour there is no difference. Adult birds often (though apparently not always) are deep orange, others yellow. The extent of black and yellow in the tail is very variable

#### 48. *Treron griseicauda wallacei* (Salvad.).

[*Treron griseicauda* Gray, *List B. Brit. Mus. Columbae* p. 10 (1856: ex Bonaparte, *Consp. Av.* ii. p. 10, 1854; hab. incert. Loc. typ. Java—ex Bonaparte).]

*Osmotreron wallacei* Salvad., *Cat. B. Brit. Mus.* xxi. p. 42 (1898: Celebes).

(Cf. NOVITATES ZOOLOGICAE 1902. pp. 421, 422.)

♂, Wantjee, December 1901. (No. 4450).

1 ♂, 2 ♀♀, Binongka, December 1901. (Nos. 4254—4256.)

1 ♂, 1 ♀, Kalidupa, January 1902. (Nos. 4564, 4565.)

6 ♂♂, 2 ♀♀, 1 pull., Tomia, December 1901. (Nos. 4336—4344.)

I can see no constant differences from a series from Celebes and the Sula Islands.

“Iris (♂ ad.) ochreous (dull ochreous, dark burnt sienna), feet bright crimson, bill yellowish white with greenish about nostrils (whitish yellow with greenish base, yellowish white with pale green eyelids and nostrils).”

#### 49. *Ptilinopus melanocephala aurescentior* subsp. nov.

A large series from the Tukang-Besi Islands differ from *P. melanocephala melanospila* Salvad. of Celebes in being much more golden-yellowish on the back, neck and chest. They are evidently more similar to *P. melanocephala melanocephala* of Java and the Lesser Sunda Islands, but differ in the smaller black occipital patch and generally slightly darker yellow gular patch. They must therefore be separated under a special name, if all the other hitherto recognised forms are separated. They are all subspecies of one species, and may be reviewed as follows:—

1. *P. melanocephala melanocephala* (Forst.) (*Columba melanocephala* Forst., *Zool. Ind.*, 1781, p. 16 Pl. VII.): Back, sides of neck and chest strongly washed with golden yellow, black nuchal patch large, size smaller, yellow gular patch generally lemon-yellow. Vent deep yellow. Java, Bali, Lombok, Sumbawa, Sumba, Satonda, Flores, Djampea, Kalao and Saleyer.

2. *P. melanocephala aurescentior* Hart. (subsp. nov.): Back, sides of neck and chest strongly washed with golden-yellow, black nuchal patch decidedly smaller than in No. 1, size smaller (the same as that of No. 1), yellow gular patch generally slightly deeper yellow, vent deep yellow. Tukang-Besi Islands, Buton (? S. Celebes).<sup>\*</sup> Type No. 4567, ♂ Kalidupa 7. i. 1902, Kühn coll. in Mus. Tring.

3. *P. melanocephala bangueyensis* Mey. (*Ptilopus bangueyensis* Meyer, *J. f. O.* 1891 p. 70, Banguay). Entirely similar to No. 1, the gular patch not at all larger, this when supposed to be the case being due to preparation, but wing often about 5 mm. longer. Southern Philippines and Sulu archipelago. (A very poor and hardly separable form, much less distinct than No. 2.)

4. *P. melanocephala melanospila* (Salvad.) (*Iotreron melanospila* Salvad., *Ann. Mus. Civ. Gen.* vii. 1875. p. 671, Celebes). Much less tinged with yellow, otherwise like No. 1. Celebes.

5. *P. melanocephala chrysorrhoea* (Salvad.) (*Iotreron chrysorrhoea* Salvad., *Ann. Mus. Civ. Gen.* vii. 1875. p. 671, Sula & Ceram). Nuchal black patch very narrow, gular patch and vent deep orange, green with a yellow tinge, often as strong as in

<sup>\*</sup> I have not been able to examine S. Celebes birds, but as Meyer & Wigglesworth say they have smaller black occipital patches, they may be like my *aurescentior*.



No. 2. Wing 115—121 mm. (The best-marked form of all.) Sula Islands, and, it is said, Ceram (?).

6. *P. melanocephala pelingensis* Hart. (*Ptilinopus chrysorrhous pelingensis* Hart., Nov. Zool. 1898. p. 135, Peling and Banggai). Entirely like No. 5, but wing only 109—114 mm. Peling and Banggai.

7. *P. melanocephala xanthorrhoea* (Salvad.) (*Iotreron xanthorrhoea* Salvad., Ann. Mus. Civ. Gen. vii. p. 671, 1875, Sanghir). Black occipital patch large, gular patch very pale lemon-yellow, vent and shorter under tail-coverts deep orange, wing very long, 130—139 mm. Sangi Islands.

8. *P. melanocephala talautensis* subsp. nov. In every way like No. 7, but smaller, wing 120—130 mm. Talaut Islands.

Type No. 4444, ♂, Lirung, Talaut Islands, May 1897, collected by John Waterstradt's natives.

The following specimens of *P. m. aurescentior* have been sent by Mr. Kühn:

3 ♂, 2 ♀, Kalidupa, January 1902. (Nos. 4567—4570.)

6 ♂♂, Tomia, December 1901. (Nos. 4209, 4214, 4358—4361.)

3 ♂♂, 1 juv., 1 ♀ (? juv.), Binongka December 1901. (Nos. 4127, 4128, 4210, 4212, 4213.)

3 ♂♂, 1 ♀, Wantjee, December 1901. (Nos. 4211, 4436, 4437, 4400.)

2 ♂♂, 1 ♀, Buton, November 1901. (Nos. 4158, 4161, 4170.)

#### 50. *Carpophaga concinna* Wall.

*Carpophaga concinna* Wallace, *Ibis* 1865. p. 383 ("Matabello, Sanguir Island, Aru [one small island west of]; Banda Island, Ké Island (seen, but no specimens obtained; Philippine Islands? [B. M.]) Typical locality Matabello! Cf. *Cat. B. Brit. Mus.* xxi. p. 187.)

Kalidupa (Nos. 4535, 4536, 4537).

Binongka (Nos. 4188—4192).

Tomia (Nos. 4326—4331).

All these are typical light grey *C. concinna*, while on the Key Islands is a much whiter form, *C. concinna separata* Hart. I cannot in the least see the reason why Messrs. Meyer and Wigglesworth (*B. Celebes* ii. p. 617) should have taken the trouble to warn me not to "split" *C. concinna* into subspecies. I am of opinion that I had examined a sufficiently large material to know that there was no seasonal change in the direction of my *separata*, and that these birds did not migrate from Matabello to the Key Islands. I have now, in the Tring Museum alone, 50 typical *C. concinna* and 8 *C. concinna separata* for examination, and they show at a glance the differences of the two races. Dr. Finsch (*Notes Leyden Mus.* xxii. p. 295) also mentions "Uebergänge," but I find my "*separata*" a most distinct form, though of course only a subspecies; so that there may be specimens "fast so grau wie Exemplare von andern Inseln," confirming my view as to this subspecies.

#### 51. *Carpophaga rosacea* (Temm.).

*Columba rosacea* Temminck, *Pl. Col.* 578 (1835: Timor).

♀ juv., Binongka, 9. xii. 1901. "Iris dark crimson, feet pale crimson, bill slate-grey." (No. 4193, Kühn leg.)



52. *Myristicivora bicolor* (Scop.).

*Columba bicolor* Scopoli, *Del. Flor. et Faun. Insubr.* ii. p. 94 (1786: ex Sonnerat, "Pigeon blanc mangeur de muscade de la Nouvelle Guinée."

♀, Wantjee, 3. xii. 1901. (No. 4451).

53. *Turacoena manadensis* (Quoy et Gaim.).

*Columba manadensis* Quoy et Gaimard, *Voy. de l'Astrolabe* i. p. 248 Pl. XXX. (Manado, Celebes).

♂ ♀, Buton, 25. xi. 1901. "Iris pale ochreous (coffee-brown), naked space round eye carmine, bill and feet black." (Nos. 4143, 4144 Kühn coll.)

Comparing our series of *T. manadensis*, I cannot find that the *females* are appreciably smaller than the *males*. I find, however, that the birds from the Sula Islands and from Peling are much smaller. There are five from Sula in the British Museum, two (all collected by A. R. Wallace) in the Tring Museum, and one from Peling in the Tring collection, which shows no sign of immaturity. The wing of Celebes examples measures 190 to 210 mm., but very seldom under 195, while that of the Sula and Peling birds is only 180 to 185 mm. long. It is therefore opportune to separate the form inhabiting Sula and Peling under a new subspecific title, and I herewith call it

*Turacoena manadensis sulaënsis* subsp. nov.

Type of *T. m. sulaënsis* No. 9307a. (ex. coll. Bartlett), Sula Islands, A. R. Wallace coll., in Mus. Rothschild.

54. *Macropygia amboinensis albicapilla* Bp.

[*Columba amboinensis* Linné, *Syst. Nat.* i. (ed. xii.) p. 286 (1766, ex Brisson: loc. typ. Amboina).]

*Macropygia albicapilla* Bonaparte, *Consp. Av.* ii. p. 57 (1854: Celebes). (Cf. Nov. Zool. 1901 p. 123.)

5 ♂♂, 3 ♀♀, Kalidupa, January 1902 (Nos. 4478—4485).

2 ♂♂, Binongka, December 1901 (Nos. 4257, 4258).

1 ♂, Wantjee, December 1901 (No. 4452).

These specimens are averaging rather large, the wings of the adult *males* measuring 158 to 164 mm. Some Celebes specimens, however, are equally large. The Sangi race (*sangirensis*) is much larger. Sula examples are usually smaller, and can probably be separated as a smaller race, but we have not a sufficient series to allow us to conclude.

55. *Turtur tigrina* (Temm. & Knip).

*Columba tigrina* Temm. & Knip, *Pigeons* i. Pl. XLIII. p. 94 (1811: Java, Timor, etc.—spec. described and figured evidently from Java, therefore Java must be taken as the typical locality).

♀, S.W. Buton, 25. xi. 1901 (No. 4148).

56. *Geopelia maugeus* (Temm. & Knip).

*Columba Maugeus* (sic!) Temm. & Knip, *Pigeons* i. p. 115. Pl. LII. (1811—loc. incert.—I accept Timor as the original habitat).

♂, Tomia, 21. xii. 1901. "Iris bright bluish grey, bare eyelids chromeous, feet greyish violet, bill bluish ash-grey, nostrils pale greenish."

This species is quite new to the Celebesian fauna.



57. *Chalcophaps indica* (L.).

1 ♂, 2 ♀ ♀, Binongka, December 1901 (Nos. 4206—4208).

1 ♀, Wantjee, December 1901 (No. 4453).

The ♂ is perhaps not quite adult, and resembles the supposed race from Sangi, but immature birds from other localities are very much like it.

58. *Megapodius duperreyi* Less & Garn.

*Megapodius duperreyi* Lesson & Garn., *Bull. Sci. Nat.* viii. (1826) p. 113 (Dorey, New Guinea).

1 ♂, Kalidupa, December 1901 (No. 4538).

3 ♂ ♂, 2 ♀ ♀, Tomia, December 1901 (Nos. 4332—4335, 4539).

1 ♂, 2 ♀ ♀, Binongka, December 1901 (Nos. 4252—4254).

59. *Turnix maculosus* (Temm.).

*Hemipodius maculosus* Temm., *Hist. Nat. Pig. et Gall.* iii., 1815. pp. 631. 757. (sur le continent de la Nouvelle Hollande).

3 ♂ ♂, Tomia, December 1901 (Nos. 4400—4402). "Iris yellowish white or greyish white, feet pale yellowish or pale greyish-yellowish, bill black, pale yellowish at base below." The distribution of this bird extends from Australia to Timor, Flores, etc., and to Celebes. Specimens from Southern Celebes were described by Count Salvadori as *T. beccarii*, but they do not seem to differ from *maculosus*. Adult females should, however, be compared.

60. *Hypotaenidia kuehni* W. Rothsch.

*Hypotaenidia kuehni* W. Rothsch., *Bull. B. O. Club* xii. p. 75 (June 1902, Tukang-Besi Islands).

♂ ♀ ad. Upper surface deep olive-brown, with light olive-brown edges to the feathers. Crown somewhat darker. No rufous patch on the sides of the chest or lower neck. A broad blackish superciliary band, followed by a wide white band from the base of the bill to the sides of the neck. Under-surface black, each feather with three or more narrow white bars, the basal one of which is mostly interrupted and sometimes absent; these bars very narrow, obsolete, or absent on the throat. "Iris blood-red (burnt-sienna red); bill blackish brown with crimson spots at base; feet dull brown."

Wing ♂ 175, ♀ 169; tail ♂ 75, ♀ 70; metatarsus 54; middle toe without claw 45 mm.

♂, Binongka, 12. xii. 1901 (No. 4288).

♀, Kalidupa, 12. i. 1902 (No. 4325).

*Type*: ♂, Binongka, 12. xii. 1901 (No. 4288) Kühn coll., in Mus. Rothschild.

*H. kuehni* is evidently nearest to *H. sulcirostris* from the Sula Islands, but differs in the deep olive-brown, instead of "burnt umber" (*i.e.* a more or less rufous brown), and the wing is longer. *H. saturata* from New Guinea is also very much like *H. kuehni*, but differs in the more uniform and lighter olive-brown upper side, shorter wing and purer black throat. *H. celebensis* differs much more, being considerably smaller, with a much shorter bill, and having a paler, more olive upper surface.



61. *Amaurornis phoenicurus* (Forst.) (? subsp.).

*Rallus phoenicurus* Forster, *Zool. Ind.* p. 19. Pl. 9 (1781 : Ceylon).

1 ♀, S.W. Buton, November 1901 (No. 4167).

1 ♂, Binongka, December 1901 (No. 4287).

♂ ♀, Kalidupa, January 1902 (Nos. 4564, 4555).

4 ♂ ♂, 5 ♀ ♀, Tomia, December 1901 (Nos. 4315—4324).

None of these birds have any white across the forehead, and I am not at all sure that it is correct to suppress *leucomelaena* as a subspecies.

62. *Esacus magnirostris* (Vieill.).

♂ ♀, Binongka, December 1901 (Nos. 4234, 4235).

♂ ♀, Kalidupa, December 1901 (Nos. 4468, 4469).

63. *Charadrius dominicus fulvus* Gm. (Migrant).

[*Charadrius dominicus* P. L. S. Müll., *Natursyst. Suppl.* p. 116 (1776 : ex Brisson—hab. St. Domingo).]

*Charadrius fulvus* Gmelin, *Syst. Nat.* i. 2. p. 687 (1788 : ex Latham—hab. Tahiti).

♂, Buton, November 1901 (No. 4172).

♂ ♀, Tomia, December 1901 (Nos. 4375, 4376).

2 ♂ ♂, 1 ♀, Binongka, December 1901 (Nos. 4262, 4263, one without number).

Migrant from the north.

64. *Ochthodromus geoffroyi* (Wagl.) (Migrant).

*Charadrius geoffroyi* Wagler, *Syst. Av., Gen. Charadrius*, No. 19 (1827 : hab. in Pondichery et frequentiss. in ins. Java. Mus. Paris., Lugd.).

1, December 1901, Tomia (No. 4376).

Migrant from the north.

65. *Heteractitis brevipes* (Vieill.) (Migrant).

*Totanus brevipes* Vieillot, *Nouv. Dict. d'Hist. Nat.* vi. p. 410 (1816 : "Pays inconnu"—typus ex Timor; cf. Pucheran, *Rev. et Mag. Zool.* 1851. p. 370).

2 ♂ ♂, 1 ♀, Kalidupa, December 1901 (Nos. 4548—4550).

♂ ♀, Tomia, December 1901 (Nos. 4372, 4374).

Migrant from the north.

66. *Tringoides hypoleucos* (L.) (Migrant).

*Tringa Hypoleucos* Linn., *Syst. Nat.* ed. x. p. 149 (1758 : "hab. in Europa"—loc. typ. Suecia : ex Fauna Suecica).

♂ ♀, Buton, November 1901 (Nos. 4151, 4171).

1 ♀, 3 ♂ ♂, 2 ♀ ♀, Tomia, December 1901 (Nos. 4367—4371, 4373).

2 ♀ ♀, Binongka, December 1901 (Nos. 4259, 4260).

♀, Kalidupa, January 1902 (No. 4597).

Migrant from the north.

67. *Gallinago stenura* (Bp.) (Migrant).

*Scolopax stenura* Bonaparte (ex Kuhl MS.), *Ann. Stor. Nat. Bologna* iv. fasc. xiv. p. 335 (1830 : Sunda Islands).

♂, Binongka, 13. xii. 1901 (No. 4261).

This specimen is a typical adult *G. stenura*. It is new to the Celebesian fauna. Migrant from the north.



68. *Numenius phaeopus variegatus* (Scop.) (Migrant).

[*Scolopax Phaeopus* Linn., *Syst. Nat.* ed. x. (1758) p. 146 (hab. in Europa—typ. Suecia, ex Fauna Suecica).]

*Tantalus variegatus* Scopoli, *Del. Flor. et Faun. Insubr.* ii. (1786) p. 92 (ex Sonnerat: Luzon).

♂, Buton, November 1901 (No. 4145).

♀, Tomia, December 1901 (No. 4366).

♀, Binongka, December 1901 (No. 4264).

♂, Wantjee, December 1901 (No. 4455).

1 ♂, 3 ♀♀, Kalidupa, January 1902 (Nos. 4543—4546).

Migrant from the north.

69. *Ardea sumatrana* Raffl.

*Ardea sumatrana* Raffl., *Trans. Linn. Soc.* xiii. 1822. p. 325 (Sumatra).

2 ♀♀, Tomia and Binongka, December 1901 (Nos. 4620, 4621).

"Iris golden yellow (chromeous), bill black, greenish underneath (pale yellowish underneath), feet dull black, soles yellow."

70. *Demiegretta sacra* (Gm).

1 ♂ (white), 1 ♀ (white), 1 ♀ (black) Binongka, December 1901 (Nos. 4484, 4485, 4406).

71. *Butorides javanica* (Horsf.) (? subsp.).

*Ardea javanica* Horsf., *Trans. Linn. Soc. Lond.* xiii. p. 190 (1821: Java).

The bill in the specimens from Celebes, the Tukang-Besi Islands and Buru is remarkably small, being as a rule slenderer and from 5 to 10 mm. shorter than in those from Java, Borneo, and the Lesser Sunda Islands. I am convinced that a close examination of a sufficient number of examples from various localities would enable us to divide *B. javanica* into several local forms.

2 ♂♂, 1 ♀, S.W. Buton, November 1901 (Nos. 4146, 4147, 4156).

3 ♂♂ (1 juv.), Kalidupa, January 1902 (Nos. 4617—4619).

72. *Dupetor flavicollis* (Lath.) (? subsp.).

*Ardea flavicollis* Latham, *Ind. Orn.* ii. p. 701 (1790: "hab. in India").

It seems that Celebesian examples are as a rule darker, less reddish, on the foreneck than Indian ones; but our series is not sufficient to come to a definite conclusion as to the constancy of this character.

♂, Kalidupa, 7. i. 1902. "Iris bright yellowish chestnut brown, feet blackish brown, bill black, pale brownish at base, yellowish white below."

73. *Sterna media* Horsf.

*Sterna media* Horsf., *Trans. Linn. Soc.* xiii. p. 198 (1820: Java).

♂ ♀, Kalidupa, 9. i. 1902. "Iris dark coffee-brown, bill yellowish (chromeous), feet black."

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Hartert, Ernst. 1903. "On the Birds collected on the Tukang-Besi Islands and Buton, south-east of Celebes, by Mr Heinrich Kuhn." *Novitates zoologicae : a journal of zoology in connection with the Tring Museum* 10, 18–38.

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