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NOVITATES ZOOLOGICAE.

A Journal of Zoology.

EDITED BY

THE HON. WALTER ROTHSCHILD, PH.D.,
DR. ERNST HARTERT, AND DR. K. JORDAN.



VOL. XIV.

No. 1.

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The Plates representing Lepidoptera which were intended to be issued with the present volume will form part of Volume XV., which volume will contain at least 13 Plates.

ERRATA.

- p. 84. line 15 from top, read : *Chelidoptera* instead of *Chelidophora*.
- p. 237. lines 13, 20, 23 from bottom, read : *Oligura castaneoviridata* instead of *O. castaneiventris*.
- p. 154. line 14 from bottom, read : *musschenbrockii* instead of *musscheubrockii*.
- p. 454. line 13 from bottom, read : *musschenbrockii* instead of *muschenbrockii*.
- p. 478. line 20 from top, read : *crassirostris* instead of *crassirestris*.

NOVITATES ZOOLOGICAE.

Vol. XIV.

MARCH, 1907.

No. 1.

ANOTHER CONTRIBUTION TO THE ORNITHOLOGY
OF THE LOWER AMAZONS.

By C. E. HELLMAYR.

IN the last volume of this periodical, on pp. 353—385, I reported upon a collection of birds from the vicinity of Pará, brought together by Mr. W. Hoffmanns. Since that time the Tring Museum received two further consignments from the same indefatigable collector, containing several new forms and others of considerable interest.

After leaving Pará, Mr. Hoffmanns went to Santarem, on the left bank of the Rio Tapajoz, and collected for several weeks at two small villages in the neighbourhood of that town, called *Itaitiba* and *Urucuritiba*. According to one of his letters, the first of these places is situated in dense primeval forest, while *Urucuritiba* is partly surrounded by "campos."

In March and April Mr. Hoffmanns made another stay at *Obidos*, on the north side of the Amazons. Although the number of birds sent is very small, amounting to only about a hundred skins, this little collection is of great interest, proving as it does that the fauna of *Obidos* is to a certain extent different from that of Santarem. Even from the few species obtained on this occasion, it becomes evident that the broad sheet of waters of the Lower Amazons separates the ranges of several representative species. As already stated by Bates,* many typical Guianan forms are found near *Obidos* which apparently do not occur on the south bank of the great river; while in the avifauna of Santarem we meet with a good many Upper Amazonian elements, among them being also such species as inhabit the banks of the lower Rio Madeira. The difference is illustrated in the present collections by the following instances:—

SANTAREM.

Cercomacra nigrescens approximans.
Hypocnemis cantator peruvianus.
Momotus momota utterveri.

OBIDOS.

Cercomacra tyrannina.
Hypocnemis cantator cantator.
Momotus momota momota.

The material at our command is, of course, far too incomplete to justify any attempt at drawing definite conclusions. A thorough exploration of the Lower Amazonian valley is one of the greatest desiderata of neotropical Ornithology, and would certainly yield a rich harvest to the naturalist interested in the problems of geographical distribution. It must be remembered, however, that nowhere is travelling more expensive and more difficult than on the Brazilian Amazons; and under due consideration of these circumstances, Mr. Hoffmanns is to be congratulated on having so successfully performed his laborious task.

The following account is divided into two chapters, the first dealing with the birds from Santarem, the second with those obtained at Obidos. As in my former papers on neotropical birds which appeared in this periodical, I have quoted only the original descriptions and such references as strictly pertain to the faunal district in question.

I. BIRDS FROM SANTAREM.

1. *Turdus fumigatus* Licht.

Cfr. *Noe, Zool.* xiii. (1906) p. 353.

Merula fumigata, Chapman & Riker, *Auk* 1890, p. 135 (Santarem).

No. 423. ♀ ad., Itaituba, 10. i. 06. "Iris brown, bill black."

Like the one previously sent from Prata, Pará, this specimen has a large white patch in the anal region, otherwise it agrees with ordinary *T. fumigatus* of East Brazil.

2. *Troglodytes musculus clarus* Berl. & Hart.

Cf. *Noe, Zool.* xii. (1905) p. 270.

No. 559. ♀ ad., Urneuritiba, 9. ii. 06. "Iris brown."

Identical with specimens from Pará and British Guiana.

3. *Thryophilus albipectus albipectus* (Cab.)

Thryothorus albipectus Cabanis in Schomburgk, *Reisen Brit. Guiana* iii. (1848), p. 673 (Cayenne).

Thryophilus taenioptera Ridgway, *Proc. U.S. Mus.* x. 1887 (publ. 1888) p. 518 (Diamantina, Santarem).

No. 460. ♂ ad., Itaituba, 18. i. 06. "Iris brown."—Wing 65, tail 46, bill 19½ mm.

This specimen, which tallies well with Ridgway's description, belongs certainly to the same form as a large series from British Guiana, Rio Branco and the Caura River, Venezuela, which I had previously compared with Cabanis' type of *T. albipectus* in the Berlin Museum. There is no appreciable difference in the colour of the upper surface, and the lower parts in No. 460 are exactly as in a specimen from the Caura, throat and middle of the breast being white, foreneck and sides buff, deepening into pale brownish on flanks; the under tail-coverts tawny. Mr. Ridgway describes *T. taenioptera* as having narrow dusky bars on the back; while our specimen from Santarem has no trace of these markings. This discrepancy, however, seems of very little importance in view of the great variability of that character shown by our Caura series (12 skins).

The ♂ ad. from Barra do Rio Madeira, mentioned in *Verhandl. Zool. Botan. Gesellsch. Wien* 1904, p. 769, as probably belonging to the form found in North-east Peru, proves to be only an extreme, dark-coloured specimen of *T. a. albipectus*; there are several similar examples in the series from the Caura River. On the other hand, skins from Peru apparently represent a distinct race, differing from *T. a. albipectus* by their shorter tail, slightly shorter bill, and much darker ochraceous under parts, the throat alone being whitish.

What I said (*loc.*) about the geographical races of *T. albipectus* requires, therefore, some modifications. Having examined much additional material, it seems to me that the following forms ought to be recognised:—

a. T. albipectus albipectus (Cab.). British Guiana, Cayenne ; Canra River, in East Venezuela ; North Brazil : Rio Branco, and Lower Amazonia from Pará to Barra do Rio Madeira.

Upper parts warm rufescent brown ; throat white, rest of under surface buff, deepening into ochraceous on flanks and crissum.

Wing, ♂ 63—68, ♀ 60—64 ; tail 46—52 mm.

Examined : 1 ad. Cayenne (type of species) ; 4 Forte do Rio Branco ; 4 British Guiana ; 1 Pará ; 1 Santarem ; 12 Canra River ; 1 Barra do Rio Madeira.

b. T. albipectus hypoleucus Berl. & Hart. Middle Orinoco from Ciudad Bolivar to Ature (for characters see *Nor. Zool.* ix. 1902. p. 6).

Examined : 16 specimens (including the type).

c. T. albipectus bogotensis Hellm. On the upper Orinoco : Perico, Maipures ; and in Bogotá collections.

Differs from *a* and *b* by its much brighter rufous-brown upper parts, and by having the whole lower surface (except the white throat) deep ochraceous, passing into rufescent brown on flanks.

Wing 65—69 ; tail 48—52 ; bill $17\frac{1}{2}$ —19 mm.

Examined : 5 Bogotá skins (including the type) : 1 ♂ ad. Perico, 1 ♂ ad. Maipures.

d. T. albipectus venezuelanus (Cab.)

Thryothorus venezuelanus Cabanis, *Mus. Heinean.* i. (1850) p. 78 (Venezuela).

Near Puerto Cabello, North Venezuela.

Differs from *T. a. bogotensis* by its duller and darker upper parts, distinctly ashy grey sides of the neck, and by having the foreneck and middle of the breast much paler, buffy ochraceous.

Wing 60, 64 ; tail 40, 43 ; bill 16, $17\frac{1}{2}$ mm.

Examined : 1 ♀ ad., S. Esteban, near Puerto Cabello (Mus. H. v. Berlepsch) ; 1 av. imm. from Venezuela (type of *T. venezuelanus* Cab.), kindly lent by Oberamtman Heine.

The distinctly ashy grey sides of the neck render this form easily recognisable among its affines.

e. T. albipectus subsp. North-east and Central Peru ; and on the Rio Jurua in North-west Brazil. Occasionally found in Bogotá collections.

Differs from *T. a. venezuelanus* by the much duller, dark olive-brown colour of the pileum (without any rufescent tinge), and by having the whole under surface (except the white throat) deep ochraceous, as in *T. a. bogotensis*, from which it may, however, be distinguished by its much shorter tail, shorter bill, and the colour of the pileum, which in *bogotensis* is bright rufous brown, like the back. There is scarcely any grey on the sides of the neck.

Wing 60—65 ; tail 40—44 ; bill 16—17 mm.

Examined : 4 Nanta, N.E. Peru ; 1 ♀ ad. Upper Ucayali ; 3 ♂ ♂ ad. Chuchurras, Huáncayo, Peru ; 2 Rio Jurua ; 2 Bogotá collections.

f. T. albipectus ruficentris Scl. Central Brazil : Goiaz and Mattogrosso south to the Rio Grande, northern frontier of S. Paulo.

For characters see *l.c.*

Examined : 1 ♂, 2 ♀ ♀, Cuyabá : 2 ♂ ♂, Goiaz ; 1 ♂ ad. Rio Paranahyba, Goiaz ; 1 ♂ ad. Leopoldina, Rio Araguay, Goiaz ; 1 ♀ ad. Rio Grande, S. Paulo.

q. T. albigpectus galbraithii (Lawr.) Isthmus of Panama.

Differs from *T. a. virentis* by its much shorter tail, and by having the ear-coverts almost uniform white without dusky streaks.

Examined: 5 adults from Panama (including 2 topotypes, received from Lawrence, in Mus. H. v. Berlepsch; and in coll. Boucard, actually in the Paris Museum).

4. *Polioptila livida livida* (Gm.)

Motacilla livida Gmelin, *Syst. Nat.* 1. ii. (1788) p. 981 (ex Daubenton, *Pl. enl.* 705 fig. 3 (= ♀).—Madagascar—errore! We substitute *Cayenne*).

Polioptila livida Hellmayr, *Verhandl. Zool. Bot. Ges. Wien*, 1903, p. 223 (crit.)

Polioptila buffoni Selater, *P.Z.S.* 1861, p. 127 (part.: descr. and hab.: "Guiana," sc. Cayenne).

No. 561 (♀) jr., *Urucurituba*, 19. ii. 06. "Iris black."

Agrees perfectly with a large series from Cayenne and Surinam. This form is characterised by the wholly white outermost rectrix, the broad white edges to the tertials almost reaching to the shaft, and by the greater upper wing-coverts being margined with whitish (not with bluish grey, as in all other forms).

In *Nor. Zool.* viii. 1901, p. 359, I recorded a female from Pará (Schulz coll.—Mus. H. v. Berlepsch), and Dr. Goeldi (*Ibis* 1897, p. 161) observed the species near Amapá, South Guiana. These were the only records of *P. l. livida* for Brazil, hitherto.

Since the publication of my synopsis of the genus* I have examined a large amount of additional material, and it may be worth while to say a few words about the conclusions arrived at. Mr. Ridgway † having disentangled the complicated synonymy of the Central American forms of the *P. nigriceps* group, I can confine myself to those found in South America, of which the following are to be recognised:

a. P. livida livida (Gm.). Cayenne, Surinam; South Guiana (North Brazil): Amapá; and Lower Amazonia: from Pará to Santarem.

Of this form I have now a splendid series before me, and I find the characters pointed out above quite constant.

Examined: 5 ♂♂ ad., 1 ♂ imm., 3 ♀♀, Cayenne (G. K. Cherrie coll.); 4 ♂♂ ad., 3 ♀♀ imm. from Paramaribo; 1 ♀ jr. from Santarem; 1 ♀ ad. Pará.

b. P. livida innotata Hellm. British Guiana, and Rio Branco (Forte do S. Joaquim) in North Brazil.

Like *a*, this form has the outermost tail feather wholly white, but the upper wing-coverts are margined with pale bluish grey, and the white edges to the tertials much narrower. The tail feathers, too, are much narrower.

Examined: 4 ♂♂ ad., 4 ♀♀ Rio Branco; 6 ♂♂ ad., 4 ♀♀ British Guiana.

c. P. livida plumbeiceps Lawr.

Polioptila plumbeiceps Lawrence, *Proc. Acad. Philad.* (1865), p. 37 (Venezuela).

P. schateri Sharpe, *Cat. Birds Brit. Mus.* x. (1885) p. 449 (Venezuela).

P. nigriceps antocularis Hellmayr, *Nor. Zool.* vii. (1903) p. 533 (Bogotá).

Venezuela south to the Orinoco valley, westwards to Colombia (Cauca valley).

Mr. Ridgway distinguished *P. antocularis* of Bogotá from *P. plumbeiceps* of Venezuela, on account of its larger dimensions and paler chest; these differences,

* *Tierreich*, Lief. 18 (1903) pp. 16—29.

† *Birds North and Middle America* iii. p. 710 ff.

however, do not hold good when a series from both countries is compared. I have before me 26 Bogotá skins of both sexes, 1 ♂, 2 ♀♀ from the Cauca valley, 18 adults of both sexes from Cumaná, and 14 adults from the Orinoco valley, and fail to see how they can be separated into two forms. There is no difference in the shade of grey on the chest or in the amount of white on the lateral tail feathers between Venezuela and Bogotá examples; nor can they be distinguished in size, as will be seen from the following measurements. I agree, however, with Mr. Ridgway, that this form is quite distinct from *P. nigriceps* Baird, of Western Mexico, which I had not seen when writing my monograph of the genus.

8 ♂♂ ad., Cumaná: wing 47—52; tail 46—52; bill 11—13 mm.

8 ♂♂ ad., Orinoco valley: wing 48—52½; tail 48—52; bill 11½—12½ mm.

1 ♂ ad., San Fernando-Apuré, Venezuela: wing 50½; tail 48; bill 11½ mm.

16 ♂♂ ad., Bogotá: wing 48—52; tail 48—53; bill 12—13½ mm.

1 ♂ ad., Cauca valley: wing 52; tail 48½; bill 12 mm.

d. P. livida parvirostris Sharpe. Southern tributaries of the Peruvian Amazons: Ucayali, Inallaga, etc.

e. P. livida maior Hellm. Andes of North Peru.

f. P. livida leucogastra (Wied). Eastern Brazil from Bahia to Pernambuco.

The females of all these forms (*a—f*) have a distinct black postocular patch, sharply defined against the white or greyish white lower portion of the ear coverts. This dusky auricular patch is altogether wanting in the female of *P. nigriceps* of Western Mexico.

5. *Granatellus pelzelni pelzelni* Sel.

Granatellus pelzelni Sclater, *P.Z.S.* 1864, p. 606 pl. 37. fig. 1. descr. orig. ♂ ad. (Destacamento do Ribeirão, Rio Madeira).

Nos. 441, 496. ♂♂ ad., Itaituba, 13, 27. i. 06. "Iris brown, feet greyish blue, bill greyish black."—Wing 54; tail 51½, 52; bill 10, 11 mm.

No. 489. ♂ juv., Itaituba, 26. i. 06. "Iris brown."—Wing 55; tail 54½; bill 11 mm.

No. 490. ♀ ad., Itaituba, 26. i. 06. "Iris brown, feet grey."—Wing 54; tail 52; bill 11 mm.

The ♂♂ ad. agree with the type from the Rio Madeira and with a large series from the Orinoco region in having the forehead **and crown** black, a large, broad white postocular stripe, and by the grey flanks being separated from the rosy red middle of the belly by a distinct white stripe. The ♀ is also perfectly identical with those from the Caura River.

G. p. paraensis thus appears to be entirely confined to the Pará district, like so many other forms.

6. *Pachysylvia thoracica semicinerea* (Scl. and Salv.)

Cf. *Nor. Zool.* xiii. (1906) p. 355.

No. 446. ♂ ad., Itaituba, 15. i. 06. "Iris white, feet brownish grey, bill grey."—Wing 58; tail 49; bill 14 mm.

This bird fully confirms what I said (*loc.*) about the affinities of this "species." It has the chest even more distinctly shaded with yellowish than the ♂ from Pará.

mentioned in my former article, and the back is of a brighter, more yellowish green tinge, just as in *P. t. griseiventris* (Berl. & Hart.).

P. t. semicinerea has a much wider range than was hitherto supposed. Dr. Lorenz, of Vienna, having kindly sent me Natterer's series of *Hylophilus*, I was much surprised to find that the two specimens from Borba and Salto do Girao, Rio Madeira, recorded by Von Pelzeln* s.n. *Hylophilus thoracicus*, belonged to the present form, agreeing in every way with our male from Santarem.

Notwithstanding its grey sides of the head, *P. t. semicinerea* is quite distinct from *P. pectoralis* (Scl.), which also occurs on the Amazons, whence Natterer sent a specimen to the Vienna Museum. I have, besides, examined a ♀ collected by Garbe near Santarem, belonging to the Museu Paulista, Brazil.

7. *Tachycineta albiventer* (Bodd.)

Hirundo albiventer Boddaert, *Tabl. Pl. col.*, p. 32 (1783.—ex Daubenton, *Pl. col.* 546 fig. 2. *Cayenne*).
Tachycineta albiventris Chapman & Riker, *Auk*, 1890, p. 266 (Santarem).

No. 488. ♂ ad., Itaituba, 26. i. 06. "Iris black."

No. 555. ♀ ad., Urucurituba, 8. i. 06. "Iris brown."

Not different from Cayenne specimens.

8. *Coereba chloropyga* (Cab.)

Cfr. *Nor. Zool.* xiii. p. 356.

Coereba chloropyga Chapman & Riker, *Auk*, 1890, p. 266 (Santarem).

No. 588. ♀ ad., Urucurituba, 27. ii. 06. "Iris brown."

This specimen agrees fully with others from Pará and Bahia, being in every way typical of *C. chloropyga*. The back is pale olive-grey, the rump dull pale olive-yellow, and there is no wing-speculum.

9. *Euphonia chlorotica chlorotica* (Linn.)

Tanagra chlorotica Linnaeus, *Syst. Nat.* ed. xii. 1. (1766) p. 317 (ex Brisson.—"Cayania").

Euphonia chlorotica Chapman & Riker, *Auk*, 1890, p. 267 (Santarem).

No. 457. ♂ ad., Itaituba, 17. i. 06. "Iris brown."—Wing 55; tail 32; bill 8 mm.

Agrees with an adult ♂ from Cayenne (Brit. Mus. ex coll. Sclater) except in being a little more violet on throat and nape.

10. *Euphonia violacea lichtensteinii* (Cab.)

Cfr. *Nor. Zool.* xiii. p. 356.

Euphonia violacea Chapman & Riker, *Auk*, 1890, p. 266.

No. 498. ♂ ad., Itaituba, 27. i. 06. "Iris brown."—Wing 57; tail 32; bill 10½ mm.

No. 500. ♂ ad., Itaituba, 28. i. 06. "Iris brown."—Wing 55; tail 31; bill 10 mm.

Identical with specimens from Pará.

* *Zur Ornith. Brasil*, ii. (1868) p. 70, note 1.

11. *Calospiza mexicana boliviana* (Bp.)

[*Tanagra mexicana* Linnaeus, *Syst. Nat.* xii. 1. p. 315 (1766.—ex Brisson: Cayana (excl. syn. Hernandez—Mexico)].

Calospiza boliviana Bonaparte, *C. Rend. Ac. Sci. Paris* xxxii. p. 80 (1851.—Guarajos, East Bolivia, coll. D'Orbigny.—Type in Paris Museum examined).

Calliste boliviana Schater & Salvin, *P.Z.S.* 1867. p. 571 (Capim River); Chapman & Riker, *Auk*, 1890, p. 267 (Santarem).

Calliste flaviventris (nec Viellot!) Pelzeln, *Zur Orn. Brasil*, iii. (1869) p. 207 (Guaporé, Borba, Barra do Rio Negro).

No. 499. ♀ ad., Itaituba, 28. i. 06. "Iris brown."

This specimen agrees perfectly with others from Pará (coll. Steere—Mus. Tring) and those collected by Natterer near Borba, Rio Madeira, and on the banks of the R. Guaporé.* When lately in Paris I compared some of these skins with Bonaparte's type, and found them identical. All have the shoulder-patch of a dark azure blue, only some of the innermost smaller wing-coverts being slightly tinged with turquoise blue. Examples from N.E. Peru, East Ecuador and Bogotá have, as a rule, this patch quite uniform azure blue, but some of them agree with the Brazilian ones. In the intensity of the yellow belly there is no constant difference between specimens from various localities.

Three skins from Barra do Rio Negro (= Maniós) differ in having the shoulder-patch decidedly more mixed with turquoise blue, thereby forming the transition to *C. m. mexicana*, of Cayenne and Surinam, *C. m. media* Berl. and Hart. of the Orinoco valley, and *C. m. vieilloti* (Scl.) of Trinidad. In these three forms, however, the shoulder is uniform Nile blue, without any trace of azure blue, and in the two first named the belly is very much paler yellow.

12. *Tachyphonus luctuosus* Lafr. & D'Orb.

Tachyphonus luctuosus Lafresnaye et D'Orbigny, *Syn. Av.* i. in *Mag. Zool.* 1837 cl. ii. p. 29 (Guarajos, Bolivia); Chapman & Riker, *Auk*, 1890, p. 267 (Santarem).

No. 526. ♂ ad., Itaituba, 31. i. 06. "Iris brown."

Not different from Bolivian specimens, perhaps a little more glossy on the lower surface.

13. *Pitylus grossus* (Linn.)

Cfr. *Nor. Zool.* xiii. p. 359.

Pitylus grossus Chapman & Riker, *Auk*, 1890, p. 267 (Santarem).

No. 517. ♂ ad., Itaituba, 30. i. 06. "Iris light brown."

No. 519. ♀, Itaituba, 30. i. 06. "Iris brown."

14. *Sporophila castaneiventris* Cab.

Sporophila castaneiventris Cabanis in Schomburgk, *Reisen Brit. Guiana* iii. (1848) p. 679 (Cumaka, coast of British Guiana); Chapman & Riker, *Auk*, 1890, p. 268 (Santarem).

Nos. 531, 556. ♂♂ ad., Uruenituba, 6, 9. ii. 05. "Iris brown."

No. 464. ♀, Itaituba, 18. i. 06. "Iris brown."

The males are not different from Guianan and Upper Amazonian skins, except for the tail being a very little shorter. The female also agrees very well with those from other localities.

* I am much obliged to Dr. von Lorenz for kindly sending me the whole series of the Vienna Museum.

15. *Sporophila lineola* (Linn.)

Loxia lineola Linnæus, *Syst. Nat.* xii. 1. (1766) p. 304 ("Asia"—errone! We accept *Surinam* as the typical locality; cfr. *Nor. Zool.* ix. p. 26).

Nos. 529, 538, 558, 578, 580, 583. ♂♂ ad. Urucurituba, Santarem, 4, 5, 9, 24, 25. ii. 06. "Iris brown."

All these specimens are typical *S. lineola*, with a broad white stripe along the middle of the forehead and crown, and with the under parts pure white, without any blackish cross-lines.

Of this form, I have examined 47 ♂♂ ad. in the Museums of Triug, Vienna, Turin and Berlepsch from the following localities: Camacusa, Rio Carimang, Aunai, British Guiana; Cayenne; Bahia; Mattogrosso; S.E. Bolivia (Borelli coll.); Salta; Rio Xié, a tributary of the upper Rio Negro; Caicara, Orinoco; and Samiria, N.E. Peru. There are no differences between specimens from the various localities, but the series appears to be quite distinct from *S. bourronides* (Less.), with which *S. ocellata* Sel. & Salv., *S. trinitatis* Sharpe, and *S. amazonica* Sharpe are synonymous.

16. *Sicalis columbiana goeldii* Berl.

Sicalis goeldii Berlepsch, *Bull. B.O.C.* xvi. (May 1906) p. 97 (Santarem).

Sicalis columbiana (nec Cabanis!) Pelzeln, *Zur Ornith. Brasil.* iii. (1869), p. 231 (Barra do Rio Negro); Riker & Chapman, *Ibid.* 1890, p. 268 (Santarem).

4 ♂♂ ad., 2 ♂♂ juv., 1 ♀ ad. from Urucurituba, 6, 11, 13, 25. ii. 06. "Iris brown, feet greyish or greyish brown, bill greyish yellow, above darker." Nos. 532, 533, 534, 569, 576, 581, 582. 1 ♂ ad., 1 ♂ juv. from Itaituba, 18, 22. i. 06. "Iris brown." Nos. 459, 480.

S. c. goeldii is apparently the representative of *S. c. columbiana* in the Amazonian basin. The specimens collected by Natterer near Manáos (= Barra do Rio Negro) belong to this form, and in the Paris Museum there are two adult males from the Yana-yaco River, a tributary of the Ucayali, Eastern Peru, collected by J. Hanxwell. I found them perfectly identical with some of Natterer's specimens.

The ♂♂ ad. from Santarem, Manáos and Eastern Peru exhibit all the characters pointed out by Count Berlepsch, and the ♀ also differs slightly from those of *S. c. columbiana* and *S. c. leopoldinæ*. The differences between the three forms are best shown by the following short *résumé*.

a. *Sicalis columbiana columbiana* Cab.

Sicalis columbiana Cabanis, *Mus. Heinan* i. (1851) p. 147 (Porto Cabello, Venezuela).

Hab. Venezuela: Porto Cabello (teste Cabanis); Altigracia, west of Angostura (Cind. Bolívar), on the middle Orinoco; Suapure and La Prisión on the Caura River, a southerly tributary of the Orinoco.—The locality Trinidad, sometimes assigned to this form, is erroneous.

♂ ad. Upper parts uniformly light yellowish green, rump scarcely brighter than the back; forehead and vertex as far as above the posterior angle of the eye dull reddish orange. Under surface bright yellow, but without any orange tint, shading into greenish on the sides of the chest. Cheeks light yellow, ear-coverts dull greenish. Bill stout and strong. Wing (♂♂ ad.): 60—63, tail 43—46; bill 10—11 mm.

♀ ad. The specimens from the Orinoco district agree well with Cabanis'

description, the chest and sides being always more or less tinged with pale brownish, the former with faint indications of dusky shaft-lines. Wing (7 ♀♀ ad.): 60—61; tail 42—44; bill 10—11 mm.

b. Sicalis columbiana leopoldinae Hellm.

Bull. Brit. Orn. Cl. xvi. (April 1906) p. 85 (S. Leopoldina, Goiaz).

Hab. Central Brazil; near S. Leopoldina on the upper Rio Araguay, Goiaz.

♂ ad. Differs from that of *S. c. columbiana* in its smaller size, very much smaller and weaker bill, slightly more yellowish green back and decidedly brighter, fiery orange-red frontal patch. The under surface is of the same bright yellow, but the sides of the chest lack the greenish tinge; the cheeks are yellowish olive like the back, as in *S. c. columbiana*.

Two ♂♂ ad. measure: wing 58; tail 40; bill 9½—10 mm.

♀ ad. Differs from that of the typical form in being smaller, the bill especially so, and in being paler everywhere. The upper parts are paler and more greyish brown, the lower ones more whitish, the chest and sides very slightly shaded with brownish.

Two ♀♀ ad.: 55, 57; tail 41; bill 9 mm.

c. Sicalis columbiana goeldii Berlepsch.

Hab. Lower Amazons: Paricatuba, Urucurituba and Itaituba, near Santarem; Manaus; Eastern Peru: Yana-yaco, a tributary of the Ucayali River.

♂ ad. Differs at a glance from the two foregoing forms by having the lower parts of a much brighter, orange yellow colour, which is spread also over the cheeks and ear-coverts. The fiery orange-red of the forehead extends over the whole vertex; the nape and the rump are much brighter, of a golden olive yellow; and the quills are more distinctly edged with pale yellowish on the inner webs. The bill is stout and large, as in *S. c. columbiana*.

Ten ♂♂ ad., Santarem and Manaus (including the types) measure: wing 58—63; tail 42—45; bill 11—12 mm.

Two ♂♂ ad., Yana-yaco, East Peru: wing 59, 60; tail 40½, 43; bill 11 mm.

♀ ad. Agrees in the paleness of the under parts with that of *S. c. leopoldinae*, but has longer wings and a very much larger bill. Besides, the flanks are washed with buffy yellowish, the axillaries and under wing-coverts more yellowish, and the inner webs of the quills more distinctly edged with yellowish white. Wing 59; tail 42; bill 11 mm.

17. **Myospiza aurifrons* (Spix).

Tanagra aurifrons Spix, *Ar. Bras.* ii. (1825) p. 38, tab. L, fig. 2 ("in provincia Bahia"—!); cfr. Hellmayr, *Abhandl. Akad. München*, vol. xxii 3 (1906) p. 673. *Coturniculus peruanus* auct. (nec Bonaparte!).

No. 463. ♀ fere ad. Itaituba, Santarem, 18. i. 06. "Iris brown."—Wing 58; tail worn; bill 12 mm.

Agrees well with specimens from Upper Amazonia, but seems to be somewhat smaller. This, however, may be due to its being in very worn plumage. Additional examples are required to prove whether the Lower Amazonian form is really identical with that found in Peru, etc., or not.

I have shown, in the paper quoted above, that the proper name of this species is *M. aurifrons*.

Not yet recorded from the Lower Amazons, though collected by Natterer near Manáos, and at Borba, Rio Madeira.

18. *Paroaria gularis gularis* (Linn.)

Tamagra gularis Linnaeus, *Syst. Nat.* xii. 1. (1766) p. 316 (ex Brisson.—“America.” We substitute *Cayenne* as typical locality).

Paroaria gularis Selater & Salvin, *P.Z.S.* 1867, p. 572 (Mexiana); Chapman & Riker, *Auk*, 1890, p. 268 (Santarem).

No. 422. ♀ ad., Itaituba, 10. i. 06. “Iris yellow.”

No. 462. Adult (not sexed), 18. i. 06. “Iris red.”

No. 421. ♂ juv., Itaituba, 10. i. 06. “Iris yellow.”

Besides these, we possess four adult specimens from the Lower Amazons: one each from the Tocantins and from Mexiana Island, collected by A. R. Wallace; one ♂ ad. from Boa Vista and another from Espiritu Santo, both obtained by Prof. Steere. They agree perfectly with Cayenne examples, except in having a slighter, smaller and slenderer bill; this, however, is not likely to be a constant character. *P. g. curvicalis* Scl. of Eastern Bolivia and Mattogrosso differs only in having no black whatever round the eye. I have examined a specimen from Mojos in Eastern Bolivia (D'Orbigny coll., Mus. Paris), and several examples collected by Natterer in Western Mattogrosso. Those obtained by the same traveller near Borba, Rio Madeira, represent, however, typical *gularis*.

19. *Cacicus cela* (Linn.)

Cfr. Nov. Zool. xiii. p. 359.

Cassicus persicus Riker & Chapman, *Auk*, 1890, p. 269 (Santarem).

Nos. 428, 429. ♂♂ ad., Itaituba, 11. i. 06. “Iris light blue, bill greenish white.”

20. *Molothrus bonariensis bonariensis* (Gm.)

Tamagra bonariensis Gmelin, *Syst. Nat.* 1. ii. (1788) p. 898 (“Bonaria.”—ex Daubenton, *Pl. enl.* 710).

Molothrus scirivens Pelzeln, *Zur Ornith. Brasil.* iii. (1869) p. 200 (Santarem).

Molothrus bonariensis Riker & Chapman, *Auk*, 1890, p. 269 (Santarem).

No. 557. ♀ juv., Urucurituba, 9. ii. 06. “Iris brown.”—Wing 93; tail 73½; bill 17½ mm.

The form found near Santarem is typical *M. bonariensis*. I have examined an adult ♂ in the Vienna Museum, which agrees in size with specimens from Buenos Aires and South Brazil (wing 109, tail 82, bill 19¾ mm.). In the vicinity of Pará, however, *M. b. atronitens* Cab. takes its place. This is a much smaller bird, with a weaker, slenderer bill. The Vienna Museum possesses a pair from Cajutuba, near Pará (Natterer coll.) which I am unable to distinguish from Trinidad and Tobago examples (*cfr. Nov. Zool.* xiii. p. 20).

21. *Leistes militaris* (Linn.)

Emberiza militaris Linnaeus, *Syst. Nat.* x. p. 178 (1758—“in America, Asia.”—as typical locality accepted *Sarimim*; *cfr. Nov. Zool.* xiii. p. 21).

Leistes militaris Pelzeln, *Zur Ornith. Brasil.* iii. (1869), p. 196 (Santarem).

Leistes guianensis Riker & Chapman, *Auk*, 1890, p. 269 (Santarem).

Nos. 528, 529, 530, 535, 556. 3 ♂♂ ad., ♂ juv., ♀ ad., Urucurituba, Santarem, 4, 5, 6, 7. ii. 06. “Iris brown, bill grey or greyish black.”

The wings of the males measure : 100, 99, 98 : the tail 61—63 mm.

The specimens are in freshly moulted plumage, with broad pale brown edge to the feathers ; the bill in the dried skins appears pale horn-colour, the lower mandible being almost brownish white. Natterer considered a bird with a brown bill and of rather large size, which he had obtained at Santarem, to represent the true *L. militaris*, and separated specifically those with black bills and of rather smaller dimensions, collected on the Rio Madeira and near Pará, as *L. erythrothorax*. This distinction, however, cannot be upheld, for both supposed forms are to be found together in Surinam, on the Orinoco, in Bogotá collections and elsewhere. The pale bill seems to indicate immaturity.

22. *Todirostrum maculatum signatum* Sel. & Salv.

[*Todus maculatus* Desmarest, *Hist. Nat. Tony. etc.* pl. 70 (1805—no locality : we substitute *Cuyennu*).]

Todirostrum signatum Sclater & Salvin, *Ibis* 1881, p. 267 (N.E. Peru).

Todirostrum maculatum (nec Desmarest) Riker & Chapman, *Auk* 1890, p. 269 (Santarem).

No. 504. ♂ ad., Itaituba, 29. i. 06. "Iris yellow."

It agrees with several topotypical specimens from Nanta. The feathers of the forehead and vertex are slate-grey, with small dusky spots and narrow white lateral edges. A series of true *T. m. maculatum* from Surinam and British Guiana has the front and anterior portion of the crown distinctly black, with the white edges more pronounced. Specimens from Pará belong also to the typical form.

23. **Orchilus ecaudatus* (Lafr. & D'Orb.)

Todirostrum ecaudatum Lafresnaye and D'Orbigny, *Syn. Ac. i.* in *Mag. Zool.* cl. ii. p. 47 (1837—Yuracares, N.E. Bolivia).

No. 474. ♂ ad., Itaituba, Santarem, 21. i. 06. "Iris brown."

Not yet recorded from the Lower Amazons, but known to occur in Venezuela and on the island of Trinidad.

24. **Stigmatura budytoides* (Lafr. & D'Orb.)

Calicivora budytoides Lafresnaye & D'Orbigny, *Syn. Ac. i.* in *Mag. Zool.* cl. ii. (1837), p. 56 (Valle grande, East Bolivia).

No. 543. ♀ ad., Uruenituba, Santarem, 7. ii. 06. "Iris brown, feet and bill black." Wing 52 ; tail 59 (in moult) ; bill 10 mm.

This specimen agrees with those collected by Natterer on the upper Rio Madeira, the markings on the wings and tail being **yellowish** white. In the type from Eastern Bolivia they are pure white, but this is not likely to be a constant character.

The locality Santarem extends the range of the species far to the north, it having previously been only known from the headquarters of the southern tributaries of the Amazons (Ucayali, Rio Madeira, etc.). Like *Serpophaga caudata*, it appears to be an inhabitant of the banks of great streams.

25. *Phaeomyias murina murina* (Spix).

Platyphypichus murinus Spix, *Ac. Bras.* ii. p. 14 pl. xvi. fig. 2 (1825—Brazil) ; cfr. Berlepsch and Hellmayr, *Journ. f. Ornith.* 1905, p. 2.

No. 585. ♀ ad., Uruenituba, Santarem, 26. ii. 06. "Iris brown."

Not different from Bahia skins, perhaps the belly a little paler yellow.

26. **Empidochanes poecilocercus* Pelz.

Empidochanes poecilocercus Pelzeln, *Zur Orn. Brasil.* ii. (1868) p. 181 deser. orig. ♀ (Rio Amajau, Rio Negro).

Cfr. Berlepsch & Hellmayr, *Journal, f. Ornith.* 1905, p. 27.

No. 437. ♀ ad., Itaituba, 12. i. 06. "Iris brown, bill and feet black." Wing 55; tail 48; tars. 16½; bill 14 mm.

This is perhaps the most interesting bird in Mr. Hoffmanns' collection. Hitherto but a single specimen was known, an adult ♀ procured by Natterer in the district of the Rio Negro. Count Berlepsch and I published some notes about the typical example and described the peculiar shape of the three outer primaries, in our paper on little known types of neotropical birds, quoted above.

The specimen sent by Hoffmanns has the outer primaries of the same curious shape, and agrees in general coloration with the detailed MS. description I had drawn up from the type, differing only in its duller, more greenish brown upper parts, cinnamonaceous under tail-coverts, more whitish throat, and in having the bill entirely black (not pale brownish at the base of the lower mandible). These slight differences are probably individual.

27. *Onychorhynchus coronatus* (P.L.S. Müll.)

Muscivora coronata P. L. S. Müller, *Natursyst. Suppl.* 1776, p. 168 (ex Daubenton, *P. col.* 289.—Cayenne).

Todus regius Gmelin, *Syst. Nat.* i. 1 (1788), p. 445 (also based on Daubenton, *Pl. col.* 289).

Muscivora regia auct.

No. 575. (♂) ad., Urucurituba, 13. ii. 06. "Iris brown."

No. 570. ♂ jr., Urucurituba, 12. ii. 06. "Iris dark brown."

They are practically identical with specimens from Surinam and from the Canra River, Venezuela. The back is of a dull dark brownish olive, and the upper tail-coverts and chest are crossed by numerous blackish transverse lines.

Specimens from East Peru upon which *O. castelnaui* Dev. was established are not different either. Deville, when describing this form, compared it with several examples of *O. swainsoni* (Pelz.), as I satisfied myself by examining the series in the Paris Museum. The two mounted specimens collected by the Castelnau expedition are the only ones of true *O. coronatus* that exist in the French national collection.

28. *Pipra fasciicauda* Hellm.

Pipra fasciicauda Hellmayr, *Bis* 1906, p. 9 (nom. emend. for *P. fasciata* Lafr. et D'Orb.—type ex Yuracares, East Bolivia).

Pipra fasciata Selater & Salvin, *P.Z.S.* 1867, p. 579 (Rio Tocantins).

No. 436. ♂ ad., Itaituba, 13. i. 06. "Iris white." Wing 64; tail 31; bill 14 mm.

No. 448. ♂ imm., Itaituba, 15. i. 06. "Iris white."

The ♂ ad. agrees in size and coloration with specimens from Minas and S. Paulo. The occurrence near Santarem is particularly interesting, as both Natterer and Riker procured there *P. a. auricola*. *P. fasciicauda* had never been collected on the Lower Amazons since the time of Wallace, who obtained it on the Rio Tocantins. There can be no longer any doubt that his specimens were correctly referred to that species by Selater & Salvin.

29. *Attila thamnophiloides* (Spix).

Muscicapa thamnophiloides Spix, *Ac. Bras.* ii. p. 19 pl. xxvi. fig. 1. (1825 — "in locis sylvaticis fl. Amazonum.")

No. 516. ♂ ad., Itaituba, 30. i. 06. "Iris light brown."

Specimens from Surinam are not different.

30. *Lipangus simplex* (Leht.).

Cfr. *Nov. Zool.* xiii. p. 364.

No. 455. ♂ juv., Itaituba, 16. i. 06. "Iris brown."

31. *Furnarius minor* Pelz.

Furnarius (Opeltiorhynchus) minor Pelzeln, *Sitzungsber. Akad. Wien* xxxi. (1858) p. 321 [Brasilien, sc. Rio Madeira; cfr. *Orn. Brasil.* i. (1867) p. 35].

Furnarius minor Riker & Chapman, *Auk*, 1891, p. 26 (Santarem).

Nos. 433, 470, 536, 537, 545, 564. 2 ♂ ad., Itaituba, 12, 19. i. 06; 1 ♂ ad., 1 ♂ juv., 1 ♀, and one immature bird, not sexed, from Urucurituba, 6, 7, 10. ii. 06. "Iris red or brownish yellow."

This series does not differ from Upper Amazonian skins. All have a distinct pale cinnamonaceous spot on the inner web of the first primary, near the base.

32. *Synallaxis gujanensis gujanensis* (Gm.)

Motacilla gujanensis Gmelin, *Syst. Nat.* 1. ii. (1788) p. 988 (ex Daubenton, *Pl. enl.* 686. fig. 2.—Cayenne).

Synallaxis gujanensis Riker & Chapman, *Auk*, 1891, p. 26 (Santarem).

Nos. 473, 475. ♂ ♀ ad., Itaituba, 21. i. 06. "Iris brown-red, bill black, below grey."

Exactly like specimens from Surinam, British Guiana and Parí (Layard coll., Mus. Brit.). Others from the Caura River and from Bogotá collections are also not different. The typical form has the middle of the abdomen distinctly whitish, the foreneck and chest washed with buff, and the sides of the body pale brownish.

On the Rio Madeira a closely allied form takes its place. This is *S. gujanensis inornata* Pelz., which differs in having the whole nuder surface (except the white throat) considerably darker, uniform brownish buff, without any white in the middle of the belly.

33. *Synallaxis rutilans amazonica* n. subsp.

Three ♀ ad., Itaituba, 22, 27. i. 06. Nos. 481, 493, 495. "Iris brown, feet grey, bill black." Wing 60—61; tail 66; bill 13½—14 mm.

The examination of a large amount of material revealed the interesting fact that three distinct forms had hitherto been united under the name of *S. rutilans*, and that *S. omissa* Hart., of Parí, was evidently also a geographical race of this group. Thus, we have to distinguish the following forms:

a. *Synallaxis rutilans rutilans* Temm.

Synallaxis rutilans Temminck, *Pl. col.* livr. 28, tab. 227, fig. 1 (Sept. 1823.—"Brésil"); Pelzeln, *Zur Ornith. Brasil.* i. (1867) p. 36 (part.: Rio Negro and Marabitanas); Sclater, *Cat. Birds Brit. Mus.* xv. (1890) p. 57 (part.: spec. a ex Oyapoc, Cayenne); Berlepsch & Hartert, *Nov. Zool.* ix. (1902) p. 60 (Nericagua, Orinoco; Caura R. Venezuela).

Hab. *N. W. Brazil*: Rio Negro, Marabitanas (Natterer). *Venezuela*: Nericagua, Orinoco (Cherrie); La Union, La Pricion, Nicare (André), Suapure (Klages) on the Caura River. *French Guiana*: Oyapoc (Verdey).

Adult. Forehead as far as the anterior border of the eye, superciliary region, sides of the head and neck, foreneck and breast bright ferruginous; crown, occiput and back uniform rich brown (about "raw umber" of Ridgway's *Nomencl.*, pl. iii. fig. 14), shading into fuliginous on the rump and upper tail-coverts.

Of this form I have before me eight specimens from the Canra River, one ♂ ad. and two ♀♀ ad. from Nericagua, Orinoco, and one pair (♂♀ ad.) from Marabitanas, upper Rio Negro. Besides these, I examined in the British Museum an adult bird from Oyapoc, Cayenne, received from Madame Verdey of Paris. Dr. Slater doubted the correctness of the locality, but, judging from the make of the skin, I think there can be no question that the bird really came from Cayenne.

In these fourteen specimens the ferruginous front and sides of the head are sharply defined against the brown colour of the vertex and occiput, and there is no trace of rufous on the back. The upper tail-coverts and the adjoining feathers of the rump are always dull fuliginous.

N.B.—In order to ascertain to which form the name *S. rutilans* strictly applies, I wrote to Dr. van Oort, of Leyden, asking for particulars about Temminck's type. My friend, however, informed me that this valuable specimen is not in the Leyden Museum. There was, then, a possibility that Temminck might have described one of Natterer's specimens. Natterer obtained the first example of any form of this group near Irisanga, S. Paulo, in December 1822. According to *Isis*, 1833, p. 546, the collections made by him from October 1822 to December 1824 did not reach Vienna until September 1827, while Temminck's description and figure of *S. rutilans* was already published in September 1823; from this it is evident that none of Natterer's skins can have formed the basis of his account, and it appears that the type is lost. Although the plate in the *Planches coloriées* could be referred with equal certainty to the Amazonian representative, the description (cfr. "toutes les parties supérieures du corps, le bas-ventre et l'abdomen ont une teinte olivâtre . . .") is only applicable to one of the brown-backed forms; and since, at Temminck's time, no collecting was done in Matogrosso, except by Natterer, I feel justified in restricting the term *rutilans* to the northern subspecies, of which specimens are much more likely to have come into the hands of the great Dutch ornithologist. Moreover, the Berlin Museum possesses an example of the present form, which, according to information received through Prof. Reichenow, may possibly be Temminck's type, who, in the text of *S. cinerascens*, says: "ces trois espèces [sc. *S. rutilans*, *S. albescens* and *S. cinerascens*] font partie des Musées des Pays-Bas, de Vienne et de Berlin."

b. Squalaris rutilans amazonica n. subsp.

Squalaris rutilans (nec Temminck!) Slater & Salvin, *P.Z.S.* 1867, p. 750 (Xeberos, Chyavetas); idem, *loc.* 1873, p. 269 (Xeberos, Chyavetas, Chamicuros); Taczanowski, *P.Z.S.* 1882, p. 26 (Yurimaguas); idem, *Orn. Pérou* ii. (1884) p. 132 (Peru); Chapman & Riker, *Luk*, 1891, p. 26 (Santarem); Slater, *Cat. Birds Brit. Mus.* xv. (1890) p. 57 (part.: specimens c-c).

Hab. *N. Brazil*, Lower Amazons: Santarem (Hoffmanns & Riker). *N.E. Peru*: Xeberos, Chamicuros, Chyavetas (Bartlett), Yurimaguas (Stolzmann).

Adult. Differs from the typical form in having not only the front and sides of the head ferruginous, but also the whole top of the head as well as the mantle of this colour. There is but a slight brownish admixture on the occiput to be seen in some specimens. Rump and upper tail-coverts are fuliginous or slaty

blackish, in strong contrast with the ferruginous back. In other respects it does not differ from *S. r. rutilans*.

Type in Tring Museum: ♀ ad., Itaituba, Santarem, 22. i. 06. No. 481. Wing 61; tail 66; bill 14 mm.

Of this form, I have before me three specimens from Santarem, and four from Chamienros, N.E. Peru (Bartlett coll.); and I examined three others from Peru, in the British Museum. I am unable to see any differences between the Peruvian and Santarem skins. The ferruginous back serves to distinguish them at a glance from the two other forms. Even the young birds have a considerable amount of rufous on the mantle.

c. Syallaxis rutilans tertia n. subsp.

S. rutilans (nec Temm.) Pelzeln, *Orn. Brasil.* i. (1867) p. 36 (part.: Engenho do Gama and Irisauga).

Hab. *Central Brazil*: Engenho do Gama, Matto Grosso; Irisauga, northern S. Paulo (Natterer).

Adult. Very similar to *S. r. rutilans*, which it resembles in having the forehead and sides of the head only ferruginous and sharply defined against the brown cap, but differs by the more rufescent olive-brown tinge of the upper parts; by the lateral interscapular feathers being exteriorly broadly edged with ferruginous; and particularly by the rump and upper tail-coverts being bright rufescent olive-brown like the back, and not fuliginous.

Type in Vienna Museum: No. 20198. ♀ ad., Engenho do Gama, Matto Grosso, August 16, 1826. Collected by J. von Natterer.—Wing 63; tail $64\frac{1}{2}$; bill $13\frac{1}{2}$ mm.

There are three examples of this form in the Vienna Museum, all obtained by Natterer. One is a young bird, which differs from the adult only in being paler.

It is very interesting that *S. r. tertia*, though inhabiting a very remote district, should more resemble the typical form than does the representative of the Amazonas valley.

d. Syallaxis rutilans omissa Hart.

Syallaxis omissa Hartert, *Bull. Brit. Orn. Cl.* xi. p. 71 (1901.—Pará); Hellmayr, *Nov. Zool.* xiii. (1906) p. 365 (Prata, Pará); Sneath, *Journ. f. Ornith.* 1906. p. 523 (Pará).

S. rutilans (nec Temminck), Selater & Salvin, *P.Z.S.* 1867. p. 574 (Pará); Selater, *Cat. Birds Brit. Mus.* xv. (1890) p. 57 (part.: specimen *b*, Pará); Sneath, *l.c.* p. 523 (Pará, Rio Capim, R. Guamá).

Hab. *N.E. Brazil*: vicinity of Pará (Wallace, Steere, Hoffmanns).

This is undoubtedly a geographical form of the *S. rutilans* group, although, at first sight, it looks rather different. The bill is of exactly the same shape: short and thickish; the tail equally short and uniform blackish; the coloration of the wings is the same as in *S. rutilans* and allies; and there is also the characteristic dull black patch on the throat. It differs, however, at a glance by the lack of rufous on the head and under parts. The whole lower surface (except the blackish throat-patch), the top and sides of the head as well as the upper tail-coverts are uniform dull fuliginous; the back is a little more brownish, and some of the lateral interscapular feathers show slight ferruginous edges on the outer webs. Immature birds have also the chest and sides of the neck slightly washed with pale ferruginous.

According to Dr. Sneath (in litt.) *S. r. omissa* alone occurs in the Pará district.

34. *Philydor pyrrhodes* (Cab.)

Anabates pyrrhodes Cabanis: in Schomburgk, *Reisen Brit. Guiana* iii. (1848) p. 689 (coast of British Guiana).

No. 456. ♂ imm., Itaituba, 16. i. 06. "Iris brown."—Wing 89; tail 69; bill 18 mm.

This bird is indistinguishable from a British Guiana specimen, while others from the Orinoco River are much deeper ochraceous below, and a little more rufescent on the back.

35. *Xenops genibarbis* Ill.

Cfr. *Nov. Zool.* xiii. p. 366.

No. 427. ♀ imm., Itaituba, 11. i. 06. "Iris brown."

Slightly different from a Pará skin. I hope to discuss the various geographical races of *X. genibarbis* on another occasion.

36. *Dendroornis eytoni* (Scl.)

Cfr. *Nov. Zool.* xii. (1905) p. 283.

Dendroornis eytoni Riker & Chapman, *Auk*, 1891, p. 27.

No. 524. ♂ ad., Itaituba, 31. i. 06. "Iris brown, bill greyish black."—Wing 116; tail 106; bill 42 mm.

Agrees well with Pará examples, but is perhaps a shade more rusty on the abdomen. The basal half of the lower mandible is dirty yellowish.

37. *Dendroplex picus* (Gm.)

Oriolus Picus Gmelin, *Syst. Nat.* 1. ii. (1788) p. 384 (ex Daubenton, *Pl. cul.* 605.—Cayenne).

Dendroplex picus, Riker & Chapman, *Auk*, 1891, p. 27 (Santarem).

No. 477. ♀ ad., Itaituba, 21. i. 06. "Iris pale brown."—Wing 100; tail 87; bill 34 mm.

Agrees best with specimens from Barcellos and Obidos, collected by Natterer, being not appreciably different from topotypical Cayenne skins. About the geographical variation of *D. picus* cfr. Ménégaux & Hellmayr, *Mém. Soc. Hist. Nat. Antun* xix. (1906) pp. 108—109.

38. *Nasica longirostris* (Vieill.)

Dendrocapus longirostris Vieillot, *Nouv. Dict.* xxvi. (1818) p. 117 (ex Levaillant—"Brésil").

Nasica longirostris Riker & Chapman, *Auk* 1891, p. 27 (Santarem).

Nos. 425, 430, 573. ♀ ad., ♂ jr., ♂ juv., Itaituba and Urucurituba, 11, 12. i., 12. ii. 06. "Iris reddish brown."

Apparently not different from Orinoco specimens. The Triug Museum possesses also a young bird, collected by Prof. Steere near Camolins, Lower Amazonas.

39. *Thamnophilus major semifasciatus* (Cab.)

Cfr. *Nov. Zool.* xii. (1905) p. 283.

T. aelamurus (nec Gould!) Riker & Chapman, *Auk* 1891, p. 28 (Santarem).

No. 597. ♂ ad., Itaituba, Santarem, 29. i. 06. "Iris red, feet greyish blue, bill black."

Agrees with typical specimens from Pará and Venezuela, the three outer tail-feathers being banded with white on the inner webs.

In *T. m. borbae* Pelz. only the two outer rectrices have a white apical margin and two very small white spots to the edge of the inner web.

40. *Thamnomanes caesius glaucus* Cab.

Thamnomanes glaucus Cabanis, *Arch. Naturg.* 13. i. (1847) p. 239 (Cayenne).

No. 435. ♀ ad., Itaituba, 12. i. 06. "Iris brown, feet black, bill above black, below grey."

Identical with a large series from Surinam, British Guiana, Orinoco, etc., the whole breast and abdomen being bright ferruginous, and the back warm olive-brown with a large white interscapular patch. In *Nor. Zool.* xiii. p. 368 the distribution of the three forms of *Thamnomanes* is given. The specimen sent by Mr. Hoffmanns extends the range of *T. c. glaucus* on the Lower Amazon considerably to the east.

T. c. hoffmannsi appears to be confined to the Pará district.

41. *Myrmelastes luctuosus* (Leht.)

Lanius luctuosus Lichtenstein, *Verz. Dobl.* 1823, p. 47 (Pará).

Thamnophilus luctuosus Pelzeln, *Zur Orn. Bras.* ii. (1868) pp. 76, 141 (Tapajoz); Chapman & Riker, *Auk* 1891, p. 28 (Santarem).

No. 426. ♀ ad., Itaituba, 11. i. 06. "Iris brown."

No. 568. ♀ ad., Urucurituba, 11. ii. 06. "Iris brown."

Both specimens have the crest dark rufous, as described by Pelzeln and Chapman. The description of *T. luctuosus* apud Tschudi (*Faun. Peruan. Aves*, p. 172), quoted by Chapman, is referable to *T. melanochrous* ScL. & Salv.

M. luctuosus is strictly confined to Lower Amazonia from Pará to Borba, Rio Madeira. About the systematic position of the species cfr. Ménégauz & Hellmayr, *Bull. Philomat. Paris*, 1906, p. 34.

42. *Formicivora grisea grisea* (Bodd.)

Cfr. *Nor. Zool.* xiii. p. 369.

Formicivora grisea Chapman & Riker, *Auk* 1891, p. 29 (Santarem).

No. 511. ♀ ad., Itaituba, 29. i. 06. "Iris brown." Identical with specimens from British Guiana and Pará.

43. **Formicivora bicolor* Pelz.

Formicivora bicolor Pelzeln, *Zur Ornith. Brasil.* ii. (1868), p. 156 (Engenho do Gama, Mattogrosso; Ribeirão, Salto Girao and Borba, Rio Madeira).

No. 438. ♂ ad., Itaituba, 12. i. 06. "Iris brown."—Wing 53; tail 50; bill $14\frac{1}{2}$ mm.

No. 445. ♂ ad., Itaituba, 15. i. 06. "Iris brown, feet and bill black." Wing $54\frac{1}{2}$; tail $50\frac{1}{2}$; bill 15 mm.

No. 444. ♀ ad., Itaituba, 15. i. 06. "Iris brown, feet blue-black, bill black." Wing 52; tail 51; bill $13\frac{1}{2}$ mm.

No. 458. ♀ ad., Itaituba, 17. i. 06. "Iris brown, bill and feet black."—Wing 53; tail 47; bill 14 mm.

The males agree with one of Natterer's typical specimens from Salto do Girao, Rio Madeira, the three outer rectrices being white for more than half of their length. The females are uniform chestnut below; the top of the head and nape very dark smoky grey, the back dull black.

The examples from Cosnipata, S. Peru, are much larger, especially the tail being longer, and the female is of a darker chestnut on the underparts. Should additional specimens confirm these differences, they must be separated sub-specifically.

F. bicolor has not previously been recorded from the Lower Amazons.

44. *Cercomacra sclateri* Hellm.

Cfr. *Nor. Zool.* xiii. p. 370.

No. 449. ♂ ad., Itaituba, 12. i. 06. "Iris brown, feet and bill black."—Wing 64; tail 65; bill 18 mm.

Agrees with the ♂ ad. from Pará, though the lower parts are a shade darker, but much lighter and more bluish slate-colour than in the type of *C. sclateri*.

45. **Cercomacra nigrescens approximans* Pelz.

[*Perenostola nigrescens* Cabanis & Heine, *Mus. Heinean.* ii. (1859), p. 10, descr. orig. ♂ (Cayenne)].
Cercomacra approximans Pelzeln, *Zur Ornith. Brasil.* ii. (1868), p. 158 (Engenho do Gama, Mattogrosso).

No. 439. ♂ ad., Itaituba, 12. i. 06. "Iris brown, feet and bill black."—Wing 67; tail 62; bill 17 mm.

No. 485. ♀ ad., Itaituba, 24. i. 06. "Iris greyish brown."—Wing 68; tail 59; bill 18 mm.

Not before recorded from the Lower Amazons.

They agree exactly with typical specimens from Mattogrosso, being very different from our series of *C. tyrannina* of Pará, especially the female, which has the front and sides of the head as well as the under parts of a deep ferruginous red (cfr. Ménégauz and Hellmayr, *Bull. Soc. Philomat. Paris*, 1906, p. 41). The male is of a much darker slate-grey colour on the lower surface, and the white margins to the upper wing-coverts are narrower and more restricted.

Through the kindness of Oberamtman Heine I was enabled to examine the type of *P. nigrescens*, and found it to belong to a *Cercomacra* species of which the Tring Museum had received large series from Cayenne and Surinam. Although very closely allied to *C. approximans*, they appear to represent a distinct form. The males are darker, more blackish slate-grey, and the wing-coverts usually uniform black, though sometimes with slight white apical margins. The females agree with *C. approximans* in the coloration of the head and under parts, but the back is rather more slaty olive (not so brownish), and the tail more blackish. Moreover, in *C. nigrescens* the bill is, as a rule, a little broader and longer. The range of the two subspecies is thus as follows:—

- a. *C. nigrescens nigrescens* (Cab. & Heine). *Cayenne* and *Surinam*.
- b. *C. nigrescens approximans* Pelz. *East Ecuador*: Mapoto, Machay (spec. in Mus. v. Berlepsch examined). *North Peru*: Huambo, Chirimoto (spec. in Mus. Berlepsch examined), Guayabamba (Baron coll. : ♂ ♀ in Brit. Mus. exam.), Pebas (Castelnau & Deville coll.—a large series in Paris Museum

compared). *Central Peru*: Ropaybamba, Garita del Sol (♂ in Mus. Berlepsch examined). *W. Brazil*: Mattogrosso and Engenho do Gama (Natterer coll.—a large series in Vienna Museum exam.). *North Brazil*: Santarem.

Both *C. n. nigrescens* and *C. n. approximans* are perhaps subspecies of *C. tyrannina*, but their distribution is not quite in accordance with what we might expect. *C. tyrannina* has an uninterrupted range from Eastern Colombia (Bogotá coll.) through the Orinoco and Rio Negro district to British Guiana, but reappears in Pará, while in Surinam and Cayenne *C. n. nigrescens* apparently takes its place! Yet it is remarkable that *C. tyrannina* nowhere occurs together with any form of the *C. nigrescens* group.

46. **Hypocnemis cantator peruvianus* Tacz.

[*Fornicarius Cantator* (sic!) Boddaert, *Tabl. Pl. enl.*, p. 44 (1783—ex Daub. *Pl. enl.* 700, f. 2—*Cayenne*).]

Hypocnemis cantator, peruvianus Taczanowski, *Orn. Pérou*, ii. p. 61 (1884—Yurimaguas, North Peru).

No. 508. ♂ ad., Itaituba, 29. i. 06. "Iris brown, bill black, below greyish white."

No. 522. ♂ imm., Itaituba, 31. i. 06. Soft parts as above.

No. 515. ♀ ad., Itaituba, 30. i. 06. Soft parts as above.

These specimens agree very well with skins from North Peru. The ♂♂ of this form differ from typical *H. c. cantator* by having a large concealed white dorsal patch, and by the interscapular feathers being coarsely spotted with black and distinctly edged with white. In the ♀♀, the anterior portion of the back shows faint blackish spots and a few buff longitudinal streaks, while it is uniform dull olive brownish in the typical form.

Not yet recorded from Santarem.

47. **Hypocnemis leucophrys angustirostris* (Cab.)

[*Pithys leucophrys* Tschudi, *Arch. Naturg.* 10. i. (1844), p. 278, descr. orig. ♂ (Peru).]

Coccyphaga angustirostris Cabanis: in Schomburgk, *Reisen Brit. Guiana* iii. (1848), p. 685, descr. orig. ♀ ("Küstenwälder von Brit. Guiana").

No. 453. ♂ ad., Itaituba, 16. i. 06. "Iris dark red, feet bluish black."

No. 491. ♂ imm., Itaituba, 26. i. 06. "Iris brown."

No. 454. ♂ juv., Itaituba, 16. i. 06. "Iris brownish grey."

No. 487. ♀ ad., Itaituba, 26. i. 06. "Iris brown."

Nos. 452, 486. ♀♀ juv., Itaituba, 16, 25. i. 06. "Iris greyish brown."

The adults agree perfectly with Guianan specimens, while typical *H. l. leucophrys* of Peru, Colombia and Mérida is of a much darker slate-grey colour below in the male sex. The females of the two forms are not distinguishable.

The young birds sent by Mr. Hoffmanns undoubtedly belong to this species, and **not** to *H. lugubris* (Cab.), as is proved by their dusky under mandible and by the indications of the ferruginous superciliary stripe. The latter is altogether wanting and the under mandible is always yellowish white in the female of *H. lugubris*.

Having examined eighty-five specimens of *H. leucophrys*, I can distinguish two forms:

a. *H. leucophrys leucophrys* (Tsch.), ranging from S.E. and Central Peru to Colombia (Bogotá) and N.W. Venezuela (Mérida, Tachira).

b. *H. leucophrys angustirostris* (Cab.), Cayenne, Surinam, British Guiana, South Guiana (Counany—Goeldi), west to the Orinoco region; Amazonia: from Santarem west to the Rio Madeira (Borba) and Rio Jurua (Garbe—Mus. Paulista).

48. *Hypocnemis myotherina ochrolaema* Hellm.

H. m. ochrolaema Hellmayr, *Bull. Brit. Orn. Cl.* xvi. (June 1906), p. 109.

Nos. 450, 513. ♂♂ ad., Itaituba, 16, 31. i. 06. "Iris dark red, feet grey, bill black."—Wing 64; tail 37, 40; bill 17 mm.

No. 520. ♀ ad., Itaituba, 31. i. 06. "Iris brown, feet light grey, bill black."—Wing 62; tail 38; bill 17 mm. *Type of the subspecies.*

The ♂ of this new form resembles that of *H. m. melanolaema* ScL. in the paleness of the underparts, but breast and abdomen are even lighter, nearly white in the middle. The white band across the forehead (behind the black frontal edge) is more distinct, and the white eyebrow much better defined and considerably broader, especially above and behind the ear-coverts, where, in *H. m. melanolaema*, only a narrow, dull greyish white stripe is to be seen.

The ♀ has the breast and abdomen of the same dark ochraceous colour as that of *H. m. melanolaema*, but is readily distinguishable by having the entire throat deep ochraceous like the rest of the under-surface (not **white**), as well as by its entirely **black** bill. There are no blackish spots on the foreneck, which are more or less pronounced in *H. m. myotherina* and *H. m. melanolaema*, and the back is of a duller, more greenish brown hue.

Having had the opportunity of studying a considerable amount of material, I think it useful to give a short review of the three forms of the *H. myotherina* group, which, owing to lack of sufficient series, were not well understood hitherto.

a. *Hypocnemis myotherina myotherina* (Spix).

Thaenophilus myotherinus Spix, *Ac. Bras.* ii. (1825) p. 30, pl. xlii., fig. 1 = ♂ (part.: descr. of male only; no locality given).

Myiothera thaenophiloides Voigt, *Thierreich* i. (1831), p. 494 (new name based on Spix's figure).

Hypocnemis elegans Sclater, *P.Z.S.* 1857, p. 47 (ex "*Hypocnemis?*" idem, l.c. 1855, p. 147.—Bogotá coll., descr. orig. ♀).

Hab. From Eastern Colombia (Bogotá coll.) through Eastern Ecuador to the north bank of the Amazons (Pebas, Nauta), N.E. Peru; also found on the Caura River, a southerly tributary of the Orinoco, Venezuela.

♂ ad. Breast and abdomen uniform grey (Ridgw. *Nomencl.* ii. 6). Pale band behind the black frontal edge and superciliary stripe rather indistinct, greyish white, the latter not continued along posterior edge of the black ear-coverts.

♀ ad. Lower mandible yellowish white or yellowish grey. Throat pure white, bordered below by a number of small blackish spots, and sharply defined against the deep ochraceous colour of the breast and abdomen.

Wing 62—67; tail 38—43; bill 17—18 mm.

Material. 2 ♂♂ ad., 2 ♂♂ jr., 5 ♀♀, Bogotá coll.; 6 ♂♂ ad., 2 ♂♂ jr., 3 ♀♀, East Ecuador; 2 ♂♂ ad., 1 ♂ jr., 6 ♀♀, Caura River, Venezuela; ♂♀ ad., Pebas (Castelnau coll., Mus. Paris); ♂♀ ad., Rio Tigre, near Nauta (Hauxwell coll., Mus. Berlepsch).

Spix' type is unfortunately lost, but his description can only refer to the present form, as he calls the colour of the under parts "cinerea," which term does not fit my *H. m. ochrolaema*, also found on the Amazons, where Spix and Martius travelled. Probably the Bavarian ornithologist described a specimen obtained on the Rio Solimoes, where the dark-bellied form might be expected to occur, as it is found on the Peruvian Amazons near Nauta, etc.

I can see no differences between specimens from Bogotá, Eastern Ecuador, the Canra River and others from Pebas and Nauta on the Amazons. The males have the belly always uniform dark grey without any paler shade in the middle. The ♀♀ from the north side of the Marañon are quite as dark ochraceous on the under parts as those found in Bogotá collections, hence *H. elegans* becomes a synonym of *H. m. myotherina*.

b. Hypocnemis myotherina melanolaema Sel.

Hypocnemis melanolaema Sclater, *P.Z.S.* 1854. p. 254, pl. lxxii. fig. 2. descr. orig. ♂ ad. ("in Peruvia, Chamicuros").

H. melanosticta Sclater, *l.c.* p. 254, pl. lxxiii. descr. orig. ♂ jr. et. ♀ ("in Peruvia, Chamicuros").

Hab. From Northern Peru, **south of the Amazons**, through Central Peru to Northern Bolivia.

♂ ad. Differs from the typical form by the much paler colour of the breast and abdomen, which are whitish grey, only the flanks being mouse-grey (Ridgw. *Nomencl.* ii. f. 6). Superciliaries as in *H. m. myotherina*.

♀ ad. Like *H. m. myotherina*, with the under mandible yellowish grey and with the throat white, but breast and abdomen much lighter, pale ochraceous buff (Ridgw. v. 10), sometimes passing into buff in the middle of the belly.

Wing 63—68; tail 38—45; bill 16½—18 mm.

Material: 4 ♂♂, 4 ♀♀ ad., S. Mateo, North Bolivia (Mus. Berlepsch); ♂ ad., Chuchurras, Huánuco, C. Peru (Hoffmanns coll., Mus. Tring); ♂ ad., ♀ ad., Yurimaguas; ♂ ad., Peru (ex Verreaux—type of *H. melanolaema* Sel.); 2 ♂♂ ad., 1 ♂ jr., 1 ♀, Chamicuros (Brit. Mus.), 1 ♀, Chyavetas (Brit. Mus.); 1 ♂ jr., 1 ♀ ad., Peru (ex Verreaux—types of *H. melanosticta* Sel.).

The type of *H. melanolaema* (Mus. Brit. ex coll. P. L. Sclater) agrees perfectly with the series of ♂♂ ad. from Bolivia and Peru; as do also the original examples of *H. melanosticta* with other specimens in corresponding plumage.

In the male sex of this form the under parts are always much paler grey than in *H. m. myotherina*. The females are also readily distinguishable by the considerably lighter, ochraceous-buff belly; the throat is always pure white and bordered below by some blackish spots, and the under mandible is light coloured.

It is an interesting fact that the birds from Chyavetas, Yurimaguas and Chamicuros belong to the pale-bellied form, while on the north bank of the Amazons another representative takes its place.

c. Hypocnemis myotherina ochrolaema Hellm.

Hab. Lower Amazons: Itaituba, near Santarem.

♂ ad. Very similar to that of *H. m. melanolaema*, but underparts still paler, nearly white in the middle of the breast and abdomen; and superciliaries purer white, broader, and extended along the upper and posterior margin of the ear-coverts.

♀ ad. Breast and belly deep ochraceous, as in *H. m. myotherina*, but readily

known by having the throat also ochraceous, and by the under mandible being black like the upper one.

The birds collected by Natterer near Borba, on the lower Rio Madeira, belong probably also to this form.

49. *Myrmotherula ornata hoffmannsi* Hellm.

M. o. hoffmannsi Hellmayr, *Bull. Brit. Orn. Cl.* xvi. (April 1906), p. 84.

No. 512. ♂ ad., Itaituba, Santarem, 29. i. 06. "Iris brown, feet greyish blue, bill black."—Wing 53; tail 39; bill 15 mm.

No. 521. ♀ ad., Itaituba, 31. i. 06. "Iris brown, feet and bill black."—Wing 51; tail 36; bill 14½ mm. *Type of subspecies.*

The ♂ ad. is very much like that of *M. o. ornata* of Bogotá, but is of a clearer, more bluish slate-grey on the head and mantle; the chestnut-red patch on the rump is less extended, the brownish wash on the flanks more restricted, and the cheeks and malar region are of a darker cinereous colour. The upper tail-coverts are olive grey in the new form, pale brown in *M. o. ornata*.

The ♀, however, differs very strikingly from the same sex of the typical form. The throat, instead of being black with large white spots, is bright ochraceous like the cheeks and malar region; the apical spots on the upper wing-coverts are buff instead of pure white. While the typical form has the whole back (except the nape and pileum) and rump uniform bright chestnut-rufous, in the new form there is only a small irregular spot of this colour in the middle of the back, the rump being mainly olive-brown. In other respects the ♀ of *M. o. hoffmannsi* agrees well with Bogotá skins. The top of the head and the mantle are olive-grey, the tail and the outer edges of the quills are also olive-grey, and the colour of the abdomen exactly the same as in *M. o. ornata*.

50. *Myrmotherula axillaris axillaris* (Vieill.)

Cfr. *Nor. Zool.* xiii. p. 368.

Myrmotherula axillaris melanogastra Chapman & Riker, *Ibid.* 1891, p. 28 (Santarem).

No. 451. ♂ ad., Itaituba, 16. i. 06. "Iris brown."

No. 474. ♀ ad., Itaituba, 21. i. 06. "Iris brown."

Identical with examples from Pará and Cayenne. Chapman (*l.c.*) says that the specimens from Santarem are intermediate between "*M. a. melanogastra*" of Bahia and "*M. a. axillaris*" of Bogotá. Bogotá skins, however, belong to *M. a. melana* (Scl.), while those from the Lower Amazons represent typical *M. axillaris*. Near Bahia, again, a different form is found, which has much less white on the flanks. This is entitled to the name *M. a. luctuosa* Pelz. Cfr. my revision of Spix' types, p. 665.

51. * *Conopophaga melanogaster* (Ménétri.)

Conopophaga melanogaster Ménétriès, *Mém. Acad. Sci. St. Petersb.* (6) i. (1835) p. 537, pl. 15 fig. 2 (= ♂ ad.) (Cuyabá, Mattogrosso).

C. rufayi Allen, *Bull. Amer. Mus.* ii. (1889) p. 96 descr. orig. (= ♀) (Reyes, N.E. Bolivia).

No. 505. ♂ ad., Itaituba, 29. i. 06. "Iris reddish brown, feet greyish blue, bill black."—Wing 84; tail 44; tars. 33; bill 20 mm.

No. 514. ♂ juv., Itaituba, 30. i. 06. "Iris brown, feet grey, bill black."

The adult male agrees perfectly with Ménétriès' types, kindly lent by

Dr. Bianchi. This species is quite new to the fauna of the Lower Amazons, though it was collected near Borba, on the Rio Madeira, by Natterer. It is the largest and finest member of the genus, and readily known by its bright chestnut back. Perhaps it is nearest to the recently described *C. roberti* Hellm., but, besides being very much larger, differs from it in many ways. The bill is much stronger and entirely black; there is no white on the under parts, the whole breast being deep black, and the silky white superciliary stripe commences above instead of behind the eye.

C. rufi Allen is doubtless the ♀ of *C. melanogastra*, the description agreeing perfectly with Natterer's hen birds from Borba.

In the young bird the crown is dull black, with irregular, pale rufous bars, the back of a clearer chestnut than in the adult, and crossed by some blackish bands. Breast and abdomen are pale fulvous, barred and spotted with blackish; and the upper wing-coverts have a blackish apical margin, followed by a cinnamonaceous subterminal band.

52. *Phoethornis rufurumii amazonicus* Hellm.

Phoethornis rufurumii amazonicus Hellmayr, *Bull. Brit. Orn. Cl.* xvi. (April 1906) p. 82.

No. 468. ♀ fere ad., Itaituba, 19. i. 06. "Iris, feet and bill black, base of lower mandible light green." *Type of subspecies*.—Wing 44; rectr. med. 47; r. submed. 37; r. ext. 18; bill 28 mm.

No. 571. ♂ ad., Urucurituba, 12. ii. 06. Soft parts as above, but base of lower mandible yellowish green.—Wing 46; rect. med. 49, r. submed. 36, r. ext. 19; bill 28½ mm.

No. 492. ♂ juv., Itaituba, 26. i. 06. Soft parts as in No. 468.—Wing 45; rectr. med. 45½, r. submed. 32, r. ext. 18; bill 25 mm.

This interesting new form is a near ally of *P. r. rufurumii* of British Guiana and the Orinoco region, the proportions of the tail feathers being exactly the same in both, but it differs at a glance by its buff under tail-coverts and by the pale cinnamon apical margins to the three outermost rectrices (on each side). In a series of more than twenty skins of *P. r. rufurumii*, both the crissum and the apical margins to the rectrices are pure white; only the outermost pair shows there sometimes a faint isabelline tinge.

In the type specimen (No. 468) the whole under surface is strongly washed with buff, and the superciliaries as well as the broad malar stripe are of a bright golden buff. The ♂ ad. (No. 571) is much duller underneath, more buffy greyish, but the under tail-coverts are even brighter buff than in the type.

The third example is a young bird with rufous edges to the feathers of the crown and back. It is considerably darker, more brownish on the under parts, and the lower mandible lacks almost entirely the blackish tip which, in the two other specimens, occupies a little less than the apical half. The under tail-coverts and the three outer tail feathers are exactly as in the adults.

P. squalidus (Temm.), of S.E. Brazil, differs from the new form by its much darker, almost wood-brown (Ridgw. *Nomencl.* iii. 19) under parts, and by the lack of the blackish subterminal area on the outer rectrices. Besides, the middle pair of the tail feathers is much more elongated.

P. squalidus, *P. r. rufurumii*, and *P. r. amazonicus* undoubtedly form a natural group, being characterised by the scaly appearance of the throat, etc. etc.

53. *Phoebastria ruber ruber* (Linn.)

Cfr. *Nor. Zool.* xiii. p. 375.

No. 526. ♀ imm., Itaituba, 31. i. 06. "Iris black, bill black, base of lower mandible yellowish green."—Wing 35; rectr. med. 33, submed. 27, ext. 15; bill 25½. Black tip of lower mandible 11 mm.

An immature bird with long wings and wide rufous tips to the tail feathers. This plumage has been described by Gould as a distinct species, *P. cremita*, but it is now well understood that these birds are merely the young of the short-winged, broad-tailed form.

The Santarem specimen agrees in every way with those from Surinam, Pará, etc., and, like them, has the lower mandible widely tipped with black.

54. *Agyrtria albiventris albiventris* (Less.)

Ornismya albiventris Lesson. *Hist. Nat. Ois. Mouches* p. xxxiv, 299, pl. 76 (1829.—"la Guiane").

Nos. 553, 565. ♂♂ imm. in moult, Urucurituba, 8, 10. ii. 06. "Iris black."

Nos. 591, 592. ♂ ad., ♂ imm. in moult, Itaituba, 28. i. 06. "Iris black."

Besides these, we possess an adult and a young bird from Espirito Santo, Pará, collected by Prof. Steere.

The Lower Amazonian specimens are somewhat intermediate between *A. a. albiventris* and *A. a. nigricauda* (Ell.) of Bahia. They agree with the former in dimensions and in the bronzy-green central tail feathers; but the outer rectrices are steel-black, with scarcely any green at the base and with very indistinct greenish grey tips, as in the Bahia form. The under tail-coverts are white, with short blackish brown shaft-stripes at the extreme base, as is also the case in some specimens of *A. a. nigricauda*.

The specimens collected by Natterer near Barra do Rio Negro (Manáos) and Barcellos, and recorded by Pelzeln s. n. *A. albiventris*,* represent the typical form, the four outer rectrices being bronze-green on their basal half, and the under tail-coverts being pale brownish with white margins, just as in a large series from British Guiana, Surinam, etc. The specimens from Mattogrosso, however, belong to *A. a. nigricauda* or a very closely allied form. I have to thank Dr. von Lorenz for sending me Natterer's whole series for comparison. About the nomenclature of *A. albiventris* cfr. Berlepsch and Hartert, *Nor. Zool.* ix. p. 83.

55. *Hylacharis cyanus viridiventris* Berl.

Cfr. *Nor. Zool.* xiii. p. 376.

Nos. 447, 467, ♂ juv., ♀, Itaituba, 15, 19. i. 06. "Iris black."

56. *Thalurea furcata furcatoides* Gould.

Cfr. *Nor. Zool.* xiii. p. 377.

Thalurea glaucopsis (sic) Chapman & Riker, *Auk*, 1891, p. 30.

Nos. 466, 482, 518. ♀♀, Itaituba, 19, 22, 30. i. 06. "Iris black."

57. *Nyctidromus albicollis albicollis* (Gm.)

Cypripudgus albicollis Gmelin, *Syst. Nat.* 1. ii. (1788) p. 1030 (ex Latham: Cayenne).

Nyctidromus albicollis Riker & Chapman, *Auk*, 1891, p. 30 (Santarem).

No. 432. ♂ ad., Itaituba, 12. i. 06. "Iris brown."

Agreeing in size and coloration with specimens from Surinam.

* *Orn. Brasil.* i. p. 28.

58. *Chloronerpes flavigula* (Bodd.)

Cfr. *Nor. Zool.* xii. (1905) p. 301.

Chloronerpes flavigularis Riker & Chapman, *Auk*, 1891, p. 30 (Santarem).

No. 431. (♂) imm. (without the red malar stripe), Itaituba, 12. i. 06. "Iris brown."

This specimen, like the one from Prata previously sent by Mr. Hoffmanns, has a very strong and large bill, but this appears to be merely individual variation, as another ♂ from Pará does not differ in this respect from typical examples of Cayenne, British Guiana, etc.

59. *Melanerpes cruentatus* (Bodd.)

Picus cruentatus Boddaert, *Tabl. Pl. enl.* p. 43 (1783.—ex Daubenton, *Pl. enl.* 694, fig. 2.—Cayenne).

Nos. 471, 472. ♂ ♀ ad., Itaituba, 20. i. 06. "Iris yellow."

Both are typical, having broad white superciliaries and a distinct golden-yellow nuchal band.

We received also an adult ♂, collected by Prof. Steere at Marea de Legna, Pará, which agrees in every way with that from Santarem.

60. *Veniliornis ruficeps ruficeps* (Spix).

Picus ruficeps Spix, *Ar. Bras.* i. (1824) p. 63 pl. lvi. fig. 2, 3 ("in sylvis fluminis Amazonum").

Chloronerpes affinis selysi (nec Malherbe!) Chapman & Riker, *Auk*, 1891, p. 30 (Santarem).

Nos. 442, 476. ♂ ad., ♀ ad., Itaituba, 13, 21. i. 06. "Iris brown."

We possess also an adult ♂ from Benevides, Pará, collected by Prof. Steere. The three examples represent typical *V. r. ruficeps*. Cfr. the detailed account in my revision of Spix' types, p. 609 ff.

61. *Celeus jumana* (Spix).

Cfr. *Nor. Zool.* xii. (1905) p. 301.

No. 479. ♂ ad., Itaituba, 22. i. 06. "Iris red, bill yellowish green."

Not different from Pará specimens except by having the upper tail-coverts rufous.

62. *Crocomorphus flavus* (P. L. S. Müll.) subsp.

Picus flavus P. L. S. Müller, *Natursyst. Suppl.* p. 91 (1776.—ex Daubenton, *Pl. enl.* 509.—Cayenne).

Celeus citrinus Riker & Chapman, *Auk*, 1891, p. 31 (Santarem).

No. 443. ♀ ad., Itaituba, 15. i. 06. "Iris red."

Mr. Chapman has already alluded to the differences of the Amazonian birds, when compared with typical *C. flavus* of Cayenne, and very likely they constitute a distinct form. The material at my command, however, would not justify any separation, as I have only four specimens from Amazonia for comparison. Yet it should be mentioned that they differ from a large series of skins from British Guiana and the Orinoco region by having very little or no rufous at all on the wings. In this respect they seem to agree with the Bahia form, *C. f. subflavus* Sel. & Salv., of which, unfortunately, no specimens are available.

63. *Campephilus trachelopyrus* (Mall.)

Cfr. *Nor. Zool.* xii. (1905) p. 300.

Ceophloeus trachelopyrurus (sic) Riker & Chapman, *Auk*, 1891, p. 30 (Santarem).

No. 483. ♀ ad., Itaituba, 22. i. 06. "Iris light yellow."—Wing 180; tail 124; bill 44 mm.

64. *Ceophloeus lineatus* (Linn.)

Picus lineatus Linnaeus, *Syst. Nat.* xii. 1 (1766) p. 174 (ex Brisson,—Cayenne).
Ceophloeus lineatus Riker & Chapman, *Auk*, 1891, p. 30 (Santarem).

No. 509. ♀ ad., Itaituba, 29. i. 06. "Iris whitish yellow."

65. * *Picumnus borbae* Pelz.

Picumnus borbae Pelzeln, *Zur Orn. Brasil.* iii. (1869) p. 334 (Borba, Rio Madeira).

One ♂ ad. from Itaituba, 29. i. 06. "Iris brown, feet and bill grey." No. 503.—
 Wing 48; tail 24; bill $11\frac{1}{2}$ mm.

This specimen agrees very well with Pelzeln's types kindly lent by Dr. von Lorenz, of Vienna, except in being a little brighter yellowish below, and in having slightly shorter wings and tail.

The types (2 ♂♂ ad.) measure: wing $50\frac{1}{2}$, 51; tail 24, 25; bill 12 mm.

New to the Lower Amazons.

66. *Piaya rutila* (Ill.)

Cuculus rutilus Illiger, *Abhandl. Akad. Berlin*, 1812, p. 224 [ex Gmelin, *C. cayanus* var. β . (and γ errore!): ex Brisson, Cayenne].

Piaya minuta Riker & Chapman, *Auk*, 1891, p. 159 (Santarem).

No. 449. ♀ jr., Itaituba, 15. i. 06. "Iris red." Not different from specimens of various localities.

67. *Pteroglossus aracari aracari* (Linn.)

Cfr. *Nor. Zool.* xii. (1905), p. 300.

Pteroglossus wiedi Riker & Chapman, *Auk*, 1891, p. 159 (Santarem).

No. 566. ♂ ad., Urucurituba, 11. ii. 06. "Iris brown, feet greenish black, bill black, lower mandible yellowish white."

Black culminal stripe narrow, as in examples from Pará and South Brazil.

The form of Cayenne, Surinam, and British Guiana, erroneously called *P. aracari* in the *Cat. Birds* xix. 138, ought to stand as *P. aracari atricollis* (P. L. S. Müll.).

68. *Pteroglossus inscriptus* Sws.

Pteroglossus inscriptus Swainson, *Zool. Illustr.* I. ii. pl. 90 (1820-21.—"from the interior of Guyana"): Riker & Chapman, *Auk* 1891 p. 159 (Santarem).

No. 523. ♂ ad., Itaituba, 31. i. 06. "Iris reddish blue, feet olive green, bill yellow and black."

The Tring Museum received, some years ago, a female collected by Mons. A. Robert near, S. Lourenço, State of Pernambuco, which extends the range of the species far to the south-east.

69. *Monasa nigrifrons* (Spix).

Boreo nigrifrons Spix, *Av. Bras.* i. p. 53 pl. xli. fig. 2 (1824.—"in sylvis flum. Solimoens").

Monasa nigrifrons Riker & Chapman, *Auk*, 1891, p. 159 (Santarem).

No. 424. ♂ in moult, Itaituba, 10. i. 06. "Iris brown." Not different from Upper Amazonian skins.

70. *Urogalba dea amazonum* Sel.

[*Alcedo Dea* Linnaeus, *Syst. Nat.* x. p. 116 (1758.—ex Edwards, *Orn.*, tab. 10—Surinam).]

Urogalba amazonum Selater, *P.Z.S.* 1855. p. 14 ("in Brasil. Boreali, Pará, et. fl. Amazonum");
Selater & Salvin, *P.Z.S.* 1867. p. 582 (Pará).

Urogalba paratilisca Selater, *P.Z.S.* 1857. p. 262 (Ega).

No. 525. ♂ fere ad., Itaituba, 31. i. 06. "Iris brown."—Wing 91; bill 56 mm.

Besides this, the Tring Museum possesses two adult birds from Magoary, Island of Marajó, collected by Prof. I. B. Steere. One of them (♂) agrees perfectly with the type of *U. amazonum*, in having the forehead and broad superciliaries creamy white, and the middle of the crown pale brown, but has rather shorter wings. A specimen from Pará (coll. Wallace) and another from Ega (coll. Bates) are identical with the typical example as regards coloration. The former is quite as large as the type, while the latter agrees in size with Steere's skins. The second specimen (♀) from Magoary, and the ♂ from Santarem, sent by Mr. Hoffmanns, differ from all these birds in the following way: The crown is decidedly darker brown and mixed with purplish blue feathers (as in typical *U. dea dea*), only the frontal edge being pale brownish, and there is but a narrow whitish-brown superciliary line.

It is evident from the foregoing that the colour of the head varies somewhat, and that the greater size is not a reliable character. The presence of the whitish superciliary stripe, however, in combination with the invariably much smaller smoky-brown chin-spot, renders *U. d. amazonum* a fairly well differentiated form.

U. amazonum was originally described from Pará, but afterwards Dr. Selater * doubted the correctness of this locality, suggesting that Upper Amazonia was its true "patria." This, however, is not the case, and there can be no doubt whatever that *U. d. amazonum* represents the typical form on the south bank of the Lower Amazons and Rio Solimoens. The British Museum contains a specimen collected by Wallace near Pará—this locality being indicated on Wallace's original label—and another from Ega, obtained by II. W. Bates.

On the other hand, the examples secured by Natterer and Wallace at Barra do Rio Negro, on the north side of the great river, and those sent by the first-named naturalist from Marabitanas and S. Carlos, upper Rio Negro, agree in every way with a large series of typical *U. d. dea* from the Guianas; as does also an adult bird from Iquitos, N.E. Peru, on the northern bank of the Marañon. The two young birds from Salto Girao, Rio Madeira, mentioned by Pelzeln † appear to belong to *U. d. amazonum*, as the smoky-brown chin-spot is very small. Adult specimens, however, should be examined.

The range of the two forms, accordingly, is as follows:

a. *Urogalba dea dea* (Linn.)

Cayenne, Surinam, British Guiana, west through the Rio Negro region to the north bank of the Amazons (Barra do Rio Negro, Iquitos).

b. *Urogalba dea amazonum* Sel.

South bank of the Amazons from Pará to Ega, R. Solimoens; perhaps also occurring on the southern tributaries of the Amazons: Rio Madeira, etc.

* *Monogr. Jacamars and Puff Birds*, p. 6.

† *Sitz-Berichte Akad. Wien (math. physik. Cl.)* xx. (1856) p. 504.

Measurements :

	Wing.	Tail.	Bill.
1. Mus. Brit., adult, Pará—ex Brandt, type of <i>U. amazonum</i> Sel.	96 ;	164 ;	56 mm.
2. Mus. Brit., adult, Pará—Wallace coll.	95 ;	168½ ;	56¾ „
3. Mus. Tring, ♂ ad., Magoary, Pará, Steere coll.	91 ;	162 ;	61¾ „
4. „ „ ♀ ad. „ „ „ „	91 ;	incomplete ;	55 „
5. „ „ ♂ fere ad., Santarem, Hoffmanns coll.	92 ;	„	56 „
6. „ Brit., Ega—Bates coll.	89 ;	144 ;	50 „

N.B.—There can be no question that *dea* must be accepted as the specific appellation for this species.* Although Linnaeus quotes with a query Seba's "Avis paradisiaca ternatana," his diagnosis and the locality, both apparently taken from Edwards, refer exclusively to the *Urogalba*. Count Salvadori † has lately written upon the subject, but as he belongs to the small band of ornithologists who begin their nomenclature with the twelfth edition of Linnaeus, his conclusions need not be taken into consideration.

71. *Momotus momota nattereri* Sel.

[*Romphastos Momota* Linnaeus, *Syst. Nat.* xii. 1 (1766) p. 152 (ex Edwards and Brisson, excl. syn. Maregrave—*Cajenne* accepted as typical locality—ex Brisson).]

Momotus nattereri Selater *P.Z.S.* 1857. p. 251. ["Yungas in Bolivia (d'Orb.) ; Goyaz, Brazil (Natterer)"]; Riker & Chapman, *Auk*, 1891, p. 158 (Santarem).

No. 484. ♀ ad., Itaituba, 22. i. 06. "Iris yellowish red."—Wing 136 ; tail 238 ; bill 38 mm.

The specimen differs from a good series of *M. m. momota* by lacking the rufous nape-patch, agreeing in this respect with *M. m. ignobilis* Berl. This form, however, has the under parts almost uniform oil-green, while in the Santarem bird there is a strong ochraceous tinge all over the abdomen. A typical specimen of *M. m. nattereri* from Southern Matto Grosso is practically identical with the ♀ sent by Mr. Hoffmanns.

72. *Brotogeris versicolurus* (P. L. S. Müll.)

Psittacus versicolurus P. L. S. Müller, *Natursyst. Suppl.* p. 75 (1776.—ex Daubenton, *Pl. cul.* 359.—"Cajenne").

Brotogeris virens Pelzeln, *Zur Ornith. Brasil.* iii. (1869) p. 260 (Villa de Tapojoz = Santarem) ; Riker & Chapman, *Auk*, 1891, p. 160 (Santarem).

No. 586. ♂ ad., Urucurituba, 26. ii. 06. "Iris brown, feet and bill pale grey."

Nos. 461, 465, 469, 494, 510. ♀ ♀, Itaituba, 18, 19, 26, 29. i. 06. "Iris brown" or (No. 494) "light blue, bill greyish or reddish white."

The Tring Museum possesses also an adult bird from Benevides, July 25th, collected by Prof. Steere.

About the nomenclature of this species cfr. my revision of Spix' types, p. 587.

73. *Brotogeris tuipara* (Gm.)

Cfr. *Nor. Zool.* xii. 1905. p. 302.

Brotogeris tuipara Riker & Chapman, *Auk*, 1891, p. 160 (Santarem).

Nos. 574, 577, 579. ♂ ad., ♀ ad., ♂ juv., Urucurituba, 13, 24. ii. 06. "Iris brown, bill greyish white or greyish yellow."

* Poche, *Ornith. Monber.* xii. 1904, p. 57.

† *Ibis* (1904) p. 552.

These specimens agree well with those from Pará.

In the young male the primary coverts are green, but one of the bastard-quills shows already the orange colour of the adult plumage.

74. **Strix flammea** subsp.

No. 554. ♀ ad., Urucurituba, 8. ii. 06. " Iris brown."

A very large, fine specimen, which does not quite agree with any of the neotropical forms, of the Barn Owl. Very likely it represents an undescribed subspecies, but it would be not scientific to describe it from a single example.

75. **Busarellus nigricollis** (Lath.)

Falco nigricollis Latham, *Ind. Orn.* i. (1790) p. 35 (" Cayana ").

Busarellus nigricollis Riker & Chapman, *Auk*, 1891, p. 161 (Santarem).

No. 549. ♀ ad., Urucurituba, 8. ii. 06. " Iris brown."

76. **Elanoides furcatus** (Linn.)

Falco furcatus Linnaeus, *Syst. Nat.* xii. 1. p. 129 (1766.—ex Catesby & Brisson : Carolina).

No. 560. ♂ ad. Urucurituba, 9. ii. 06. " Iris brown, feet grey."

77. **Hoplopterus cayanus** (Lath.)

Charadrius cayanus Latham, *Ind. Orn.* ii. (1790) p. 749 (ex Buffon and Daubenton : " Cayana ").

No. 551. ♀ ad., Urucurituba, 8. ii. 06. " Iris brown, feet reddish yellow, bill black."

Apparently not before recorded from the Lower Amazon, though Natterer collected specimens near Manáos.

The record of the African *Hoplopterus spinosus* from the Capim River, Pará,* is, of course, a mistake.

78. **Carbo vigua** (Viell.)

Hydrocorax vigua Vieillot, *Nouv. Dict.* viii. (1817) p. 90 (ex Azara : Paraguay).

No. 584. ♂ ad. in nuptial plumage, Urucurituba, 26. ii. 06. " Iris light blue, bill black, below greyish white."

II. BIRDS FROM OBIDOS.

1. **Thryophilus albipectus albipectus** (Cab.)

Cfr. *suprà*, p. 2.

No. 589. ♂ in moult, 12. iii. 06. " Iris grey-brown, feet light bluish grey, bill greyish black." Quite as pale on the lower parts as Cabanis' type from Cayenne.

2. **Dacnis cayana cayana** (Linn.)

Vide *Nor. Zool.* xiii. p. 356.

No. 646. ♂ ad., 29. iv. 06. " Iris reddish brown." Wing 63; tail 42 mm.

In size, and in the deep black colour of the throat, this bird agrees with others from Cayenne, Pará and the Caeta valley. Specimens from Ceará, Bahia and Pernambuco are also perfectly similar.

* *Ibis*, 1903, p. 500.

On the other hand, skins from Minas, Rio, S. Paulo and Paraguay are decidedly larger, the wing measuring from 68 to 71, the tail from 46 to 48 mm. The throat patch is deep black, as in the northern birds. This southern form is apparently entitled to the name *D. cayana cyanater* Less.*

3. *Tachyphonus cristatus cristatus* (Gm.)

Tanagra cristata Gmelin, *Syst. Nat.* 1. ii. p. 898 (1788 — ex Brisson et Buffon : Cayenne).

Nos. 584, 644. ♂♂ ad. 7. iii., 19. iv. 06. " Iris brown, bill and feet black."

The differences between *T. c. cristata*, of Cayenne, and *T. c. cristatellus*, of Bogotá, etc., as pointed out by me in *Nor. Zool.* xii. p. 275, are apparently not constant. We have lately received an adult ♂ (and I have seen others) from Eastern Ecuador with the crest of the same reddish orange tinge as our Cayenne specimen, while the two Obidos skins, which ought to belong to the Cayenne race, agree in the bright orange-red colour of the crown with the series from Bogotá, etc. They are, however, quite different from *T. c. brunneus (brasiliensis* Scd.), the crest being much shorter, lighter, and bordered in front and laterally by a very distinct fulvous buff line, which is but slightly indicated in the East Brazilian form.

T. c. cristatus is new to the Lower Amazonian fauna, though it was collected near Borba, Rio Madeira, by J. Natterer.

4. *Tachyphonus luctuosus* Lafr. et D'Orb.

Cfr. *suprà*, p. 7.

No. 611. ♂ ad. 31. iii. 06. No. 637. ♀ 16. iv. 06. " Iris brown."

The male has an ivory-white patch on the basal half of the lower mandible.

5. *Sporophila castaneiventris* Cab.

Cfr. *suprà*, p. 7.

No. 603. ♂ ad., 28. iii. 06. " Iris and bill black."—Exactly like specimens from British Guiana and Santarem.

6. *Sicalis columbiana goeldii* Berl.

Cfr. *suprà*, p. 8.

No. 592. ♂ ad., 12. iii. 06. " Iris brown, feet greyish brown, bill greyish yellow." Perfectly similar to the topotypical examples from Santarem.

7. *Pipra erythrocephala* (Linn.)

Cfr. *Ibis* 1906, p. 20.

Three ♂♂ ad., 30. iv. 06. " Iris white, bill greyish yellow." Nos. 657, 658, 659.

The crown and sides of the head are even brighter orange than in specimens from Trinidad and Cumaná.

In my revision of the genus *Pipra* (lc.) I mentioned Pará and Rio Capim among the localities of *P. erythrocephala*, but Miss Snelhage (in litt.) has since informed me that this species does not occur in the Pará district, and that the Capim examples, collected by Dr. Goeldi, belong to *P. rubrocapilla*. Layard's specimen was lost, and there is only one Wallacian skin in the British Museum,

* *Dornis cyanater* Lesson, *Traité d'Orn.* 1831, p. 458 ("du Brésil").

aid to be from Pará, but with no original label. As Wallace collected also on the Rio Negro and on the island of Mexiana, a mistake with regard to the locality might have occurred. Anyhow, there is no proof as yet that *P. erythrocephala* is found south of the Amazons, where *P. rubrocapilla* evidently takes its place.

8. *Chiroxiphia pareola pareola* (Linn.)

Cfr. *Nor. Zool.* xiii. p. 363.

No. 653. ♂ ad. 28. iv. 06. "Iris dark brown." Identical with Pará examples.

9. *Sittasomus amazonus* Lafr.

Sittasomus amazonus Lafresnaye, *Rev. Mag. Zool.* 1850, p. 590 ("ad summum Amazonum").

No. 618. ♀ ad. (erroneously marked "♂"), Obidos, 4. iv. 06. "Iris brown."—Wing 72; tail 75; bill 14 mm.

Agreeing perfectly with specimens from British Guiana and the Caura valley, Venezuela. Typical Upper Amazonian skins are not available for comparison.

10. *Glyphorhynchus cuneatus cuneatus* (Leht.)

Cfr. *Nor. Zool.* xii. (1905), p. 280.

No. 652. ♂, 18. iv. 06. "Iris dark brown."

11. **Dendroornis guttata sororia* Berl. & Hart.

[*Dendrocolaptes guttatus* Lichtenstein, *Abhandl. Berliner Akad.* 1818-19. p. 201 (1820—Bahia)].

Dendroornis rostripallens sororia Berlepsch & Hartert, *Nor. Zool.* ix. p. 63 (1902—Maipures, Orinoco).

No. 606. ♂ ad., Obidos, 29. iii. 06. "Iris brown, feet and bill bluish grey."—Wing 110; tail 99; $37\frac{1}{2}$ mm.

This specimen agrees perfectly with our large series from Surinam, Cayenne and the Orinoco region. The upper mandible (in the dry skin) is uniform blackish, the under parts are fulvous brown, and the light stripes on the foreneck and breast have very distinct blackish margins.

D. g. guttatoides (Lafr.) [= *rostripallens* Des Mars] has the upper bill partly pale-coloured; the lower surface is much more rusty, and the dusky margins to the feathers of the foreneck and chest are much less distinct. The specimens collected by Natterer near Manãos and on the upper Rio Negro belong to this form.

D. g. sororia is new to the Brazilian avifauna.

12. *Nasica longirostris* (Vieill.)

Cfr. *supra*, p. 16.

No. 599. ♀ fere ad., 28. iii. 06. "Iris pale brown, bill greenish yellow."

13. *Dysithamnus murinus* (Scl. & Salv.)

Thamnophilus murinus (Natterer Ms.) Sclater and Salvin, *P.Z.S.* 1867. p. 756 (Cayenne; Marabitanas et Barra do Rio Negro; Xeberos.—We accept *Barra do Rio Negro* as typical locality).

No. 647. ♂ vix ad., 21. iv. 06. "Iris light grey, feet grey, bill greyish black."

Differs from specimens collected by Natterer on the Rio Negro, only by its somewhat larger dimensions and by having both the upper and under parts of a rather darker grey.

This species seems best placed in the genus *Dysithamnus*, near *D. schistaceus*, etc.

14. *Cercomacra tyrannina* (Scl.)

Pyroglona tyrannina Schater, *P.Z.S.* 1855, p. 40, pl. 98 (Bogotá coll.).

No. 655. ♂ ad., 29. iv. 06. "Iris greyish brown."

No. 651. ♀ ad., 28. iv. 06. "Iris grey-brown."

These specimens are in every respect typical *C. tyrannina*, agreeing with our extensive series from Bogotá, the Orinoco region, British Guiana and Pará. It is highly interesting to find this form on the north bank of the Amazons, while on the opposite side of the great river, near Santarem, another representative of this group (*C. n. approximans*, Pelz.) is met with.

15. * *Myrmeciza longipes griseipectus* Berl. & Hart.

[*Drynophila longipes* Swainson, *Zool. Journ.* ii, p. 152 (1825—"some part of Brazil," errore.—*Triaidon* substituted as typ. locality; cfr. *Nor. Zool.* xiii, p. 33).]

Myrmeciza swainsoni griseipectus Berlepsch & Hartert, *Nor. Zool.* ix, p. 76 (1902—Caicara, Orinoco).

Nos. 650, 654. ♂♂ ad., 28, 29. iv. 06. "Iris reddish brown, feet yellowish grey, bill black."—Wing 69, 66; tail moulting; bill 19 mm.

No. 635. ♀ ad., 15. iv. 06. "Iris brown."—Wing 65½; tail 54½; bill 18½ mm.

The ♂♂ agree perfectly with others from the Caura River and British Guiana. Typical birds from the Orinoco valley have the grey colouring on the foreneck rather darker and somewhat more extended, but this difference is very trifling and not quite constant.

M. l. griseiventris, which was known from British Guiana, the Orinoco region and the Rio Meta, Eastern Colombia, is quite new to the Brazilian avifauna.

16. *Myrmeciza ferruginea* (P. L. S. Müll.)

Turdus ferrugineus P. L. S. Müller, *Natursyst. Suppl.* p. 141 (1776—based on "Merle à cravate, de Cayenne," Daubenton, *Pl. enl.* 569, fig. 2.—*Cayenne*).

Turdus cinamomus Gmelin, *Syst. Nat.* 1. i. p. 825 (1788—based on the same).

Myrmeciza cinamomca auct.

No. 641. ♀ moulting, 19. iv. 06. "Iris dark brown, feet blue-black, bill black, below grey."

Agreeing well with other females from Surinam and British Guiana

17. *Hypocnemis cantator cantator* (Bodd.)

Formicarius Cantator (sic!) Boddaert, *Tabl. Pl. enl.* p. 44 (1783—based on "Le Carrillonneur, de Cayenne," D'Aubenton, *Pl. enl.* 709, f. 2.—typical locality, therefore, *Cayenne*.)

No. 643. ♂ vix ad., 18. iv. 06. "Iris brown."

No. 640. ♀ ad., 18. iv. 06. "Iris brown."

Identical with a large series from Cayenne. In the ♂♂ the upper back is cinereous, with a few indistinct dusky dots, and a very small, concealed white dorsal spot; in the ♀♀ it is uniform pale olive brownish.

Two ♂♂ ad. collected by Natterer near Manáos (Barra do Rio Negro), belong also to the typical race, which on the south bank of the Amazons is replaced by *H. c. peruvianus*. (Cfr. *suprà*, p. 19.)

18. *Myrmotherula axillaris axillaris* (Vieill.)

Cfr. *Nor. Zool.* xiii (1906) p. 368.

No. 696. ♂ ad., 7. iv. 06. "Iris brown."

19. *Phoethornis rupurumii amazonicus* Hellm.

Cfr. *suprà*, p. 23.

No. 636. ♀ ad., 15. iv. 06. "Iris black, feet greyish red, bill black, base of lower mandible yellow."—Wing 44; rectr. med. $45\frac{1}{2}$; r. submed. 33; r. ext. 18; bill $24\frac{1}{2}$ mm.

Agrees perfectly with the typical examples from Santarem.

20. *Agyrtria millerii* (Bourc.)

Trochilus Millerii Bourcier, *P.Z.S.* 1847, p. 43 ("le Brésil, Rio Nègre, rapporté par M. Natterer").

No. 593. ♀ ad., 16. iii. 06. "Iris black, bill black, base of lower mandible light red."—Wing 45; tail 25; bill 17 mm.

Except in being slightly smaller, the specimen agrees with sexed ♀♀ of *A. millerii* from the Orinoco. Forehead and vertex are covered with glittering pure green or golden-green feathers; chin and throat pure white without any metallic spots. *A. affinis*, *A. nitidifrons*, *A. millerii* and *A. viridiceps* seem to form a natural group, representing each other geographically.

The present specimen extends the range of *A. millerii* considerably to the east. The most easterly locality hitherto known was Maniós, where Natterer collected several specimens.

21. *Agyrtria albiventris albiventris* (Less.)

Cfr. *suprà*, p. 24.

No. 604. ♂ ad., 28. iii. 06. "Iris black, bill black, base of lower mandible red."—Wing 53; tail 30; bill 19 mm.

This specimen is typical *albiventris*, having the base of the four outer tail-feathers distinctly bronze green. The under tail-coverts are dark brown with broad white edges.

Cfr. the remarks *suprà*, p. 24.

22. *Chlorestes caeruleus* (Vieill.)

Cfr. *Nov. Zool.* xiii. p. 377.

Nos. 587, 594, 595, 610, 634, 656. 3 ♂♂ ad., 1 ♂ imm., 1 ♀, 1 juv., 11, 15, 16, 31. iii., 15. 29. iv. 06. "Iris black."

23. *Nyctibius grandis* (Gm.)

Caprimulgus grandis Gmelin, *Syst. Nat.* 1. ii. p. 1029 [1788—"Cayenna"—ex Brisson (ex Marcgrave) et Daubenton, *Pl. enl.* 325].

No. 621. ♀ ad., 6. iv. 06. "Iris reddish black, feet whitish grey, bill black." Wing 364; tail 250 mm.

Agrees in size and coloration with several specimens from Surinam. These have the following dimensions: wing 367, 368, 370; tail 235, 240, 260 mm.

Skins from South Brazil require comparison.

24. *Chloronerpes flavigula* (Bodd.)

Cfr. *suprà*, p. 25.

No. 619. ♂ ad., 28. iii. 06. "Iris black, bill bluish black."

Bill short, as in Cayenne examples.

25. *Celeus ochraceus* (Spix).

Picus ochraceus Spix, *Av. Bras.* i. (1824), p. 59 tab. li. fig. 1 ("in sylvis Amazonum").

No. 600. ♀ imm., 27. iii. 06. "Iris reddish blue, bill black, below greyish white."

The blackish spots on the mantle are distinctly heart-shaped. Some of the breast feathers are margined with rusty—evidently a sign of immaturity.

The Tring Museum possesses an adult ♂ from S. Lourenco, state of Pernambuco, collected by Mons. A. Robert. This has the same ochraceous colour of the plumage as Amazonian specimens, but the black markings on the back are more transverse, thus showing an approach to *C. flavesceus* (Gm.), of South-east Brazil.

C. ochraceus is evidently the northern representative of *C. flavesceus*, and seems to be not uncommon on the Lower Amazon. Natterer* and Riker † obtained it near Santarem, and Miss Snethlage ‡ recently met with it in the Serra of Monte Alegre.

26. *Celeus elegans elegans* (P. L. S. Müll.)

Picus elegans P. L. S. Müller, *Natursyst. Suppl.*, p. 92 (1776.—ex D'Aubenton, *Pl. enl.* 524.—Cayenne). Cfr. *Nor. Zool.* xiii., p. 39.

Cebus cinnamomeus Pelzeln, *Zur Orn. Bras.* iii. (1869), p. 251 (Barra do Rio Negro).

No. 642. ♂ ad., Obidos, 19. iv. 06. "Iris red, bill pale grey."

Since writing my notes in *Nor. Zool.* xiii. pp. 39-40, I have examined much additional material, and it seems that the distinction between *C. e. elegans* of Cayenne and *C. e. reichenbuchi* auct. of British Guiana, etc., cannot be upheld.

It is true, the specimens from Cayenne are considerably darker, more chestnut, on both the upper and lower parts, than any other examples I have seen; but the amount of pale spotting on the back and upper wing-coverts does not appear to depend upon locality.

The ♂ from Obidos, a ♀ from Manáos (Natterer coll.), and four skins from Forte do Rio Branco (Natterer) have the top of the head and crest ochraceous-buff as the Cayenne birds, while in the cinnamon-rufous colour of the plumage they agree with those from Surinam, British Guiana and the Orinoco delta. In two of the Rio Branco skins, the back and upper wing-coverts are uniform, in the two others they are distinctly spotted with pale yellowish like the examples from Obidos and Manáos. Lately, we have received a ♂ from Demerara, which also has spots on the upper parts!

Without much larger series from the various localities it is impossible to say whether there are any local races or not.

C. e. elegans is only known from the north bank of the Amazon, and it appears that the great river forms the southern limit of its range.

C. reichenbuchi apud Pelzeln (*Orn. Bras.* iii. p. 251), from Mattagrosso, is certainly different from the present form. The single specimen, however, being not quite adult, I prefer to wait for additional material before separating it.

* Pelzeln, *Zur Orn. Brasil.* iii. (1869), p. 250.

† *Arch.* 1891 p. 31.

‡ *Journ. L. Ornith.* 1906, p. 110.

27. *Piaya cayana cayana* (Linn.)

Cuculus cayanus Linnaeus, *Syst. Nat.* xii. 1. p. 170 (1766.—ex Brisson; Cayenne).

No. 631. ♂ in moult. 10. iv. 06. "Iris brownish red, bill yellowish green."

This specimen agrees perfectly with a series from Surinam and British Guiana—i.e. *P. c. guianensis* (Cab. & Heine), cfr. *Nor. Zool.* xiii. p. 44. Additional material, however, has convinced me that this form cannot be separated from typical *P. c. cayana* (Linn.), the supposed distinguishing characters not being constant. On the other hand, the examples from Pará (cfr. *Nor. Zool.* xii. p. 298) differ by their considerably lighter, cinnamon-rufous upper parts, and paler, whitish grey (not cinereous) thighs and crissum. Their proper name is probably *P. c. pallescens* (Cab. & Heine), but the types should be examined. Anyhow, they belong to a form distinct from true *P. cayana*.

The range of the two first races of my review (*Nor. Zool.* xiii. p. 43) would accordingly be as follows:—

a. *Piaya cayana cayana* (Linn.).

Pyrrhococcyx guianensis Cab. & Heine, *Mus. Hein.* iv. (1862), p. 85 (Guiana).

Cayenne, Surinam, British Guiana west to the Orinoco valley, and south to the north bank of the Amazons (Obidos).

b. *Piaya cayana pallescens* (Cab. & Heine).

Pyrrhococcyx pallescens Cabanis & Heine, *Mus. Hein.* iv. (1862), p. 86 ("Nord-Brasilien").

N.E. Brazil: vicinity of Pará and Maranhão.*

28. *Selenidera piperivora* (Linn.)

Ramphastos piperivorus† Linnaeus, *Syst. Nat.* xii. 1. p. 150 (1766.—ex Brisson—"Cayana").
Selenidera piperivora Pelzeln, *Zur Ornith. Bras.* iii. (1869), p. 239 (Barra do Rio Negro).

No. 632. ♀ ad., 10. iv. 06. "Iris brownish red, feet green, bill black, red at the base."

Perfectly identical with other females from British Guiana and Surinam.

This species occurs only on the north side of the Amazons.

29. *Monasa nigra* (P. L. S. Müll.)

Cuculus niger P. L. S. Müller, *Natursyst. Suppl.*, p. 90 (1776.—ex Buffon, sc. Daubenton, *Pl. enl.* 512—Cayenne).

Monasa atra Pelzeln, *Zur Ornith. Brasil.* i. (1867), p. 22 (Barra do Rio Negro).

No. 602. ♂, 28. iii. 06. "Iris brownish red."

No.—, ♀, 18. iv. 06. "Iris brown."—Wing 135; tail 125; bill 37 mm.

Both specimens are in moult. They do not differ from a large series of skins from Surinam, British Guiana and the Aura valley.

M. nigra is another of those Guianan forms the range of which extends to the north side of the Lower Amazons, but which are not found on the south bank of that river.

* I examined a specimen belonging to the Museum of Sophia, Bulgaria, and found it perfectly identical with our Pará series.

† This name appeared first in the tenth edition of the *Syst. Nat.* p. 103, and then again in the *Mus. Ad. Frid. Prodrromus* ii. (1764), p. 17. The diagnosis, given in both cases, is, however, not sufficient to recognise the species.

30. *Galbula galbula* (Linn.)

Alcedo Galbula Linnaeus, *Syst. Nat.* xii. 1. p. 182 (1766.—ex Brisson and Maregrave.—“*Brasilia, Cayana*.”—As typical locality fixed *Cayenne*: ex Brisson).

No. 590. ♂ ad., 12. iii. 06. Nos. 598, 624. ♀ ♀ ad., 27. iii., 6. iv. 06. “Iris brown, bill black.”

These specimens are perfectly identical with others from Cayenne, Surinam, etc.

31. *Galbula albirostris albirostris* Lath.

*Galbula albirostris** Latham, *Ind. Ornith.* i. p. 245 [1790—“in America australi”—we substitute *Cayenne* as typical locality].

G. chalccephala (nec Deville) Pelzeln, *Zur Ornith. Brasil.* i. (1867), p. 24 (pt. : Barra do Rio Negro).

No. 648. ♂ ad., 24. iv. 06. “Iris brown, bill yellow, apical portion of upper mandible black.”—Wing 76 ; tail 70 ; bill 38 mm.

Agrees with a large series of the typical form from Cayenne, British Guiana and the Caura valley. All these specimens have the basal third or half of the upper mandible clear yellow.

Examples from North-eastern Peru, Eastern Ecuador and the upper Rio Negro (Guia, Marabitanas), however, form a well characterised geographical race which is entitled to the name *G. a. chalccephala* Deville.† The upper mandible is always wholly black, and the colour of the foreneck and chest very much darker, cinnamon-rufous (Ridg., *Nomencl.* iv. fig. 16) instead of ferruginous (iv. fig. 10). Moreover, the wings are rather longer (81—84 against 72—76 mm. in the typical form), and the bill as a rule slightly longer (42—43 against 36—39 mm.).

Two females from Barra do Rio Negro (Wallace & Natterer coll.) show all characters of *G. a. albirostris*, but are much smaller than any other example I have seen.

32. *Momotus momota momota* (Linn.)

Romphastos Momota Linnaeus, *Syst. Nat.* xii. 1. p. 152 (1766—based on Edwards & Brisson (excl. syn. Maregrave)—*Cayenne* (ex Brisson) accepted as typical locality).

No. 616. ♀ ad., 2. iv. 06. No. 627. ♂ ad., 7. iv. 06. No. 691. av. imm. 28. iii. 06. “Iris light red, feet and bill black.”

These birds agree perfectly with our series from the Guianas, etc. All have a large chestnut patch on the nape. *M. m. parvencis* Sharpe differs from them by its much more ochraceous under-parts, and by the nape-patch being of a decidedly darker chestnut.

It is an interesting fact that the typical Guianan form occurs on the north bank of the Amazons. On the opposite side of the great river it is replaced by *M. m. nattereri* (see above, p. 28).

33. *Pyrrhura picta amazonum* Hellm.

[*Psaltria pictus* P. L. S. Muller, *Natursyst. Suppl.*, p. 75 (1776.—ex Daubenton, *Pl. cul.* 144.—*Cayenne*.]

Pyrrhura picta amazonum Hellmayr, *Bull. B. O. C.* xix. (Oct. 1906) p. 8.

No. 585. ♂ ad., 9. iii. 06. “Iris brownish red.”—Wing 122 ; tail 110 mm.

* Latham's description refers undoubtedly to the above species. The conflicting statement: “bill white, except the base of the upper mandible, which is dusky,” is certainly a *lapsus calami* or a misprint, and it should read “except the tip of the upper mandible.”

† *Ber. Mus. Zool.* 1849, p. 55 (r Mission de Sarayaga, rivière Cayali”).

No. 630. ♂ ad., 9. iv. 06. "Iris brownish red."—Wing 120½; tail 108 mm.

No. 586. ♀ ad., 11. iii. 06. "Iris yellow."—Wing 124; tail 110 mm. *Type of subspecies.*

No. 625. ♀ fere ad., 6. iv. 06. "Iris yellow." Wing 124 mm.; tail incomplete.

This new form differs from *P. p. picta* of Guiana, etc., by lacking the crimson patch on the bend of the wing, and by the green edges of the four central tail feathers being confined to the basal third or half, while in the typical form they reach almost to the tip. In both these respects the Obidos specimens agree with *P. picta luciani* Dev. of Upper Amazonia, and could be mistaken for the young of this form. But even quite young birds of *P. derillei* have always a few red feathers and scarcely any blue on the frontal edge, while my new form shows a well-defined pale blue band across the forehead, reaching as far back as the anterior margin of the eye. It shares this peculiarity with *P. p. picta*, in which, however, the blue frontal band is about twice as broad. The broad frontlet is also the best character to distinguish immature specimens of *P. p. picta* (with very little red on the bend of the wing) from *P. p. amazonum*.

Thus there are three geographical forms, the characters and range of which may be summarised as follows :

a. Pyrrhura picta picta (P. L. S. Müll.)

Adult. Forehead as far back as the posterior margin of the eye pale blue. Bend of the wing light red. Four central tail feathers laterally broadly edged with green, except on the apical fourth. Ear-coverts dirty whitish or greyish buff.

Young. Forehead and tail as in the adult. Bend of the wing green, with only a few scattered red feathers here and there.

Hab. Cayenne, Surinam, British Guiana, west to the valley of the Caura River, a tributary of the Orinoco, East Venezuela.

N.B.—The locality "Trinidad" is doubtless erroneous.

Material : 2 Cayenne, 6 Surinam, 4 Brit. Guiana, 4 Caura River.

b. Pyrrhura picta amazonum Hellm.

Conurus roseifrons (nec Gray) Allen, *Bull. Essex Inst.* viii. 1876, p. 81. (Santarem).

Adult. Forehead as far as the anterior margin of the eye pale blue. Bend of the wing green, only in one specimen some of the feathers slightly edged with red. Four central tail feathers on the basal third or half narrowly margined with green. Ear-coverts bright brownish buff.

Hab. Lower Amazons : Obidos, Santarem.

A female from Santarem, forwarded by Prof. von Ihering (Garbe coll.—Mus. Paulista, Brazil), agrees in every respect with our Obidos series. The specimen in the Berlin Museum, said to be from Pará,* belongs most probably also to this form.

c. Pyrrhura picta luciani (Dev.)

Conurus Luciani Deville, *Rev. Mag. Zool.* 1851, p. 210 ("la rivière des Amazones").

Adult. Forehead and more or less of the pileum as well as the lores and a ring round the eye clear red. Bend of the wing green, sometimes with a few

* *Conurus cyanopterus* Finsch, *Papageien* i, p. 541.

scattered red feathers. Four central tail feathers narrowly margined with green on their basal half.

Young. Top of the head very dark brown, forehead with only a few small red feathers; in more advanced plumage with a distinct red frontal band. Otherwise like the adult.

Hab. Upper Amazonia: from Northern Peru south to the River Juruá, in North-west Brazil.

Material: 7 Shannsi, near Yurimaguas (Garlepp); 2 Palcazú, Hnánuco, Peru (Hoffmanns coll.); 1 ad. Rio Juruá, North-west Brazil (Garbe coll.): all in the Tring Museum.

34. *Psittacula deliciosa* Ridgw.

Psittacula deliciosa Ridgway, *Proc. U.S. Nat. Mus.* x. (1887) p. 545 (1888.—Diamantina Creek, Santarem, Lower Amazons); Chapman & Riker, *Auk*. 1891, p. 160.

No. 588. ♂ ad., Obidos, 12. iii. 06. "Iris whitish yellow, feet light greyish red, bill whitish grey." Wing 79; tail 40 mm.

This is, as far as I know, the first specimen in any European collection. *P. deliciosa* is an excellent form, and not to be confounded with *P. g. guianensis** (Sws.) and *P. g. cyanochlora* † ‡ (Hartl). It differs from both in the following particulars: The emerald green lower back shows on the anterior portion a distinct turquoise blue shade, which is altogether absent in the two allied forms; the greater upper wing-coverts, instead of being glaucous green, are delicate turquoise blue with a darker, more ultramarine-blue shaft-streak, only the concealed inner web being yellowish green like the back; the secondaries (except the tertials) are for the greater part pure ultramarine blue, with a narrow yellowish green margin to the apical half of the outer web. In both, *P. g. guianensis* and *P. g. cyanochlora* the secondaries are (like the primaries) entirely green, there being scarcely a faint bluish tinge at the extreme base of some of the outermost feathers. In the coloration of under wing-coverts, the males of the three forms are perfectly alike, the under primary coverts being dull bluish green, the rest dark hyacinth blue.

On the other hand, *P. viridissima* Lafr. of Venezuela, ‡ united by Salvadori and Ridgway to *P. guianensis*, differs at a glance by having only a patch on the innermost under wing-coverts hyacinth blue, all the rest being emerald or glaucous green. The various forms of *Psittacula* will be discussed by me on another occasion.

35. *Rupornis magnirostris magnirostris* (Gm.)

Fulco magnirostris Gmelin, *Syst. Nat.* 1. i. p. 282 (1788.—ex Daubenton, *Pl. enl.* 464.—Cayenne)

No. 596. ♂ juv., 26. iii. 06. "Iris yellowish red."

Agrees well with specimens from British Guiana and Surinam in corresponding plumage.

36. *Busarellus nigricollis* (Lath.)

Fulco nigricollis Latham, *Ind. Orn.* i. p. 35 (1790.—"Cayana").

No. 615. ♀ imm., 2. iv. 06. "Iris light brown, feet greyish yellow, bill black."

* Six specimens from Surinam in the Tring Museum, and an adult ♂ from British Guiana in the British Museum.

† Four specimens from Forte do Rio Branco, North Brazil, in the Vienna Museum, kindly lent me by Dr. von Lorenz.

‡ Sixteen ♂♂ from Cumaná, and Altagracia, Orinoco.

37. *Harpagus bidentatus* (Lath.)

Falco bidentatus Latham, *Inl. Orn.* i. p. 38 (1790.—“Cayana”).

No. 645. ♂ ad., 20. iv. 06. “Iris light yellow, bill greyish black.”

38. *Hypotriorchis rufigularis* (Daud.)

Falco rufigularis Daudin, *Traité d'Orn.* ii. p. 131 (1800.—ex Latham: Cayenne) [cfr. *Nov. Zool.* ix. (1902) p. 115].

Nos. 617, 623. ♂ ♀ ad., 2, 6. iv. 06. “Iris dark brown, feet yellow, bill black.”

39. *Pisorhina choliba crucigera* (Spix).

[*Strix choliba* Vieillot, *Nouv. Dict.* vii. p. 39 (1817.—ex Azara, No. 48: Paraguay).]

Strix crucigera Spix, *Ar. Bras.* i. p. 22, tab. ix. (1824.—“juxta flumen Amazonum”).

No. 605. ♀ ad., 29. iii. 06. “Iris light yellow.”

About this form cfr. *Abhandl. Bayer. Akad. Wissensch.* ii. Kl. vol. xxii. 3. p. 575.

40. *Dendrocygna discolor* ScL. & Salv.

Dendrocygna discolor Schater & Salvin, *Nomencl. Ar. neotrop.* p. 161 (1873.—“Venezuela, Guiana et Brasilia.”—type ex Surinam; cfr. *Cat. Birds Brit. Mus.* xxvii. p. 162).

No. 620. ♀ ad., 6. iv. 06. “Iris brown, feet pale greyish red, bill rather darker.”

This specimen is perfectly similar to another from Trinidad. In both the lower hindneck is buffy grey, abruptly contrasted against the chestnut of the back.

41. *Ortalis motmot* (Linn.)

Phasianus Motmot Linnaeus, *Syst. Nat.* xii. 1. p. 271 (1766.—ex Brisson: “Brasilia, Guiana.”—As typical locality accepted *Cayenne*; cfr. *Nov. Zool.* ix. (1902) p. 120).

Nos. 607, 609, 628, 639. ♂♂, 29, 31. iii., 8, 17. iv. 06. “Iris brown, feet red, bill greyish black. Skin on neck light red.”

No. 629. ♀ ad., 8. iv. 06. “Iris brown.”

These birds are practically identical with a large series from Surinam, British Guiana, etc.

O. motmot is also a Guianan species, but seems to occur on both banks of the Lower Amazons. Natterer collected it near Mauáos, and the American Museum of New York received it from Santarem (cfr. *Auk* 1891. p. 162).

42. *Crypturus erythropus* (Pelz.)

Tinamus erythropus Pelzeln, *Verhandl. zool.-botan. Gesellsch. Wien*, xiii. pp. 1127, 1129 (1863.—Barra do Rio Negro).

No. 649. “♀” jr. Obidos, 26. iv. 06. “Iris light brown, feet yellowish red, bill black, below grayish.”—Wing 164; bill 30 mm.

Like the type of *T. longirostris* in the British Museum, this specimen has the wing coverts, secondaries, middle and lower back, including the upper tail coverts, strongly barred with buff or rufescent, and differs only by the ground colour of the crown being more slaty, less blackish. It answers well to Pelzeln's description of the female of *C. erythropus* (i.e.).

This species is new to the fauna of the Lower Amazons, though collected by Natterer near Mauáos and on the Upper Rio Branco.

ON A COLLECTION OF BIRDS FROM TEFFÉ, RIO SOLIMÕES, BRAZIL.

By C. E. HELLMAYR.

AFTER leaving Obidos, Mr. W. Hoffmanns went to Teflé (Ega), on the south bank of the Rio Solimões, where he was at work from the last week of May to the end of June. Although the collection is not a large one, it proves to be of considerable interest, showing once more how much remains to be done in the ornithology of the Amazon valley. The Rio Solimões is even less known than the Lower Amazons, though visited by several naturalists. The Bavarian expedition under Spix and Martius obtained a few specimens at S. Paulo d'Oliveira and near Tabatinga. Count Castelnau transmitted a good many birds from Fonteboa and Ega to the Paris Museum, but only a few species were mentioned in the ornithological portion of the *Expédition dans les parties centrales de l'Amérique du Sud*, while the greater part remained unworked in the French national collection. Mr. H. W. Bates spent more than four years in Ega and its neighbourhood, and though chiefly interested in entomology, managed to bring together a fair number of ornithological specimens, which, however, were never reported upon. The only paper that seems to have been published on his material appeared in the *Proceedings of the Zoological Society* for 1857, pp. 267-68, wherein Mr. Selater records twenty-three species of birds as having been collected near Ega. Natterer obtained some birds on the "lake" Manaqueri, which were duly enumerated by von Pelzeln in his well-known work "*Zur Ornithologie Brasiliens*." Lastly, Mr. G. Garlepp, on his way to Peru, made a short stay at Fonteboa and Tonantins, where he procured specimens of twenty-six species, an account of which was published by Count Berlepsch in the *Journal für Ornithologie*, 1889, pp. 97-101.

The avifauna of Teflé differs essentially from that of the Lower Amazons, agreeing more closely with that met with on the banks of the Rio Marañon, in Northern Peru. Other remarks on the zoogeography of the Amazon valley I defer to a later occasion.

In the preparation of this paper I have been greatly assisted by Count von Berlepsch and Dr. Lorenz von Liburnan, who most kindly lent me many specimens for comparison.

1. *Turdus hauxwelli* Lawr.

Turdus hauxwelli Lawrence, *Am. Lyc. New York*, ix, p. 265 (1869—Pebas, N.E. Peru).

No. 727. ♂ ad., 31. v. 06. "Iris light brown, bill greyish green."—Wing 113; tail 96; bill 20 mm.

This bird agrees well with topotypical examples from Pebas. *T. hauxwelli* is an excellent form, not to be confounded with *T. fumigatus* Leht., from which it differs in many important points. The upper parts are much duller and darker, about "mummy-brown" (Ridgw. iii., fig. 10), without any ochreous hue; foreneck, breast, and sides, instead of being bright ochraceous brown, are "wood-brown," a little more rufescent than Ridgway's pl. iii. fig. 19; the under tail-coverts dark brown on the basal and pure white on the apical portion, without any trace of

ochreous or fulvous colouring; the middle of the abdomen pure white; the axillaries and under wing-coverts much duller, and the inner web of the quills nearly uniform greyish brown.

2. *Turdus ignobilis debilis* Hellm.

Turdus ignobilis debilis Hellmayr, *Journ. f. Ornith.* 1902, p. 56 (type ex Rio Madeira).

No. 787. ♂ juv., 9. vi. 06. "Iris brown, feet and bill greyish brown."

This is quite a young bird, agreeing with another specimen from East Ecuador in corresponding plumage.

3. *Troglodytes musculus clarus* Berl. & Hart.

T. m. clarus Berlepsch & Hartert, *Nor. Zool.* ix, p. 8 (1902—type ex Bartica Grove, British Guiana).

No. 783. ♂ ad., 8. vi. 06. "Iris brown, feet brown, bill greyish black."

Identical with specimens from Pará and British Guiana.

4. *Leucolepia modulator rufogularis* (Des Murs).

[*Thryothorus modulator* D'Orbigny, *Voyage, Oiseau*, p. 230 (1838—Yuracarès, North Bolivia).]

Sarochalinus rufogularis, Des Murs in *Castelnau's Voyage—Oiseau*, p. 49, tab. xvii, fig. 1 (1855—Sarayaçu, Peru).

No. 895. ♂ ad., 24. vi. 06. "Iris dark brown."—Wing 73; tail 45; bill 19 mm.

No. 894. ♀ juv., 24. vi. 06. "Iris dark brown."

No. 881. juv., 23. vi. 06.

The adult bird agrees with specimens from North Peru, except in having a slightly longer tail. As regards coloration, examples from North Peru (including the type of *S. rufogularis* Des Murs, belonging to the Paris Museum), Tefié, and from the valley of the Rio Juruá, W. Brazil, are perfectly identical among themselves. All have the throat, foreneck, front and sides of the head of a deep ferruginous red, and the abdomen decidedly rufescent brown.

The two typical specimens of *T. modulator* from Yuracarès (Paris Museum) and a ♀ from Northern Bolivia (in Count Berlepsch's collection) differ from this series by the much lighter tone of the ferruginous portions of the plumage, and by having the abdomen almost pure olive brown with scarcely any rufescent tinge. It seems therefore advisable—for the present at least—to keep the two forms separate, though it is not improbable that additional specimens from Bolivia might prove them to be identical.

A third nearly allied form, *L. modulator salvini* (Sharpe), occurs in Eastern Ecuador. It differs from the two others chiefly by having the ear-coverts uniform dark sepia brown (instead of rufous). I have examined five specimens, including the types.

5. *Donacobius atricapillus* (Linn.)

Turdus atricapillus Linnæus, *Syst. Nat.* xii, 1, p. 295 (1766—ex Brisson: "Cap b, spei"—errore!)

We substitute *Cayenne* as the typical locality.

Nos. 804, 806. ♂ ♀ ad., 11. vi. 06. "Iris yellow, feet greyish green, bill black.

A large naked patch on each side of the neck bright yellow."

No. 805. ♂ juv., 11. vi. 06. "Iris grey, feet and bill as in the adults."

In the *Catalogue of Birds* vi, p. 364, no mention is made of the naked patch on

the sides of the neck, though this peculiarity has been noticed by Prince Wied (cfr. *Beitr. Naturg. Brasil.* 3. ii. 1831, pp. 662, 664).

D. alborittatus Lafr. & D'Orb.* is nothing but the young of *D. atricapillus*. I compared the type in the Paris Museum, and found it perfectly identical with another specimen from S. Esteban, Venezuela (Mns. Berlepsch). Both birds are still in the fluffly juvenile plumage, and show a broad white superciliary stripe. This is also present, though less pronounced, in various specimens from Bahia and Bogotá; in the ♂ juv. from Teflé there are several small whitish feathers to be seen above the ear-coverts. It is true I have not yet seen adult specimens from Bolivia, but they are not likely to be different, as a series from Paraguay and S.W. Brazil (Mattogrosso) is not distinguishable from a good number of skins from Bahia, Cayenne, Venezuela, etc., in the Tring Museum.

6. *Vireo chivi* (Vieill.) subsp.

Sylvia chivi Vieillot, *Nouv. Dict.* xi. p. 174 (1817—ex Azara : Paraguay).

Nos. 725, 759, 760. ♂♂ ad., ♀ imm., 31. v., 6. vi. 06. "Iris brown, bill greyish black, feet bluish grey."

The back is bright yellowish green and the cap pure (bluish) cinereous. The adult birds have the following dimensions : Wing 64, 67 ; tail 44, 49 ; bill 13¾, 14 mm.

I defer the discussion of the geographical variation of this species to a later occasion, but cfr. my remarks in *Nov. Zool.* xiii. p. 11.

7. *Dacnis flaviventer* Lafr. & D'Orb.

Dacnis flaviventer Lafresnaye et D'Orbigny, *Syn. Ar.* i., in *Mag. Zool.* 1837. cl. ii. p. 21 ("Yuracarés, rep. Boliviana").

No. 768. ♂ ad., 7. vi. 06. "Iris yellowish red, feet bluish grey, bill black."—Wing 63½ ; tail 42 ; bill 12 mm.

No. 741. ♀ ad., no date. "Iris yellowish red."—Wing 59 ; tail 41½ ; bill 11¾ mm.

I cannot detect any difference between the ♂ from Teflé and another from Bogotá collections. As far as I know, this species has not yet been recorded from Colombia.

The ♀ resembles very much that of *D. angelica*, but is easily distinguishable by the pale brownish (not greenish) upper parts, without any bluish tinge on the pileum, by the dull greyish brown throat and the light yellowish buff abdomen.

8. * *Cyanerpes caerulea cherriei* Berl. & Hart.

Cyanerpes caerulea cherriei Berlepsch & Hartert, *Nov. Zool.* ix. p. 16 (1902—Munduapo, Orinoco). *Cacocha caerulea* (nec Linnaeus !) Pelzeln, *Zur Ornith. Brasil.* i. (1867) p. 25 (part. : Salto do Girao, Marabitanas, Guia, Rio Içanna, and Barra do Rio Negro).

Nos. 730, 914. ♂♂ ad., 1. vi. 06. "Iris dark brown, feet light yellow, bill black."—Wing 52½, 53 ; tail 26½, 27 ; bill 16, 17 mm.

Nos. 721, 747, 748, 766, 799, 871. ♀♀ and ♂♂ juv. (in female plumage), 30. v., 3, 6, 11, 20. vi. 06. "Iris dark brown, feet green or greenish grey."—Wing 53—55 ; tail 26½—29 ; bill 16—17 mm.

* *Syn. Ar.* i. in *Mag. Zool.* 1837. cl. ii. p. 19 (Chiquitos and Guarayos, East Bolivia).

The adult ♂♂, as well as three others from Marabitanas, Manáos, and Salto do Girao (upper Rio Madeira), kindly lent by Dr. von Lorenz, agree perfectly in colour and dimensions with the types from the Orinoco. The females from Tefé differ from those of the upper Orinoco and Rio Negro only by their paler, more buff, less ochraceous throat. *C. c. cherriei* is evidently the representative of the *C. caerulea* group in the plains of the great Amazonian forest region which extends from the banks of the upper Rio Orinoco to north-eastern Bolivia. In the mountains of Bolivia and Peru it is replaced by *C. c. microrhyncha* (Berl.). I am unable to separate some specimens from S. Augustin,* Yungas of Bolivia (3500 ft.), and others obtained by Mr. W. Hoffmanns near Pozuzo, province Huánuco, Central Peru (elev. 3000 ft.), from a series of Colombian skins, though the latter have, as a rule, rather longer bills. *C. c. microrhyncha* differs from *C. c. cherriei* by its much longer wings and tail, its stronger and longer bill, and by having the anterior portion of the crown, as well as the malar region, distinctly paler blue.

The range of these two forms is accordingly as follows :—

(a) *C. caerulea microrhyncha* (Berl.). Mountains of N.W. Venezuela (Merida), Colombia, Ecuador, Peru, and North Bolivia, above about 3000 ft.

(b) *C. caerulea cherriei* Berl. & Hart. Plains of the Amazonian forest region: on the banks of the upper Orinoco (Munduapo, Nericagna), Rio Negro (Marabitanas, Guia, Rio Içanna, Manáos), Rio Solimoës (Tefé), and Rio Madeira (Salto do Girao).

9. *Cyanerpes nitida* (Hartl.)

Coereba nitida Hartlaub, *Rev. Zool.* 1847, p. 84 ("le Pérou").

No. 906. ♀ ad., 25. vi. 06. "Iris dark brown, feet yellow, bill black."—Wing 54; tail 31; bill 13½ mm.

Agreeing with a ♀ from the Caura Valley, Venezuela, but lacking the pale blue band across the forehead.

The ♀ of *C. nitida* differs from that of *C. c. cherriei* by its longer tail, considerably shorter and less curved bill, bright **yellow** (not greyish green or dusky) feet, whitish (not yellowish) breast, and more **bluish** green stripes on the chest and sides of the body.

10. *Euphonia olivacea* Desm.

Euphonia olivacea Desmarest, *Hist. Nat. Tangaras, etc.*, pl. xxvii. (1815—Cayenne—♀) [Cfr. *Nor. Zool.* ix. (1902) p. 17].

No. 868. ♂ ad., 20. vi. 06. No. 869. ♀ ad., 20. vi. 06. "Iris dark brown, feet bluish black, bill black."

I am unable to perceive any differences between typical Cayenne skins and those from Upper Amazonia.

11. *Calospiza mexicana boliviana* (Bp.)

Cfr. *suprà*, p. 7.

Nos. 710, 712. ♂ ♀ ad., Tefé, 29. v. 06. "Iris dark brown, bill and feet black."—Wing 74½, 69; tail 52; bill 8½, 9½ mm.

In the female the shoulder patch is uniform dark azure blue, as in specimens

* Not from the Rio Beni, as erroneously stated in *Nor. Zool.* xiii. (1906) p. 9.

from Peru and Ecuador, while the ♂ has a few turquoise-blue feathers intermixed towards the inner margin. In my paper on Santarem birds I noticed that this peculiarity is not uncommon in specimens from Brazilian Amazonia.

12. *Phoenicothera rubra peruviana* Tacz.

[*Tachyphonus ruber* Vieillot, *Nouv. Dict.* xxxii. p. 359 (1819.—"île de la Trinité").]

Phoenicothera rubra peruviana Taczanowski, *Orn. Pérou* ii. p. 498 (1884.—Peru: Yurimaguas and Monterico).

Nos. 705, 901. ♀ ad., 24. v., 25. vi. 06. "Iris dark brown, feet yellowish grey, bill brownish black, below light greyish."

Unfortunately Mr. Hoffmanns sent us no males, but I have examined a specimen of this sex in the British Museum, collected by Mr. H. W. Bates near Ega.

Besides these, there are six examples: 2 ♂♂ ad., 1 ♂ juv., 3 ♀♀ from Chamicuro, Yurimaguas and Xeberos, North Peru, obtained by Mr. E. Bartlett, in the Tring Museum. This series is very uniform, and constitutes without doubt a form distinct from true *P. r. rubra* (Vieill.) of Trinidad and Cumaná. Some years ago, I also compared Natterer's specimens from Borba and Mattogrosso with an adult ♂ from Yurimaguas in Count Berlepsch's collection, and found them to be identical.

According to the material at hand there are three geographical races of *P. rubra* to be recognised.

a. *P. rubra rubra* (Vieill.)

♂ ad. Red crest bordered on each side by a distinct dusky margin. All the undersurface rosy red, middle of abdomen but slightly paler than chest and throat; sides of breast and flanks shaded with brownish.

♀ ad. Upper parts pale brown, lower ones nearly uniform brownish buff, lightest in the middle, more brownish on chest and sides.

Hab. Trinidad and N.E. Venezuela: Cumaná.

b. *P. rubra peruviana* Tacz.

♂ ad. Dusky lateral margins to the crest barely indicated. Throat and foreneck bright rosy red; breast and abdomen mainly dull cinereous, washed with pale rosy along the middle line.

♀ ad. Under-parts paler as in *P. r. rubra*, usually distinctly whitish on throat and middle of belly. Back as a rule darker brown.

Hab. North and Central Peru (Monterico, Yurimaguas, Chamicuro, Xeberos); N.W. Brazil: Tefé (Bates and Hoffmanns), Rio Jurua,* Mattogrosso and Borba, Rio Madeira (Natterer); † Lower Amazons: Santarem. ‡

c. *P. rubra rhodinolaema* Salv. & Godm.

♂ ad. Differs from *P. r. peruviana* by having the throat and crest of a much brighter, more scarlet red. The dusky margins to the crest are rather better defined. ♀ ad. Not distinguishable from the ♀ of *P. r. peruviana*.

Hab. East Ecuador: Sarayacu (types examined).

* Bering, *Revista Mus. Paulist.* vi. 1905, p. 432 s.n. *P. rhodinolaema*.

† Pelzeln, *Zur Orn. Bras.* iii. (1869), p. 212 s.n. *P. rubra*.

‡ Chapman and Biker, *Auk*, 1890, p. 267, s.n. *P. rhodinolaema*.

13. *Tachyphonus surinamus napensis* Lawr.

[*Turdus surinamus* Linnaeus, *Syst. Nat.* xii. l. p. 297 (1766.—ex Brisson: Surinam).]
Tachyphonus Napensis Lawrence, *Ann. Lyc. Nat. Hist. New York* viii. (June 1861), p. 42 (“Napo River,” East Ecuador).

No. 742. ♂ ad., 2. vi. 06. “Iris dark brown, feet and bill black.”

This specimen differs from a number of skins from Bogotá collections and the Rio Napo by having a somewhat shorter and stouter bill, and a decidedly darker rump and coronal patch which are deep tawny (Ridgw. v. fig. 1) instead of ochraceous (v. fig. 7). The tufts on the sides of the chest are pure white, as in *T. s. napensis*.

14. *Ramphocelus nigrogularis* (Spix).

Tanagra nigrogularis Spix, *Ar. Bras.* ii. p. 35. tab. xlvii. (1825.—“ad flumen Solimoëns in sylvis pagi St. Pauli”).

Nos. 673, 774. ♂♂ ad., 20. v., 7. vi. 06. “Iris dark red, feet and bill black, base of lower mandible white.”

Nos. 775, 674. ♂ fere ad., ♀ ad., 7. vi., 20. v. 06. “Iris red or dark brown.”

These specimens are topotypical. Others from Peru and East Ecuador do not differ in any way.

15. *Saltator maximus* (P. L. S. Müll.)

Tanagra maxima P. L. S. Müller, *Natursyst. Suppl.* p. 159 (1776.—ex Daubenton, *Pl. vol.* 205.—Cayenne).

Saltator magnus auct.

Nos. 818, 841. ♀♀. 13, 16. vi. 05. “Iris brown, feet bluish grey, bill black.”

16. *Guiraca rothschildii* Bartl.

Cfr. *Nor. Zool.* xii. (1905) p. 277.

No. 899. ♂ ad., 25. vi. 06. “Iris dark brown.”

No. 807. ♀ ad., 12. vi. 06. “Iris brown.”

These specimens agree perfectly with our series from British Guiana, Pará, and the Orinoco region.

17. *Sporophila castaneiventris* Cab.

Cfr. *suprà*, p. 7.

No. 786. ♂ ad., 9. vi. 06. “Iris brown, feet and bill black.”

Exactly like our specimens from Santarem.

18. *Myospiza aurifrons* (Spix).

Tanagra aurifrons Spix, *Ar. Bras.* ii. p. 38. tab. l. fig. 2 (1825.—“in provincia Bahia.”—error! We substitute *Rio Solimoëns* as typical locality).

Cat. rniculus peruanus auct. (nec Bonaparte!) [Cfr. Hellmayr, *Abhandl. Bayer. akad. Wissensch.* ii. Kl. Bd. xxii., iii. Abt. (1906), p. 673.]

No. 675. ♀ ad., 20. v. 06. “Iris greyish brown, bill greyish black.”

Similar to specimens from the Peruvian Amazons, while others from Cosnipata, South Peru, are rather larger.

19. *Ostinops decumanus* (Pall.)

Cfr. *Nov. Zool.* xiii. (1906) p. 19.

No. 704. ♀, 24. v. 06. "Iris light blue, feet black, bill whitish grey."

20. *Amblycercus solitarius solitarius* (Vieill.)

Cassicus solitarius Vieillot, *Nov. Dict.* v. p. 364 (1816.—ex Azara : Paraguay).

Cassicus nigerimus Spix, *Av. Bras.* i. p. 66 tab. lxiii. fig. 1 (1824.—"ad ripam fl. Amazonum").

Nos. 817, 821, 822. Two ♀♀ in moult, and one young bird, not sexed. 10, 14. vi. 06.—Bill 29—31 mm.

I cannot perceive any differences between the Teflé specimens and some others from Paraguay and Pernambuco.

In my revision of Spix's types (p. 612) I rejected the name *C. solitarius* as uncertain, because in Vieillot's description no mention is made of the whitish colour of the bill. I find now, however, that in young birds the bill is almost entirely blackish, the extreme tip alone being dull whitish. There is, therefore, no reason for not accepting Vieillot's term.

21. *Lamprosar tanagrinus tanagrinus* (Spix).

Icterus tanagrinus Spix, *Av. Bras.* i. p. 67. tab. lxiv. fig. 1 (1824.—"in locis sylvaticis Parvæ").

No. 859. ♀ ad., 18. vi. 06. "Iris brown, feet and bill black."—Wing 102 ; tail 94 ; bill 18 mm.

Compared with four specimens from Mundnapo, Upper Orinoco, and 1 ♂ ad. from Guanoco, Orinoco delta (*L. t. gualanensis* Cab.), this bird is much duller and less glossy everywhere. I alluded to this difference in my revision of Spix's types, p. 616 ; there is, however, a regrettable pen-slip, for it should read : "Sechs ♂♂ von Mundnapo . . . und zwei ♂♂, Guanoko . . . unterscheiden sich durch viel lebhafteren und mehr stahlblauen (not 'grünblauen') Glanz," etc.

22. *Todirostrum guttatum* Pelz.

Todirostrum guttatum Pelzeln, *Zur Orn. Brasil.* ii. p. 172 (1868.—Barcellos and Piores on the Rio Negro).

No. 784. ♀ ad., 9. vi. 06. "Iris brown, feet and bill black."—Wing 44 ; tail 29 ; bill 13 mm.

Differs from the types only by its slightly longer wings.

A very near ally is *T. pictum* Salv., of which the Tring Museum has lately received a series from near Paramaribo. It is easily distinguishable from *T. guttatum* by its duller green back, by having the throat, cheeks, and lower ear-coverts white (not bright yellow), and by lacking the yellow superciliary stripe.

23. *Todirostrum maculatum signatum* Sch. & Salv.

Idc. supra, p. 11.

No. 829. ♂ ad., 23. vi. 06. "Iris pale yellow, feet dark grey, bill black."

Agrees with specimens from Nanta, the top of the head being plumbeous with minute black centres to the feathers. As in one of the Peravian skins before me, there are a few white dots in the middle of the forehead.

24. *Todirostrum latirostre* (Pelz.)

Euscarthmus latirostre Pelzelu, *Zur Orn. Bras.* ii. p. 173 (1868.—Borba, Rio Madeira).

Nos. 746, 852. ♀♀ ad., Tefé, 2, 17. vi. 06. "Iris light greyish brown, feet greyish brown, bill black."

These specimens tally well with a detailed MS. description drawn from the type in the Vienna Museum.

T. latirostre is certainly most nearly allied to *T. f. fumifrons* (Hartl.), of Bahia, and *T. f. penardi* Hellm., of Surinam and Cayenne; from both of which it differs in having the upper wing-coverts edged with deep ochraceous (instead of pale sulphur yellow), and the abdomen white (not yellow). In the shape of the bill these three forms are very unlike the members of the genus *Euscarthmus*, to which they were referred by most authors, but agree very nearly with *Todirostrum poliocephalum* (Wied).

25. *Mionectes oleagineus oleagineus* (Lcht.)

Muscicapa oleaginea Lichtenstein, *Vez. Dubl.* p. 55 (1823.—Bahia).

No. 690. ♀ ad., 22. v. 06. "Iris greyish brown, feet grey, bill black, below more brownish."

26. *Tyrannulus elatus* (Lath.)

Sylvia elata Latham, *Iud. Orn.* ii. p. 549 (1790.—ex Daubenton, *Pl. enl.* 708, fig. 2.—Cayenne).

No. 826. ♀ ad., 15. vii. 06. "Iris white."

Agreeing perfectly with ♀♀ from Cayenne and Surinam. Cfr. my revision of Spix's types, p. 649, where I have pointed out that *T. reguloides* Ridgw. is based upon a ♀ of *T. elatus*.

27. *Orchilus ecaudatus* (Lafr. & D'Orb.)

Todirostrum ecaudatum Lafresnaye et D'Orbigny, *Syn. Ar.* i. in *Mag. Zool.* 1837. cl. ii. p. 47. (Yuracarès, East Bolivia).

No. 668. ♀ ad., 20. v. 06. "Iris white, feet pale brown, bill black."—Wing 33; tail 14; bill 10 mm.

28. *Elaenia albiceps parvirostris* Pelz.

[*Muscipeta albiceps* Lafresnaye et D'Orbigny, *Syn. Ar.* i. in *Mag. Zool.* 1837. cl. ii. p. 47 ("Rio de Janeiro, imp. Brasil., Yungas, rep. Boliviana et Tacna, rep. Peruviana."—*Yungas of Bolivia* * to be considered as typ. locality).]

Elaenia parvirostris Pelzeli, *Zur Ornith. Brasil.* ii. (1868) pp. 107, 178 (type ex Curytiba, Paraná, S.E. Brazil).

Nos. 767, 824. ♂ ad., adult (not sexed): 7, 14. vi. 06. "Iris brown, feet and bill black, under mandible paler."—Wing 66, 67; tail 59; bill 10½, 11 mm.

They agree perfectly with specimens from Merida, Bogotá coll. and Quiribana de Caicara, Orinoco. Both are adult birds with a concealed white crown patch.

Natterer obtained examples of this form near Borba, Rio Madeira, and at

* The original description refers undoubtedly to the white-bellied form (cfr. "pennis verticis parum elongatis basi albis" and "subtus sordide albescens, gutture pectoreque cinerascens"). There are only several specimens from Yungas and one from Tacna in the Paris Museum, and as the latter is a young bird the former ought to be considered as the types.

Barcellos on the Rio Negro. In the British Museum there are skins from Pebas (Haunxwell) and Chyavetas (Bartlett).

E. albicertex Pelz. is, of course, totally different from *E. a. parvirostris* Pelz.

29. *Ramphotrigon ruficauda* (Spix).

Platyrhynchus ruficauda Spix, *Ar. Bras.* ii. p. 9 tab. xi. fig. 1 (1825.—“in sylvis fl. Amazonum”).

No. 888. ♀ ad., Telfé, 23. vi. 06. “Iris greyish brown, feet blackish brown, bill black.”

This bird is topotypical. A series from the Caura valley does not differ in any way.

30. * *Rhynchoicyclus poliocephalus poliocephalus* Tacz.

Rhynchoicyclus poliocephalus Taczanowski, *Orn. Péron* ii. p. 285 (1884.—Nauta, N.E. Peru—type in Museum Berlepsch examined). [Cfr. Hellmayr, *Verhandl. Zool. Bot. Ges. Wien*, 1903, p. 207.]

No. 800. ♀ ad., H. vi. 06. “Iris whitish yellow, feet blue grey, bill black, below pale grey.”—Wing 55; tail 45; bill 12 mm.

Agrees perfectly with two specimens from Eastern Peru, the underparts being of a rather bright yellow, and the throat mainly yellowish. The back is a little brighter green, and the grey cap more mixed with green than in *R. p. sclateri*.

This form is new to the Brazilian fauna.

31. *Myiodynastes solitarius* (Vieill.)

Tyrannus solitarius Vieillot, *Nouv. Dict.* xxxv. p. 88 (1819.—ex Azara no. 196.—Paraguay).

No. 833. ♂ in moult, 15. vii. 06. “Iris brown, feet greyish black, bill black.” Identical with examples from South Brazil and Paragnay.

32. *Myiobius erythrorus fulvicularis* Salv. & Godm.

[*Myiobius erythrorus* Cabanis, *Arch. Naturg.* 13. i. p. 249, pl. 5, fig. 1 (1847.—“Guiana, Cayenne”)]
Myiobius fulvicularis Salvin & Godman, *Biol. Centr. Amer.* ii. p. 58 (1889.—Santa Fé, Veragua).

No. 750. ♂ fere ad., 3. vi. 06. “Iris brown, feet brown, bill blackish brown.”

This bird agrees best with a ♂ from Samiria, N.E. Peru. Both differ slightly from a series of Costa Rica and Chiriqui by having the pileum and back of a rather lighter olivaceous grey, and the lower parts a shade paler ochraceous. The forehead is washed with buff, though less strongly than in true *M. e. fulvicularis* of Central America. A Bogotá skin and an adult bird from S. Mateo, North Bolivia, are perfectly identical with those from the Amazons.

Specimens from British Guiana, when compared with others from Costa Rica, etc., look at first rather different, the forehead being pure olive grey like the crown, the throat more whitish, and the rest of the under-surface considerably paler ochraceous. A series of skins from the Caura Valley, however, presents a large amount of individual variation in the intensity of the lower parts, some being quite as pale as those from British Guiana, while others are even darker than *M. e. fulvicularis* of Central America. The same applies to the colour of the throat. None of the Caura specimens, however, shows any buff tinge on the forehead.

The specimen from Pará (cfr. *Nor. Zool.* xiii. p. 362) has the forehead slightly tinged with buff like those from the Amazons, but differs from all examples of *M. e. erythrorus* and *M. e. fulvicularis* by having the whole back strongly suffused with cinnamon. Perhaps it represents a distinct form.

33. *Empidonax lawrencei* Allen.

Empidonax lawrencei Allen, *Bull. Amer. Mus.* ii. p. 159 (1889.—hab. ign., but cfr. *Nor. Zool.* xiii. p. 25).

No. 861. ♂ ad., 19. vi. 06. "Iris brown, bill black, below yellowish white."—Wing 65; tail 58; bill 13½ mm.

No. 793. ♀ ad., 10. vi. 06. "Iris brown, bill black, below greyish yellow."—Wing 57½; tail 52½; bill 13½ mm.

In coloration, these specimens agree perfectly with our series from Trinidad and Venezuela, except that the throat is more whitish in No. 861. Both skins have the foreneck and chest strongly washed with dull olive green, the middle of the abdomen being bright sulphur yellow. The female is much smaller than the male.

34. *Pipra rubrocapilla* Temm.

Pipra rubrocapilla Temminck, *Rec. Pl. col.* tab. 54, fig. 3 (1821.—"Brésil," as typical locality fixed; Bahia).

Nos. 716, 720. ♂♂ ad., 30. vi. 06. "Iris white, bill reddish or greyish white."

Nos. 698, 809, 872. ♀♀, 23. v., 12, 20. vi. 06. "Iris yellowish white or brownish grey."

After examining much additional material, I do not think it possible to separate the Pará form, discussed in *Ibis*, 1906, p. 13, and *Nor. Zool.* xiii. (1906) p. 362.

As a rule, the Pará birds have the forehead and crown of a lighter, more orange-red tint, but I have lately seen some specimens from Bahia with the head quite as pale. The ♂♂ from Teffé agree better with those from Pará. *P. rubrocapilla* seems to replace *P. erythrocephala* on the south bank of the Amazon. Near Tonantius, on the north side of the River Solimões, G. Garlepp obtained the latter species.

35. *Pipra leucocilla leucocilla* (Linn.)

Pipra leucocilla Linnæus, *Mus. Ad. Frid.* ii. *Prodr.*, p. 33 (1764.—hab. ign.—as typical locality accepted: Surinam).

Nos. 819, 756. ♂ ad., ♂ juv. (in plumage of ♀), 5, 13. vi. 06. "Iris yellowish red."

Agreeing in size with specimens from the Caura River. Cfr. *Ibis*, 1906, p. 22 ff.

36. *Pipra hoffmannsi* n. sp.

Nos. 740, 741, 769, 896. ♂♂ ad., 1, 2, 7, 24. vi. 06. "Iris brownish red or red, feet brown, bill black, below grey."—Wing 58½—60½; tail 28½—30; bill 8—9 mm.

Nos. 667, 830. ♀♀ ad., 20. v., 15. vi. 06. "Iris red or brown, feet black, bill black, below grey."—Wing 55, 59; tail 29; bill 9 mm.

Nos. 729, 739, 831. ♂♂ juv. (in plumage of ♀), 1, 31. v., 15. vi. 06. "Iri

brown or reddish brown, feet brown, bill black, below greyish."—Wing 56—59 ; tail 28—30 ; bill $8\frac{1}{2}$ —9 mm.

♂ ad. Feathers of the forehead and crown blackish at the base, slightly lamelliform and bright blue on the apical portion, forming a well-defined cap. The colour is between "small blue" and "ultramarine blue" of Ridgway's *Nomencl.* pl. ix. figs. 8 and 9, the posterior border of the cap being rather duller blue than the rest. Lores, sides of the head, occiput and back deep velvety black. Lesser and median upper wing-coverts velvety black, the latter with very narrow, greenish apical margins ; greater series dull black with well-defined, though narrow, dark green edges along the outer web. Quills dull blackish, outwardly margined with dark green, these edges passing into dark smoky grey on the outer primaries. Rump washed with dark, dull verditer blue (Ridg., *Nomencl.* pl. ix. fig. 22). Upper tail-coverts dusky, margined with dull verditer blue on the tips. Rectrices dull black, exteriorly edged with green, especially on their basal half. Throat deep velvety black like the back ; sides of the chest dull black, slightly mixed with dark greenish ; on the sides of the breast and abdomen this colour gradually passes into a dull blackish green. Middle of the breast and belly, as well as the lower tail-coverts, dirty yellowish. Axillaries and under wing-coverts fuliginous, somewhat shaded with greenish or yellowish ; feet dark brown ; bill black, lower mandible pale greyish.

♀ ad. Resembles the ♀ of *P. coronata* Spix, but has a larger bill, and differs also by having the middle of breast and abdomen as well as the under tail-coverts pure pale yellow, this colour being in strong contrast with the dark green flanks. The throat seems to be rather more yellowish, less greyish.

Type in Tring Museum : ♂ ad., Tefé, 7. vi. 06. W. Hoffmanns' coll., No. 769.

The four ♂♂ present very little variation, the general colour being a deep velvety black, and the cap being of the same shade of blue in all specimens. In two examples the verditer blue of the rump is somewhat suffused with greenish. They differ from the ♂♂ of *P. coronata*, of which a very large series from Upper Amazonia (including Spix' types), Eastern Ecuador and the upper Rio Negro (Marabitanas, etc.) has been examined, in the following points : The blue cap is much shorter, not being continued over the occiput and nape, and of a much darker shade ; the back, sides of the head, and throat are deep velvety black (almost as in *P. coronata celutina* Berl.) instead of dull brownish black ; the rump is washed with dull verditer blue (not with violet) ; the greater upper wing-coverts, the quills and rectrices are distinctly edged with green ; the middle of the breast and abdomen dull olive yellow, the sides dark green (instead of all the under-surface being dull brownish black with a faint lilac gloss on the belly). The bill, too, is decidedly larger and stronger. *P. hoffmannsi* could at first be mistaken for an immature stage of *P. coronata*, but the large bill, the deep velvety black colour of the plumage, and the perfect similarity of the four males from Tefé, render any such supposition impossible. In addition to these differences, the ♀♀ are also more yellow below, and have a stronger beak than those of *P. coronata*, of which I have seen many from the Rio Negro and the Peruvian Amazons.

I have named this interesting new form after Mr. W. Hoffmanns, to whom the Tring Museum is indebted for so many valuable specimens from various parts of tropical America.

37. *Hadrostomus minor* (Less.)

Querula minor Lesson, *Traité d'Orn.* p. 363 (1831.—Cayenne—♂ juv.).

Nos. 828, 839. ♂ ♀ ad., 15. vii., 16. vi. 06. "Iris brown, bill and feet black."

Differ from Ecuadorian and Bogotá skins only by their rather longer wings. The ♂ is a little purer grey on the abdomen, the ♀ decidedly paler ochraceous on the lower parts, but these are not likely to be constant characters.

38. *Lipangus simplex* (Leht.)

Muscicapa simplex Lichtenstein, *Verz. Dobl.*, p. 53 (1823.—Bahia).

No. 846. ♀ ad., 17. vi. 06. "Iris yellowish brown, feet and bill black."

Agreeing with skins from British Guiana, the Orinoco region and Bogotá collections.

Typical birds from Bahia are somewhat different. (Cfr. *Nov. Zool.* xii. (1905) p. 295.

39. *Cotinga maynana* (Linu.)

Ampelis maynana Linnaeus, *Syst. Nat.* xii. 1, p. 298 (1766.—ex Brisson: "in Maynauensi regione").

No. 734. ♂ ad., 2. vi. 06. "Iris yellow, feet black, bill blackish grey."

This specimen agrees perfectly with two others from Samiria, N.E. Peru, collected by J. Hauxwell.

40. *Attila spadiceus spadiceus* (Gm.)

Muscicapa spadicea Gmelin, *Syst. Nat.* 1. ii. p. 337 (1788.—ex "Yellow-rumped Flycatcher," Latham, *Gen. Syn. Birds* 2. i. p. 354.—Cayenne).

No. 757. ♀ ? imm., 5. vi. 06. "Iris brown, feet bluish grey, bill black."—Wing 80; tail 60; bill 20 mm.

This specimen agrees perfectly with the type of the species, kindly lent by the authorities of the Vienna Museum, and with two other skins from Cayenne (one in Vienna, the other in the British Museum). The throat and foreneck are nearly uniform dull russet, with a slight tinge of ferruginous, the sides and top of the head decidedly darker, deep ferruginous brown; the middle of the abdomen is dirty buff, the tail deep tawny (a little deeper than Ridgw., *Nomencl.* v. fig 1). Axillaries and under wing-coverts are dull ochraceous, the upper wing-coverts have broad, tawny ochraceous (Ridgw. v. 4) apical margins; the back is deep russet brown, rather browner than the head, the rump ochre yellow, tinged with ochraceous anteriorly and on the tips of the upper tail-coverts.

The ♀ from Barra do Rio Negro, collected by Natterer, is rather darker on the head and neck, and has the tail of a dull mars brown (Ridgw. iii. 13) with scarcely any rufescent tinge. I have, however, very little doubt that it belongs to the same species as the examples from Cayenne and Teffé.

On the other hand, the birds from Bahia (three in the British Museum) seem to constitute a different form. They are larger, and the throat and chest show broad dark ferruginous flammulations on a yellowish buff ground. More material of this difficult species will probably enable us to distinguish several geographical races.

Another very nearly allied and **perhaps** barely separable form is *Attila rufipularis* Pelz.,* the type of which is before me. In size and general coloration it agrees with the specimens from Cayenne and Teffé, discussed above, but the throat and sides of the head are of a much clearer and brighter ferruginous (without any brownish admixture), the axillaries and under wing-coverts lighter ochraceous, and the middle of the abdomen is more extensively white. The type being a young bird, I cannot say how much of these differences is due to immaturity.

The ♀ from Teffé has the entire bill black, while in all the other specimens (including the type of *A. rufipularis*) the base of the lower mandible is whitish or pale brownish.

41. *Synallaxis albescens albigularis* ScL.

[*Synallaxis albescens* Temminck, *Rec. Pl. col.* livr. 38. tab. 227, fig. 2 (1823.—S. Brazil).]
Synallaxis albigularis Selater, *P. Z. S. Lond.* 1858, p. 63 (Rio Napo, East Ecuador).

No. 855. ♀ ad., 18. vi. 06. "Iris brown, feet greenish grey, bill black."

This bird agrees well with a large series from various localities in northern South America, but has a rather long bill. For characters of *S. a. albigularis*, see *Nor. Zool.* xiii. (1906) p. 28.

42. *Synallaxis gujanensis gujanensis* (Gm.).

Motacilla gujanensis Gmelin, *Syst. Nat.* 1. ii. p. 988 (1788.—ex Daubenton, *Pl. enl.* tab. 686, fig. 2: "Le Rouge-queue, de Cayenne").

Nos. 874, 680. ♂ ad., ♀ juv., 21. vi., 21. v. 06. "Iris yellowish brown (♂ ad.), greyish brown (♀ juv.), bill greyish black."

Lower parts pale buffy brownish as in specimens from Cayenne, Pará and Santarem, and much less brightly coloured than in *S. g. inornata* Pelz. from the Rio Madeira.

43. *Synallaxis mustelina* ScL.

Synallaxis mustelina (Natterer MS.) Selater, *P. Z. S. London* 1874, p. 14 (Rio Madeira—type in Vienna Museum, No. 20167).

Synallaxis frenata Sneathlge, *Journ. f. Ornith.* 1906. p. 523 (Santarem).

No. 661. ♀ ad., 19. v. 06. "Iris brown, feet bluish grey, bill black."—Wing 58; tail incomplete; bill $17\frac{1}{2}$ mm.

This specimen agrees perfectly with the type (from the Rio Madeira) and with several examples, collected by Bartlett on the Ucayali, Eastern Peru. All these birds have a very distinct blackish loreal stripe. This feature not being mentioned in the published descriptions, Miss Sneathlge was misled to rename the species as *S. frenata*.

44. *Synallaxis rutilans amazonica* Hellm.

Cfr. *suprà*, p. 14.

Nos. 879, 905. ♂♂ ad., 21, 25. vi. 06. "Iris brown."

Agreeing well with our series from Santarem and Eastern Peru. The top of the head and the mantle are bright chestnut rufous, the occiput being but

* *Orn. Brasil.* ii. pp. 96, 170 (1868.—Salto do Girao, R. Madeira).

slightly mixed with brownish; the rump olive-brown, the upper tail-coverts fuliginous. Both are adult birds with a large blackish throat patch.

S. r. amazonica is apparently widely distributed all along the south bank of the Amazons.

45. *Automolus infuscatus infuscatus* (Scl.)

Anabates infuscatus Sclater, *Ann. Mag. Nat. Hist.* (2) xvii. p. 468 (1856.—“in Peruvia orientali”).
Anabates sclateri Pelzeln, *Sitzungsber. Akad. Wien* xxxiv. p. 111 (1859—nom. emend. pro
A. infuscatus: cfr. Berl. & Hellm. *Journ. f. Ornith.* 1905, p. 30).

Nos. 695, 902. ♂♂ ad., 22. v., 25. vi. 06. “Iris brownish grey, feet greenish, bill greyish black, below greenish grey.”—Wing 94, 95; tail 80, 85; bill 22, 23 mm.

These birds agree with typical Peruvian skins in having the pileum olive-brown like the back, only the forehead being slightly tinged with rufescent. According to our present knowledge, there are three geographical races of this species to be recognised, the characters and ranges of which are as follows:

a. *Automolus infuscatus infuscatus* (Scl.)

Ad. Top of the head pure clear olive-brown like the back, only the forehead slightly tinged with rufescent.

Hab. North Peru: Xeberos, Chyavetas (Bartlett), Yurimagnas (Stolzmann), Shanusi, near Yurimagnas (G. Garlepp). S.E. Peru: Cosnipata (Whitely). N.W. Brazil: Tefé (Hoffmanns).

b. *Automolus infuscatus cervicalis* (Scl.)

For synonymy see *Nor. Zool.* xiii. (1906) p. 335.

Ad. Top of the head distinctly washed with rufescent, hence somewhat contrasting with the olive-brown colour of the back.

Hab. Cayenne (four skins in the Tring Museum); British Guiana: Bartica Grove, Camacusa (Whitely); Surinam (C. Bartlett); Venezuela: Nericagna on the Orinoco; La Pricion, La Union and Nicare on the Caura River (Cherrie and André coll.). North Brazil: Marabitanas, upper Rio Negro (Natterer).*

N.B. I have lately examined four skins from the latter locality, and found them identical with our series from Venezuela and Guiana. On the other hand, I have not yet seen any from Ecuador, and therefore cannot say whether they belong to *A. i. infuscatus* or to the present form.

Young birds are nearly uniform rufescent brown on the upper parts, the middle of the belly is paler than in the adults, and the feathers on the foreneck show slight dusky edges.

c. *Automolus infuscatus paraensis* Hart.

Ad. Differs from both the foregoing forms by having the top of the head dark greyish brown (with only a faint olive hue), and the back of a duller brown.

Hab. Lower Amazonia: Benevides (Steere), S. Antonio do Prata [= Igarapé-Assú] (Robert, Hoffmanns, etc.), Pará (Natterer, Sneathlage †), Rio Capim (Sneathlage †), all localities in the Pará district; Borba, lower Rio Madeira (Natterer).

For synonymy see *Nor. Zool.* xiii. (1905) p. 279.

* *Automolus sclateri* Pelzeln, *Zur Ornith. Brasil.* i. 1867, p. 41, part.

† *Automolus sclateri* Sneathlage, *Journ. f. Ornith.* 1906, p. 524.

46. *Ancistrops strigilatus* (Spix).

Thamnophilus strigilatus Spix. *Ar. Bras.* ii. p. 26. tab. xxxvi. fig. 1 (1825.—no locality).

Nos. 892, 694. ♀ ad., ♂ ad., 23. vi., 22. v. 06. "Iris brownish grey, bill and feet grey."

These birds are to be considered topotypical. Although Spix gives no locality, his specimen was certainly obtained on the Brazilian Amazons. An example from the Napo, East Ecuador, differs from the Tefé birds by being rather more blackish on the head and mantle, and by the olive greyish stripes on the sides of the belly being more distinct.

In this species, the ♂♂ are always much larger than the ♀♀, as will be seen from the following measurements :

♂ ad., Tefé: wing 101; tail 80; bill 22 mm.—♀, Tefé: wing 91; tail 70; bill 22 mm.

♂ ad., Rio Juruá (Mus. Paulista): wing 100; tail 81; bill 22 mm.

♀ ad., Rio Juruá (Mus. Paulista): wing 87; tail 77; bill 22 mm.

47. *Xenops genibarbis genibarbis* Ill.

Xenops genibarbis Illiger, *Prodr. Syst. Mamm. et Av.* p. 213 (1811.—Cameté, Lower Amazons).

Xenops ruficaudus Vieillot, *Analyse Ornith. Gén.* p. 68 (1816.—"la Guiane," sc. Cayenne).

Xenops approximans Pelzeln, *Sitz. Ber. Akad. Wien. mathem. Naturwiss.* Cl. xxxiv. pp. 113, 133 (1859.—Rio Madeira, Rio Negro, etc.).

No. 903. ♂ ad., 25. vi. 06. "Iris brown."—Wing 67; tail 48; bill 15 mm.

The determination of this specimen involved a complete revision of the geographical forms of *X. genibarbis*. In addition to the large series in the Tring Museum, I had the advantage of studying Natterer's specimens kindly lent by Dr. Lorenz, of Vienna, and I examined also several examples in the British Museum. Pelzeln had already recognised that the Amazonian form was quite distinct from the one inhabiting South-east Brazil; but unfortunately he considered the latter to represent true *X. genibarbis* and separated the former as *X. approximans*. Specimens from Pará and Santarem, Lower Amazonia, however, prove to be inseparable from those of Cayenne (*X. ruficaudus*) and Amazonia (*X. approximans*). Both these names are, therefore, pure synonyms of *X. genibarbis*, while the small, short-billed race of S.E. Brazil requires to be rebaptized. The geographical forms of the group have to stand as follows :

a. *X. genibarbis genibarbis* Ill.

Hab. Cayenne; Brit. Guiana; Venezuela on the Orinoco and Caura Rivers; Colombia (Bogotá collections; Antioquia); Eastern Ecuador; and the whole of the Amazonian basin from Pará to the eastern slopes of the Andes in Peru.

Characters. Bill strong and stout; ground-colour of the underparts earthy brown, sometimes, especially in young birds, with a slight rufescent tinge; throat dirty white, the feathers edged or freckled with dusky; foreneck distinctly mottled or spotted with whitish. Crown, as a rule, striated with buff or whitish.

Obs. Two topotypical birds from the Lower Amazons (Pará and Santarem) have the crown warm rufescent brown with scarcely any light striations, which are always more or less pronounced in the majority of my specimens from other localities. Quite similar examples, however, are before me from Bogotá, and Guayabamba in North Peru, while others from the same places have the pileum

distinctly striated. I have examined four of the specimens upon which von Pelzeln based his *X. approximans*; two of them (♂ ad., Rio Içanna; ♂ ad., Rio Negro) differ in no way from ordinary *genibarbis*, whereas the two others (♀, Rio Negro; ♂, Borba) are rather duller and more rufescent on the lower parts. Both are young and agree in the tone of the under-surface with an immature bird from the Canra River. I am unable to see any constant differences between specimens from Cayenne, Orinoco, and Amazonia. The length of the wing varies from 63 to 67 mm. in the males, from 60 to 64 mm. in the females; the bill measures 14 to 15½ mm.*

b. X. genibarbis littoralis ScL.

Xenops littoralis Selater, *P.Z.S.* 1861. p. 379 (Esmeraldas, Western Ecuador).

Hab. Western Ecuador.

This form differs from *X. g. genibarbis* chiefly by having the lower parts tinged with greenish olive; the throat is more yellowish, the pileum always uniform brown, the back of a purer, less rufescent brown, and the whitish spots on the foreneck much less numerous. Wing 60—64; tail 46—49; bill 14—15 mm.

Material: 12 specimens (of both sexes) from Western Ecuador.

c. X. genibarbis mexicanus ScL.

Xenops mexicanus Selater, *P.Z.S.* 1856. p. 289 (Cordova, Eastern Mexico).

Hab. Central America from Eastern Mexico (Vera Cruz) down to Panama.

Differs from *X. g. littoralis*, with which it shares the coloration of the foreneck and crown by its much brighter, warm rufescent-brown underparts and back. Bill large and stout, as in *X. g. genibarbis* and *X. g. littoralis*. Wing 61—67; tail 48—52; bill 14—15 mm.

Material: 20 specimens from Eastern Mexico, Guatemala, Costa Rica, Chiriqui, Veragua, and Panama.

d. X. genibarbis pelzelni n. subsp.

X. genibarbis (nec Illiger) Pelzeln, *Zur Orn. Brasil.* i. (1867) p. 41 (Rio de Janeiro, S. Paulo).

Hab. South-eastern Brazil: from Bahia to S. Paulo.

Type in Vienna Museum: No. 19,321. ♂ ad., Ypanema, S. Paulo, August 1821. Collected by J. von Natterer.

Differs from the three foregoing races by its smaller bill, which is not only considerably shorter, but also very much narrower and weaker. The wings are much shorter. The throat is uniform buffy white without any dusky edges to the feathers, the light spotting on the foreneck is altogether absent or scarcely indicated by a few pale brownish shaft-lines; the ground-colour of the underparts decidedly brighter, about "wood-brown" (Ridgw. *Nomencl.* iii. fig. 19); the light cross-band on the under-surface of the wing buff (instead of ochraceous buff); the top of the head always uniform rufescent-brown without pale shaft-stripes. Wing 55—58; tail 47—49; bill 12—12½ mm.

Examined: 1 ♂, 1 ♀ ad., Registre do Sai (prov. Rio); 1 ♂ jr., Rio de Janeiro; 1 ♂ ad., Ypanema—Mus. Vindob.; 3 ad., Rio de Janeiro (Mus. Brit. and Tring.); 2 ad., Bahia (Brit. Mus.).

* Examined: 1 ♂ ad., Prata, Pará; 1 ♀ jr., Itaituba, Santarem; 1 ♂ ad., Tefé; 1 ♂ ad., 1 ♀ jr., Rio Negro; 1 ♂ ad., R. Içanna; 1 ♂ jr., Borba: types of *X. approximans* Pelz.; 2 ♂♂, 1 ♀, Cayenne; 2 ♂♂, 1 ♀, Camacusa, Brit. Guiana; 1 ♂♂, 4 ♀♀, Caura, Venezuela. 2 ♂♂, 2 ♀♀, Upper Orinoco; 4 Bogotá skins; 1 ad., East Ecuador; 2 ♀♀, Guayabamba, North Peru.

4. *Sclerurus caudacutus brunneus* Sel.

[*Thamnophilus caudacutus* Vieillot, *Nouv. Dict.* iii. p. 310 (1816.—“se trouve à la Guyane,” sc. Cayenne).]

Sclerurus brunneus Sclater, *P.Z.S. London* 1857. p. 17 (Bogotá coll.).

No. 719. Immature bird (not sexed), 30. v. 06. “Iris dark brown, feet brown, bill black.”

This bird is absolutely identical with a pair from Marabitanas, Rio Negro,* collected by Natterer. Specimens from Bogotá (including the type of *S. brunneus*) and Northern Peru (Yurimaguas and Chyavetas, E. Bartlett coll.) differ from the three Brazilian skins only by being very slightly darker brown on the back and abdomen. The type of *S. brunneus*, which is quite a young bird in fluffy plumage, belongs without doubt to the same form as those from Upper Amazonia, since an adult from the Rio Meta, east of Bogotá (Wheeler coll., Mus. Brit.), agrees in every particular with the latter.

I was always very much interested in the species of this puzzling genus, and having had the opportunity of studying a good number of specimens and of examining several types, I think it useful to give a short *résumé* of the results arrived at with regard to the forms of the *S. caudacutus*-group. In the *Proc. U.S. Nat. Mus.* xii. 1889 (publ. 1890) pp. 21—31, Mr. R. Ridgway published a review of the genus *Sclerurus*, which was of great assistance to me. I have, however, to differ from his conclusions in several points, especially in nomenclature.

According to the material examined, the following geographical forms of *S. caudacutus* should be recognised:

a. *Sclerurus caudacutus caudacutus* (Vieill.)

Hab. Cayenne; British Guiana.

Typical locality: Cayenne.

I have but a few words to add to Ridgway's description (*l.c.* p. 27). In the single Cayenne specimen before me the chin and upper throat are white without dusky edges; the feathers of the lower throat pale tawny, margined with dark brown at the tips. In seven skins from British Guiana (Rio Carimang, Takutu R., Merumé Mts., R. Atapuro, Quonja and Camacsa) the whole throat is pale tawny with scarcely any trace of brown edges. A series from Cayenne is required to confirm the constancy of this difference or otherwise.

In other respects the specimens are very uniform *inter se*. The upper parts are vandyke or rufescent brown, passing into dull rufous brown on the upper tail-coverts only; sides of head and neck, as well as chest, dull russet brown. Wing 90—97; tail 64—71; bill 22—24 mm.

b. *Sclerurus caudacutus umbretta* (Leht.)

Myiothera umbretta Lichtenstein, *Verz. Dobl. Berliner Mus.* p. 43 (1823.—Bahia).

Sclerurus linnæi Ridgway, *Proc. U.S. Nat. Mus.* xii. 1889. p. 29 (1890.—Bahia).

? *Tinctor fuscus* Wied, *Beitr. Naturg. Brasil.* 3. ii. p. 1106 (1831.—part.: descr. ♂ only; hab. part.: ? Belmonte, Bahia).

Hab. Eastern Brazil from Bahia to Pará, † west to Borba, ‡ on the lower Rio Madeira.

Typical locality: Bahia.

* *Sclerurus caudacutus* var., Pelzeln, *Zur Ornith. Bras.* ii. (1868) p. 86 (Marabitanas).

† *Sclerurus caudacutus* (nec Vieillot) Hellmayr, *Nor. Zool.* xii. 1905. p. 279 (Igarapé-Assú, Pará), Sclater & Salvin, *P.Z.S.* 1867. p. 573 (Capim River.—specimen examined).

‡ *Sclerurus caudacutus* Pelzeln, *Zur Ornith. Brasil.* ii. (1868) p. 86 (part.: Borba).

Adult. Very similar to *S. c. caudacutus*, but differs by the throat being pure white, each feather with a narrow, brown apical margin; by having the chest decidedly less rufescent, dull tawny brown (much like the colour of the sides of the head and neck); the breast and abdomen bistre brown (not rufescent as in *S. c. caudacutus*), and the back likewise much less tinged with reddish.

Of this form I have before me the type of *M. umbretta*, kindly lent by Dr. Reichenow; the typical specimen of *S. laurencei* (an undoubted Bahia skin), which Dr. Allen most obligingly sent for examination; a Bahia skin in the British Museum; one ♀ ad. from Igarapé-Assú, Pará; and an immature ♂ from Borba, belonging to the Vienna Museum.

Although the original specimen of Lichtenstein is a young bird in fluffy plumage, I have not the slightest doubt **that it is specifically identical with the type of *S. laurencei* Ridgw.** It differs from the latter by its somewhat darker back, smaller size, and by having only the chin white, while on the throat this colour is almost entirely hidden by the brown apical portions of the feathers.* This specimen corresponds exactly with Ridgway's description of the ♂ of *Tinactor fuscus* Wied, and I feel almost sure that the latter is also a young bird of *S. c. umbretta*. Ridgway's assumption that it was obtained "in the forests of the river Itabapuna, between the parallels of 21° and 22° south latitude, apparently a tributary of the Paragnay" (*l.c.* p. 29), is a very unhappy one, for Wied never travelled in this part of Brazil.

It is, moreover, quite evident from the account in Wied's *Reise nach Brasilien* i. (ed. in 4^o) p. 160, that the river Itabapuna referred to is the river of that name forming the boundary between the provinces of Rio de Janeiro and Espírito Santo, in Eastern Brazil; and it seems much more probable that the so-called ♀ of *Tinactor fuscus* (= *Scelerurus scensor* Ménière.) was obtained in this locality, inasmuch as Ménières met with the red-breasted form (*scensor*) in the province of Rio de Janeiro; while the ♂ might have been secured on the River Belmonte, in Southern Bahia, the second locality mentioned by Wied.

The ♀ from Pará and the Bahia specimen in the British Museum agree in all essential points with Ridgway's type, except that the foreneck is rather more distinctly washed with tawny, and the belly of a more reddish hue. The young ♂ from Borba is even more rufescent on the lower parts, and thereby forms the transition to *S. c. caudacutus*.

In *S. c. umbretta* the upper parts are warm bistre-brown, passing into burnt-umber (Ridgw., *Nomencl.* iii. fig. 8) on lower rump and upper tail-coverts. Forehead, sides of the head, and neck are cinnamon (Ridgw. iii. fig. 20), the chest of the same colour or a shade brighter.

MEASUREMENTS.

	Wing.	Tail.	Bill.
1. Mus. Berlin. Av. juv., Bahia. Type of <i>M. umbretta</i> Leht.	90	69	21½ mm.
2. Amer. Mus. New York. No. 43,126. Adult, Bahia. Type of <i>S. laurencei</i> Ridgw.	100	73	23 "
3. Mus. Brit. Adult, Bahia.	96	67	23 "
4. Mus. Tring. ♀ ad., Igarapé-Assú, Pará. Robert coll.	92	66	22½ "
5. Mus. Viudob. No. 20,232. ♂ juv., Borba, S. i. 830. Natterer coll.	89	70	22½ "

* The same difference between adult and young birds is to be found in *S. c. brunneus*,⁴

c. Sclerurus caudacutus brunneus Sci.

Hab. East Colombia: Bogotá coll.; Rio Meta, between Villavicencio and Medina (Wheeler). East Ecuador: Sarayaon (Buckley); Santiago (Festa). North Peru: Yurimaguas, Chyavetas (Bartlett), Iquitos (Whitely). N.W. Brazil: Marabitanas (Natterer), Teflé (Hoffmanns), Rio Jurú (Garbe).

Typical locality: Bogotá collections.

Adult. Differs from both the foregoing races by having the forehead and sides of the head raw umber (Ridgw. iii. fig. 14) like the upper surface, without any rufescent tinge, and by lacking the cinnamon on the foreneck, which is scarcely shaded with fawny.

The type of *S. brunneus*, a young bird, of the well-known Bogotá make, has only the chin white, while the throat feathers show broad brown tips, almost concealing the white bases. In adult birds the whole throat is white, each feather with a narrow brown apical margin, just as in *S. c. umbretta*.

MEASUREMENTS.

		Wing.	Tail.	Bill.
1. Mus. Brit.	Av. juv., Bogotá. Type of <i>S. brunneus</i>	86	60	21½ mm.
2. Mus. Brit.	Ad., Rio Meta, East Colombia (Wheeler)	93	69	22 „
3. Mus. Brit.	Ad., Yurimaguas, N. Peru (Bartlett)	94	70	22 „
4. Mus. Brit.	Ad., Chyavetas, N. Peru (Bartlett)	89	—	21¾ „
5. Mus. Tring.	Av. imm., Teflé, Brazil (Hoffmanns)	92	68	23 „
6. Mus. Vindob.	♂, Marabitanas, Rio Negro (Natterer)	92	63	22¾ „
7. Mus. Vindob.	♀, Marabitanas, 26. iv. 831 (Natterer)	87	60	21 „

d. Sclerurus caudacutus scansor (Ménétri.)

Oxyzyga scansor Ménétriès, *Mém. Ac. Sci. St. Pétersbg.* (6) i. p. 520. tab. 11 (1835.—“dans la province de Rio de Janeiro, surtout dans les vieilles capouaires près de Sumidorio . . .”)

? *Tinctor fusens* Wied, *Beitr. Naturg. Brasil.* (3) ii. p. 1106 (1831.—part.: ♀.—hab. part.: ? “in den Urwäldern am Flusse Itabapuna”)

Sclerurus umbretta (nec Lichtenstein) Ridgway, *Proc. U.S. Nat. Mus.* xii. 1889. (1890) p. 22; Selater, *Cat. Birds Brit. Mus.* xv. p. 114.

Hab. S.E. Brazil, from Rio de Janeiro to Rio grande do Sul and west to Chapada, Mattogrosso; also in the Argentine province of Misiones.

The occurrence in Peru requires confirmation. It must also remain doubtful whether the birds from Minas Geraës, mentioned by Ménétriès (*l.c.*) and Reinhardt,* belong to the present form or to *S. c. umbretta* of Bahia.

Typical locality: Rio de Janeiro.

Adult. This form is very different from the three preceding ones, being easily recognisable by the bright ferruginous foreneck and bright chestnut rump and upper tail-coverts. The sides of the head are dark brown, the feathers of the throat white with broad dark olive-grey or blackish olive apical margins. The forehead is mummy-brown like the pileum and back, without any trace of rufescent.

The Tring Museum possesses a good series of this form from S. Paulo and Paraná, which I compared with one of Ménétriès' original examples in the Paris Museum, collected by himself in the vicinity of Rio de Janeiro.

* *Vidensk. Meddel. Kjøbenhavn* 1870. p. 386: *S. caudacutus* (Lagoa Santa).

49. *Sittasomus amazonus* Lafr.

Cfr. *suprà*, p. 31.

No. 686. ♂ ad., 22. v. 06. "Iris brown, feet black, bill bluish black."—Wing 83; tail 77; bill 18 mm.

Agrees with the Obidos specimen except in having the lower parts rather paler and more greenish. It is a well-known fact that in this genus the ♂♂ are always considerably larger than the ♀♀.

50. *Glyphorhynchus cuneatus castelnaudii* Des Murs.

Glyphorhynchus castelnaudii Des Murs in *Castelnaud's Voyage, Oiseau*, p. 47. tab. xv. fig. 2 (1856.*—Santa Maria, Peru).

No. 808. ♀ jr., 11. vi. 06. "Iris brown, bill and feet black."

51. *Dendroornis guttata guttatoides* (Lafr.)

Nasica guttatoides Lafresnaye, *Rev. et Mag. Zool.* 1850, p. 387 (Lorette, N.E. Peru,—cfr. Ménég. & Hellm. *Mém. Soc. Hist. nat. Antur* xix. (1906) p. 99).

Dendroornis rostripallens Sclater, *Cat. Amer. Birds.* 1862, p. 164 (Ega).

No. 728. ♂ ad., 3. v. 06. "Iris brown, feet bluish grey, bill grey."—Wing 116; tail 98; bill 38 mm.

No. 840. (♂) ad. (erroneously marked "♀"), 16. vii. 06. "Iris brown, feet bluish grey, bill yellowish grey."—Wing 116; tail 103; bill 40 mm.

Like our series from Bogotá, East Ecuador and Peru, these specimens have the lower parts strongly suffused with ochraceous, and the feathers of the foreneck only margined with blackish. Both are adult birds with the bill long and slender, the lower mandible being (in the dry skins) grey, the upper one whitish horn-colour except at the base.

Messrs. Berlepsch & Hartert (*Nor. Zool.* ix. p. 63) say: "The specimens from Muñduapo and Nericagua come very close to true *D. rostripallens* in having the maxilla partly pale-coloured and the under-surface of the body more rufescent." I find, however, that those from Muñduapo agree in all essential characters with typical *D. g. sororia* of Maipures, etc., except in having the lower parts a shade more ochreous. On the other hand, an example from Nericagua appears to me to be undistinguishable from *D. g. guttatoides*, having the under-surface of the same rufescent tinge, the blackish margins much less pronounced than in *sororia*, and confined to the feathers of the foreneck. Furthermore, the upper mandible is not mainly blackish as in *sororia*, but pale greyish horn-colour, as in several specimens of *guttatoides*. The range of these two forms would, thus, be as follows:

a. *D. guttata sororia* Berl. & Hart.

Hab. *Cayenne* (Cherrie coll.—Mus. Tring); *Surinam*: Paramaribo (Chukoo coll.—Mus. Tring); *Brit. Guiana*: Quonja, Bartica Grove. *North Brazil*, Lower Amazons: Obidos. *Venezuela*: on the Orinoco River, up to Maipures and Muñduapo; and on its southern tributary, the Caura River.

Thirty-one examples examined.

b. *D. guttata guttatoides* (Lafr.).

Central Peru: Monterico, La Merced. *East Peru*: Sarayaçu, Ucayali. *North Peru*: Iquitos, Nauta, Samiria, Pebas, Loreto, Cavallo-Coché, Yurimaguas.

* Cfr. Woodward & Sherborn, *Ann. Mag. Nat. Hist.* (7) viii. (1901) p. 161.

N.W. *Brazil*: Teffé; Rio Jurua (Garbe coll.—Mus. Paulist.); Barra do Rio Negro, and Marabitanas, upper Rio Negro (Natterer). *Venezuela*: Nericagua on the upper Orinoco R. *East Ecuador*: Sarayaçu, Rio Napo (spec. in Mus. Tring). *Colombia*: Bogotá coll. (many specimens in Mus. Berlepsch, Brit., and Tring).

Thirty-five specimens examined.

52. *Cymbilanius lineatus lineatus* (Leach).

Lanius lineatus Leach, *Zool. Misc.* i. p. 20, tab. vi. (1814.—Berbice, Brit. Guiana).

No. 911. ♂ ad., 26. vi. 06. "Iris red, feet bluish grey, bill black, below grey."

Differs from Guianan specimens by having the underparts less closely barred with black.

53. *Thamnophilus canadensis loretoyacuensis* Bartl.

[*Lanius canadensis* Linnaeus, *Syst. Nat.* ed. xii. 1. p. 134, descr. orig. ♀ (1766.—ex Brisson, *Ornith.* ii. p. 171, pl. 18, fig. 3: "Canada"—errore.—we substitute *Cayenne*).]

Thamnophilus loretoyacuensis E. Bartlett, *P. Z. S.* 1882. p. 374 (Loretoyacu, N.E. Peru).

Thamnophilus atricapillus (nec Gmelin!) Pelzeln, *Zur Ornith. Brasil.* ii. (1868) p. 75 (part.: Rio Negro: Poiares, S. Isabel and R. Amajau).

No. 792. ♂ ad., 10. vi. 06. "Iris brown, feet blue-black, bill black."—Wing 76; tail 62; bill 20½ mm.

Nos. 776, 777. ♀ ad., 8. vi. 06. "Iris greyish brown, feet blue-grey, bill black, below grey-blue."—Wing 76, 74; tail 64, 62; bill 20 mm.

These specimens as well as those collected by Natterer on the Rio Negro* agree perfectly with Bartlett's types from Loretoyacu in the British Museum.

T. c. loretoyacuensis is very closely allied to *T. c. canadensis*, but differs, in the male sex, by the much duller and darker rufescent brown ground-colour of the back, which, moreover, is strongly mixed with blackish. In abraded plumage, the rufescent brown edges to the feathers of the mantle become almost entirely worn off, and the mantle then appears nearly uniform blackish. Moreover, the under tail-coverts, in this form, are black, except the white apical third.

The females differ from those of *T. c. canadensis* by their considerably darker rufous brown back with traces of blackish mottlings, and by having the foreneck more coarsely striped with black.

I may remark in this connection that the type specimens of *T. leucauchen* ScL.,† said to be from the "Rio Negro," are of the unmistakable *Cayenne*-make. In our large series of *T. c. canadensis* from Cayenne, Surinam, etc., there are several specimens with the sides of the neck quite as white, and with the back of exactly the same tinge as the ♂ type of *T. leucauchen*. This name must, therefore, be regarded as a strict synonym of the typical form.

The range of the two recognisable geographical races of *T. canadensis* is, according to our present knowledge, as follows:

a. *T. canadensis canadensis* (Linn.)

Cayenne, Surinam, Brit. Guiana: Trinidad; Venezuela: Cumaná (large series in Tring), on the Orinoco River up to Mundnapo and Maipures, on the Caura River, a

* I am much indebted to Dr. von Lorenz, of Vienna, for the loan of these specimens.

† *Edinb. New Philos. Journ.* (new ser.) i. (1855), p. 241.

southern tributary of the Orinoco. North Brazil: Forte S. Joaquim, on the upper Rio Branco, near the frontier of British Guiana.

N.B.—The specimens from the Rio Branco are practically identical with those from British Guiana.

b. T. canadensis loretoyacuensis Bartl.

Eastern Peru: Upper Ucayali (Bartlett), Loretoyacu (Hauxwell). N.W. Brazil: Tefé (Hoffmanns); Poiares, S. Isabel and Rio Amajáu, Rio Negro (Natterer).

54. *Thamnophilus nigricristatus subradiatus* Berl.

[*Thamnophilus nigricristatus* Lawrence, *Proc. Acad. Philad.* 1865. p. 107 (Lion Hill, Panama Railroad).]

Thamnophilus subradiatus Berlepsch, *Journ. f. Ornith.* 1887. p. 17 (Upper Amazonia: type ex Iquitos, N.E. Peru, in Mus. v. Berlepsch examined).

Nos. 912, 811. ♂ ad., ♀: 26. vii., 13. vi. 06.—“Iris yellowish grey (♂), whitish yellow (♀); feet bluish grey, bill black.”

These specimens agree well with others from N.E. Peru. In the ♂ the pileum is mainly black, though some of the occiput feathers show white marginal spots near the base; the forehead is slightly mixed with white.

♂ ad.—Wing 78; tail 66 mm. The female is in moult.

55. *Pygiptila stellaris* (Spix).

Thamnophilus stellaris Spix, *Ar. Bras.* ii. p. 27. tab xxxvi. fig. 2 (1825—Pará).
Cfr. Hellmayr, *Nov. Zool.* xiii. (1905) p. 367.

No. 693. ♂ ad., 22. v. 06.—“Iris brownish grey, feet dark bluish, bill black, below bluish grey.”—Wing 77; tail 41; bill 21 mm.

No. 887. ♂ imm., 23. vi. 06. Soft parts as above, but “feet blackish.”—Wing 77; tail 39½; bill 22 mm.

No. 692. ♀ ad., 22. v. 06.—“Iris brown, feet and bill bluish grey.”—Wing 76; tail 40½; bill 24½ mm.

The ♂♂ differ from a topotypical Pará example only by having the throat of the same cinereous colour as the rest of the under-surface instead of whitish gray. The ♀ is practically identical with one from Pará.

56. *Dysithamnus schistaceus heterogynus* n. subsp.

No. 847. ♂ ad., 17. vi. 06. “Iris red, feet bluish grey, bill black.”—Wing 67; tail in moult; bill 17½; graduation of tail 8 mm.

No. 838. ♂ juv., 16. vii. 06. “Iris grey, bill black, below bluish grey.”—Wing 67; tail 57; bill 18 mm.

No. 812. ♀ ad., 12. vii. 06. “Iris red, bill black, below light grey.”—Wing 62; tail 50; bill 18½ mm. *Type of subspecies.*

Nos. 857, 866. ♀♀ in moult: 18, 19. vi. 06. “Iris red or yellow, feet blue-grey, bill black, below grey.”—Wing 64, 64½; tail 50, 52; bill 18½ mm.

♂ ad. Resembles the ♂ of *D. s. schistaceus* (D’Orb.) of North Bolivia, in having the bend of the wing and the upper wing-coverts uniform schistaceous without any white, but differs by the considerably darker grey colour of the plumage. The tail seems to be less graduated. There is no white interscapular blotch.

♀ ad. Differs at a glance from the ♀ ♀ of *D. s. schistaceus* (D'Orb.) and *D. s. capitalis* (Sel.) by the coloration of the underparts, which are uniform bright ochraceous (a little paler than Ridgway's plate v. fig. 7). Axillaries and quill lining are much brighter, ochraceous buff (Ridgw. v. fig. 10), instead of pinkish buff, and the back is rather more rufescent brown.

The female of *D. s. heterogynus* bears a certain resemblance to that of *Thamnophilus incertus* Pelz. of the Pará district, but besides having a shorter tail and a stronger bill, it is much less rufous throughout, and differs at once by the sides of the head being pale brownish with narrow whitish shaft-lines on the ear-coverts. In the ♀ ♀ of *T. incertus* and *T. polionotus* Pelz., the whole sides of the head are uniform deep ferruginous, like the throat and foreneck.

It may be useful to give a short review of the "species" allied to *D. schistaceus*, as they were not well understood hitherto. I have examined the series in the British Museum and in the collections of Tring, Vienna and Count Berlepsch, as well as several specimens in the Paris Museum.

a. Dysithamnus schistaceus schistaceus (D'Orb.)

Thamnophilus schistaceus D'Orbigny, *Voyage, Oiseau*, p. 170 (1838—Yuracarés, E. Bolivia).

Thamnophilus inornatus Ridgway, *Proc. U.S. Nat. Mus.* x. 1887. p. 522 (1888—Diamantina, near Santarem).

Hab. East Bolivia: Yuracarés (D'Orbigny), W. Brazil: Salto Girao and Borba, on the Rio Madeira (Natterer); Lower Amazonia: Santarem (Riker).*

♂ ad. Uniform schistaceous, darker above, paler below. The two outer tail feathers sometimes with a slight, white apical margin. Under wing-coverts and narrow edge along inner web of quills white. Graduation of tail 8 to 12 mm.—Wing 63—67; tail 52—55; bill 18, 19 mm.

♀ ad. Cap ferruginous, in strong contrast with the pale olive-brown back. Underparts pale brownish buff, more buff on throat and middle of abdomen, more brownish on foreneck and sides of the body.—Wing 64, 65; tail 51—55; bill 19 mm.

Material: 1 ♂ ad., Yuracarés, coll. D'Orbigny. (Type of species.—Mus. Paris.) 2 ♂♂, 2 ♀♀ from North Bolivia (G. Garlepp coll.) in Mus. Berlepsch; 1 ♂ fere ad. Salto do Girao (Natterer), 2 ♂♂, 2 ♀♀ ad., Borba (Natterer coll.) in Mus. Vienna.

I compared some of Natterer's specimens with the type in the Paris Museum and with the Bolivian skins in Count Berlepsch's collection, and found them identical.

b. Dysithamnus schistaceus subsp. (Doubtful form).

Dysithamnus schistaceus Selater, *Cat. Birds Brit. Mus.* xv. p. 224 (part.: a, b, c, i.)

Hab. North Peru (south of the Amazons): Chyavetas (Bartlett), Yurimaguas (Bartlett), Maynas (Pöppig).

♂ ad. Two ♂♂ from Chyavetas and Yurimaguas in the British Museum, and a third in the Vienna Museum, collected by Pöppig in the province of Maynas, differ from true *D. s. schistaceus* by being considerably darker slate-grey and by having the feathers on the forehead and crown centred with blackish. The tail is not quite so much graduated.—Wing 65—66; tail 50—52; bill 20 mm.

T. inornatus is most likely the same as *D. s. schistaceus*, the fauna of Santarem being essentially that of the Rio Madeira.

♀ ad. Two females from Chyavetas (British Museum) are not different from those of true *D. s. schistaceus*.

I refrain, for the present, from naming this apparently undescribed form, as the three ♂♂ examined by me are very old skins of rather poor quality.

c. Dysithamnus schistaceus capitalis (Scl.)

Thamnophilus capitalis Selater, *P. Z. S. London* 1858, p. 65 (Rio Napo, East Ecuador); *Cat. Birds Brit. Mus.* xv. p. 196 (Ecuador and Iquitos, Peru).

Dysithamnus schistaceus (nec D'Orbigny) Selater, *Cat. Birds Brit. Mus.* xv. p. 224 (part., spec. c, f, g, h, j, k; Iquitos, Pebas, Samiria); Goodfellow, *Ibis*, 1902, p. 64 (Archidona, East Ecuador).

Hab. East Ecuador: Rio Napo (type), Zamora (Festa), Sarayaçu (Buckley), Archidona (Goodfellow). N.E. Peru (north of the Amazons): Iquitos (Whitely), Samiria, Pebas (Hauxwell).

♂ ad. Of the same dark slate-grey colour as *b.*, but readily distinguishable by having the top of the head black.—Wing 64—68; tail 50—54; bill 19 mm.

♀ ad. Not distinguishable from that of *D. s. schistaceus*. Wing 64—66; tail 51—56; bill 18—19 mm.

Material: 1 ♂ jr., Rio Napo. (Type of *T. capitalis*, Mus. Brit.); 2 ♂♂ ad., Sarayaçu, 1 ♂ ad., Archidona (Goodfellow)—Mus. H. v. Berlepsch and Tring; 5 ♂♂, Iquitos—Mus. Berlepsch and Brit.; 1 ♂ ad. Pebas—Mus. Brit.; 5 ♀♀, East Ecuador—Mus. Brit. and Berlepsch; 3 ♀♀, Iquitos—Mus. Brit. and Tring; 1 ♀, Samiria—Mus. Brit.

Although placed in another genus by Mr. Selater, *T. capitalis* is merely the northern form of *D. schistaceus*, which it represents on the north bank of the Peruvian Amazons and on the Rio Napo. The ♂♂ ad. from East Ecuador and Iquitos have the whole top of the head black, otherwise they agree with those from Chyavetas and Yurimaguas. The birds from Iquitos, referred to *D. schistaceus* in the *Cat. of Birds*, are absolutely indistinguishable from those named *T. capitalis*. The ♂ from Pebas is somewhat intermediate between *b* and *c*; the pileum is mainly black, but the feathers show narrow slaty margins.

Specimen *d* of *D. schistaceus* (*Cat. B.* xv. p. 224) from Chanicuros, however, is quite different, and belongs to *Thamnomanus glaucus* Cab.

d. Dysithamnus schistaceus heterogynus Hellm.

Tefé, Brazilian Amazons. See above.

e. Dysithamnus dubius Berl. & Stolzm. *Ibis*, 1894, p. 393.

Hab. Central Peru: La Merced, Chanchamayo (Kalinowski); Chuchurras, prov. Huánuco (Hoffmanns).

This is probably also a geographical form of *D. schistaceus*, but without knowing the ♀ it would be unsafe to use a trinomial appellation.

The ♂ from Chuchurras in the Tring Museum agrees nearly with that of *D. s. heterogynus*, but the tail is less graduated, and the bill much more slender and more strongly hooked. Wing 64; tail 49; bill 29 mm.

57. *Dysithamnus ardesiacus ardesiacus* Scl. & Salv.

Dysithamnus ardesiacus Selater & Salvin, *P. Z. S.* 1867, p. 756 (based on *D. schistaceus* Selater (nec D'Orb.), *P. Z. S.* 1858, p. 66, 222.—Rio Napo, East Ecuador).

No. 736. ♂ ad., l. vi. 06. "Iris dark brown, feet grey-blue, bill black."—Wing 73; tail 50; bill 15½ mm.

No. 810. ♂ ad., 12. vi. 06. " Iris light brown, feet greyish brown, bill black."—Wing 69; tail 49; bill 17 mm.

No. 735. ♀ ad., 1. vi. 06. " Iris dark brown, bill black, below grey."—Wing 73½; tail 55; bill 17 mm.

These birds represent typical *D. ardesiacus*. No. 810 has the throat feathers black, broadly margined with schistaceous at the tips, just as specimens from East Ecuador and Northern Peru. In No. 736 the throat is almost uniform schistaceous, except a few blackish dots here and there. No. 810 shows a small concealed white dorsal spot, which is altogether wanting in the two other skins.

(Cfr. Hellmayr, *Verhandl. zool. bot. Gesellsch. Wien*, 1903, pp. 215—216.

New to the Brazilian fauna.

58. *Thamnomanes caesius persimilis* subsp. nov.

Nos. 674, 772. ♂♂ ad., 21. v., 7. vi. 06. " Iris brown."—Wing 69, 76; tail 61, 64; bill 17, 18 mm.

No. 699. ♂ fere ad., 24. v. 06. " Iris brown."—Wing 69; tail 60½; bill 18 mm.

Nos. 672, 688, 773. ♀♀ ad., imm. " Iris brown."—Wing 71; tail 61, 63½, 65; bill 17, 17½ mm.

♂ ad. Very much like *T. c. hoffmannsi* Hellm., of Pará, but differs in the darker blue-grey colour of the plumage; by lacking the white streaks on the throat and ear-coverts, and by having the edge of the wing dark bluish slate-grey (instead of white). *T. c. caesius* (Temm.), of Bahia, which agrees in the two last-named characters, is of a much darker, dull blackish slate-grey colour throughout.

♀ ad. Indistinguishable from that of *T. c. glaucus* Cab., but very different from the females of *T. c. caesius* and *T. c. hoffmannsi* by having the breast and abdomen deep ferruginous, only the throat and foreneck being brownish mixed with buff.

Type of the subspecies: ♂ ad. Teffé, 21. v. 06, No. 674 in the Tring Museum.

The three ♂♂ sent by Mr. Hoffmanns present very little variation.

In the type (No. 674) the general colour is an intense bluish grey, the axillaries and under wing-coverts are cinereous, chin and throat quite uniform without any pale streaks. The two other ♂♂ have white axillaries and under wing-coverts; a few narrow whitish lines on the chin, and the plumage of a rather lighter blue-grey. In none of the three specimens is there any trace of a white dorsal spot. In the type the entire bill is deep black, while the others have the lower mandible pale brown.

The three females agree in every respect with a large series of *T. c. glaucus*, and have a large concealed white patch in the middle of the back. The upper parts are perhaps somewhat less rufescent.

In the following lines I append a short *résumé* of the characters and ranges of the four known forms of *Thamnomanes*, which I hope will prove to be useful to the students of this rather difficult group. I may remark that the females of all these forms possess a distinct white interseapular blotch.

a. *T. caesius caesius* (Temm.)

Muscicapa caesia Temminck, *Ris. Pl. col.* livr. 3, tab. 17, fig. 1, 2 (Oct. 1820.—South-east Brazil; cfr. *Nor. Zool.* xii, p. 285).

Hab. South-eastern Brazil: Bahia (Wied, Wucherer, Kammerlacher); Rio Iritiba and Villa Nova de Benevente, Espirito Santo (Wied).

Obs. The specimens from Salto do Girao (Rio Madeira) and Rio Juruá, W. Brazil, mentioned by me as belonging to this form (*Nor. Zool.* xiii. p. 368), are probably referable to *T. c. persimilis*. When I examined them (both are adult ♂♂) I did not know that there was in the interior of Brazil a nearly allied form without a white dorsal patch.

♂ ad. Uniform dull, blackish slate-grey, the bases of the interseapular feathers scarcely paler cinereous than the apical portions. Edge of the wing dark slate-grey. Axillaries and under wing-coverts pale grey.

♀ ad. Upper parts light olive-brown, with a large concealed white interseapular blotch. Throat and breast pale buffy brown, abdomen and under tail-coverts tawny ochraceous (*Ridgw. Nomencl.* v. fig. 4).

Material: 8 ♂♂ ad., 3 ♀♀ from Bahía, in the British, Tring, and Vienna Museums.

b. T. caesius hoffmannsi Hellm.

Cfr. *Nor. Zool.* xiii. p. 367.

Hab. District of Pará.

♂ ad. Above plumbeous (rather darker than *Ridgw.* ii. 15), below cinereous. Throat variegated with white, ear-coverts with narrow white shaft-lines. Edge of the wing, axillaries, and under wing-coverts white.

♀ ad. Exactly like the ♀ of *T. c. caesius*.

Material: 3 ♂♂ ad., 1 ♂ jr., 3 ♀♀, Pará.

c. T. caesius persimilis Hellm.

Hab. Environs of Tefié, on the south bank of the Rio Solimões, Brazil.

♂ ad. Above rather deeper plumbeous than *T. c. hoffmannsi*, underparts deep bluish plumbeous, nearly as dark as the back. Ear-coverts and edge of the wing uniform slate-grey. Throat dark plumbeous, only the chin sometimes with a few indistinct whitish shaft-lines.

♀ ad. Differs at a glance from the ♀♀ of *T. c. caesius* and *T. c. hoffmannsi* by having the breast and abdomen of a much deeper ochraceous or ferruginous colour, the throat and foreneck alone being pale brownish, mixed with buff.

Material: 2 ♂♂ ad., 1 ♂ vix ad., 3 ♀♀ from Tefié.

This bird appears to have a peculiarly restricted range, as in North-east Peru and Northern Bolivia the next form, *T. c. glaucus*, is met with.

d. T. caesius glaucus Cab.

Thamnonanus glaucus Cabanis, *Arch. f. Naturg.* 13 i. p. 230 (1847.—Cayenne).

Hab. Cayenne, Surinam, British Guiana, thence through the Orinoco region (Munduapo, Bielaco, and Canra River) to the Rio Negro (Marabitanas, Rio Içanna, Barcellos, Manãos), to Eastern Ecuador, North-east Peru (Yurimagnas, Chamienros, Pebas, etc.), and Northern Bolivia (Yuracarés). Also found in Bogotá collections.

♂ ad. Differs at once from all the preceding forms by the presence of a large, concealed white interseapular patch. Edge of the wing dark slate-grey. General colour as in *T. c. persimilis*.

♀ ad. Exactly like that of *T. c. persimilis*.

I am unable to detect any differences between specimens from Cayenne, Guiana, etc., and others from the Rio Negro, Peru, and Yuracarés, Bolivia. All

the many specimens examined possess the characteristic white dorsal patch, which is altogether wanting in the ♂♂ of *T. c. caesius*, *T. c. hoffmannsi*, and *T. c. persimilis*.

Material: 3 ♂♂, 2 ♀♀, Cayenne; 2 ♂♂, 2 ♀♀, Surinam; ♂♀, Brit. Guiana; 4 ♂♂, 3 ♀♀, Orinoco; 11 ♂♂, 10 ♀♀, Caura River; 7 ♂♂, 5 ♀♀, Rio Negro; ♂♀, Rio Napo, Ecuador; ♂♀, Bogotá; 1 ♂ ad., 1 ♂ juv., 3 ♀♀, Pebas; 2 ♂♂ ad., 1 ♂ juv., Yuracarés, Bolivia (D'Orbigny coll.—Paris Museum).

Obs. Whether the ♀ from Santarem, recorded *supra*, p. 17, belongs to this or to the preceding form cannot be decided until adult males come to hand.

59. *Myrmelastes fortis* (Scl. & Salv.)

Peromastola fortis Sclater & Salvin, *P.Z.S.* 1867, p. 980 (Pebas and Chyavetas, E. Peru).

Nos. 781, 883. ♂♂ ad., 8, 23, vi. 06. "Iris red or red-brown, feet and bill black, bare skin behind the eye light blue."—Wing 83, 84; tail 70, 69; bill 23, 22; tarsus 32, 33½ mm.

No. 884. ♀ ad. 23, vi. 06. "Iris red-brown," soft parts as above.—Wing 82; tail 67; bill 23; tarsus 32 mm.

These skins are exactly similar to others from N.E. Peru; perhaps the wings average slightly shorter. One of the males has the first primary narrowly edged with white.

About the systematic position of the species cfr. Ménéganx and Hellmayr, *Bull. Soc. Philomat. Paris*, 1906, p. 32.

Prof. von. Ihering has lately recorded a specimen from the Rio Jurua.*

60. *Cercomacra sclateri* Hellm.

Cercomacra sclateri Hellmayr, *Nov. Zool.* xii. p. 288 (Chyavetas, Peru).

No. 850. ♂ ad., Teflé, 17, vi. 06. "Iris grey, feet blue-grey, bill black."

Agrees in the paleness of the coloration with the examples from Pará and Santarem, but has slightly longer wings.

61. *Formicivora bicolor* Pelz.

Cfr. *Nov. Zool. supra* p. 17.

No. 851. ♀ ad., 17, vi. 06. "Iris brown, feet bluish grey, bill black."—Wing 53; tail 59; bill 14 mm.

Agrees perfectly with the females from Santarem, in being uniform chestnut below, and in having the apical half of the three outer tail feathers white.

62. *Rhamphocaenus melanurus amazonum* n. subsp.

Rhamphocaenus melanurus (nec Vieillot!) Sclater & Salvin, *P.Z.S.* 1867, p. 751 (Chyavetas, Peru).
R. albicentris Sclater, *Ibis*, 1883, p. 95 (part.: Chyavetas; but not the diagnosis!); Taczanowski, *Orn. Pérou ii.* (1884) p. 53 (part.: Yurimaguas); Sclater, *Cat. Birds Brit. Mus.* xv. (1890) p. 260 (part.: spec. ♂, ♀ from Chyavetas and Santa Cruz, Peru).

No. 863. ♂ ad., 20, vii. 06. "Iris brown, feet bluish grey, bill black, below pale grey."—Wing 52; tail 53; bill 23 mm.—*Type of the subspecies.*

Resembles *R. m. albicentris* Scl. of Surinam and British Guiana, in having the cheeks and ear-coverts pale brownish streaked with whitish, but is slightly larger,

* *Revis. Mus. Poulst.* vi. 1904 (publ. 1905), p. 442.

much darker brown on the upper parts with no rufous whatever on the nape and sides of the neck, and has a distinct, though faint buffy wash on the sides of the breast and abdomen.

In the type from Telfé the head and back are of a deep sepia brown. Three specimens from the Peruvian Amazons: an immature ♂ from Yurimaguas (Tring Museum), a nearly adult bird from Chyavetas, and a ♂ from Santa Cruz (in the Brit. Museum) differ slightly by having the upper parts rather brighter and clearer brown, but as none of them is quite adult, this trifling variation may be due to age. In other respects they are perfectly similar to the Telfé specimen. They measure as follows: Wing 52, 53, 49; tail 49, 52½, 47; bill 23—24 mm.

The geographical forms of *R. melanurus* were not well understood hitherto.

Mr. Sclater refers to *R. albiventris* specimens from Surinam, S. Esteban in Venezuela, Eastern Ecuador, and Chyavetas in Peru. From his diagnosis (*Ibis*, 1883, p. 95): "gastræo albo," it is evident that he intended to separate the white-bellied form which occurs in Surinam, Cayenne, and British Guiana. Of the two examples indicated as the "types" in the *Cat. Birds* xv. p. 261, only the one from Surinam belongs to *R. m. albiventris*, while the bird from S. Esteban, Venezuela, is referable to *R. m. trinitatis*.

Both *R. m. melanurus* and *R. m. trinitatis* differ from *R. m. albiventris* and *R. m. amazonum* by their deep ochraceous sides of the neck, while *R. m. sticturus* Hellm., of Mattogrosso, is at once recognisable by having the three outer tail feathers tipped with pure white (not with smoky grey). I hope to discuss all these forms on another occasion.

63. *Hypocnemis cantator peruvianus* Tacx.

Cfr. *Nov. Zool. suprâ* p. 19.

Nos. 790, 837, 886. ♂♂ ad., 10, 23. vi., 16. vii. 06. "Iris brown, feet grey, bill black, below grey."

Nos. 836, 849. ♀♀ ad., 17. vi., 16. vii. 06. Soft parts as above.

Identical with specimens from N.E. Peru (Samiria, Pebas, etc.) and Eastern Ecuador (Rio Napo). One of the ♂♂ has the flanks darker ochraceous than all the other skins before me.

64. *Hypocnemis poecilinota griseiventris* (Pelz.)

[*Hypocnemis poecilinota* Cabanis, *Arch. f. Naturg.* 13. i. p. 212. pl. 4. fig. 2 (1847.—Brit. Guiana.)]
Pithys griseiventris Pelzeln, *Zur Ornith. Brasil.* ii. p. 167. descr. orig. ♀ (1868.—Villa Maria and Engenho do Gama, Mattogrosso; Borba, Rio Madeira).

Hypocnemis poecilinota griseiventris Hellmayr, *Nov. Zool.* xiii. (1906) p. 372 (crit.)

No. 671. ♂ ad., 20. v. 06. "Iris dark brown, feet grey-blue, bill black."—Wing 70½; tail 45½ mm.; bill damaged.

No. 885. ♂ juv., 23. vi. 06. "Iris greyish brown, feet grey-blue, bill black."—Wing 66; tail 45½; bill 18 mm.

Nos. 670, 744. ♀♀ ad., 20. v., 2. vi. 06. "Iris brown, feet grey-blue, bill black."—Wing 67, 68; tail 43, 47; bill 18 mm.

The ♂ ad., like that from Borba, discussed by me *loc.* 371, has the upper tail-coverts cinereous, with a broad black subapical band and a narrower white apical margin, and the median rectrices are washed with grey on the base. The throat, however, is quite as dark slate-grey as the rest of the underparts.

The ♀♀ agree very well with Natterer's typical examples, except in being decidedly less rufescent above. In fact, the colour of the back is exactly the same as in the ♀ of *H. p. vidua* Hellm. *H. p. griseiventris* can, however, easily be distinguished by the pale ferruginous chin spot, front and sides of the head, etc. It is also rather larger, especially the tail longer, and the bill stronger.

No. 885, a young male, has the general plumage of the female, but some newly-grown feathers on the upper wing-coverts are black margined with white, as in the adult ♂.

Teffé is quite a new locality for *H. p. griseiventris*, which hitherto was only known from Borba (Rio Madeira) and Mattogrosso.

65. *Hypocnemis leucophrys angustirostris* (Cab.)

Cfr. *suprà*, p. 19.

Nos. 779, 858, 778. ♂♂ ad., ♂ imm., 8. vi., 18. vii., 96. "Iris brown, feet bluish grey, bill black."

These birds have the belly of the same clear slate-grey as topotypical specimens from British Guiana. The forehead seems to be less extensively white, though one ♂ ad. from the Caura River is hardly different on this score.

66. *Myrmotherula surinamensis multostriata* Sel.

[*Sitta surinamensis* Gmelin, *Syst. Nat.* 1. i. p. 442 (1788.—ex Latham, *Surinam*.)]

Myrmotherula multostriata Selater, *P. Z. S.* 1858, p. 234, pl. 141, fig. 2 (♂), 3 (♀) (Ucayali, East Peru).

No. 791. ♀ ad., 10. vi. 96. "Iris brown, bill black, below greyish."—Wing 48; tail 24; bill 13 $\frac{3}{4}$ mm.

This specimen agrees perfectly with females from North-eastern Peru, having the head above broadly striped with black, and the underparts buff with narrow but very distinct black shaft-stripes on the foreneck and breast (cfr. Ménégaux and Hellmayr, *Bull. Soc. Philom. Paris*, 1906, p. 48).

Having now examined 5 ♂♂ ad. and 9 ♀♀ of *M. s. multostriata*, I feel quite confident as to the distinctness of this form, though the ♂♂ differ from *M. s. surinamensis* only by their slightly shorter tails and rather more densely striped under-surface. It appears that there occurs in Upper Amazonia another species of this group, which is most nearly allied to *M. longicauda* Berl. & Stolzm. of Central and South-east Peru, but distinguishable by its much shorter tail, etc. The British Museum possesses three ♂♂; one collected by Bartlett on the Upper Ucayali, the two others said to be from the Rio Napo, East Ecuador. More material is required to settle the true status of this form.

M. s. multostriata seems to be new to the Brazilian avifauna. I suspect, however, that the specimens from the Rio Juruá, recorded by Von Ihering s.n. *M. surinamensis*,* will also turn out to belong to it.

67. *Myrmotherula hauxwelli hauxwelli* (Sel.)

Formicivora hauxwelli Selater, *P. Z. S.* 1857, p. 131, p. 126, fig. 2 (East Peru).

Nos. 732, 733, 761, 843. ♂♂ ad., 1, 6, 16. vi. 96. "Iris dark or blackish brown, feet bluish black, bill black, below greyish blue."—Wing 52—54 $\frac{1}{2}$; tail 23—25 $\frac{1}{2}$; bill 13—14 mm.

* *Revis. Mus. Paulista*, vi. p. 140.

No. 890. ♂ imm., 23. vi. 06. Soft parts as above.

All these specimens differ from Pará birds (*M. h. hellmayri* Sneath.) by the presence of a large, concealed white dorsal patch.

M. hancuvelli is a very near ally of *M. guttata*, as pointed out in *Nov. Zool.* xiii. p. 369, where, however, the differences between the males are not properly stated, for the former species, besides its slate-grey abdomen, is characterised by several other distinctions. The markings on the wings, upper tail-coverts and rectrices are much smaller and pure white (not fulvous as in *M. guttata*), the quills are edged with schistaceous (not with rufescent brown) and the rump is pure slate-grey.

68. *Myrmotherula axillaris axillaris* (Vieill.)

Cfr. *suprà* p. 22.

No. 785. ♂ ad., 9. vi. 06. No. 897. ♀ ad., 24. vi. 06. "Iris brown, bill black."

The ♂ belongs to the typical form with slate-grey upper parts and not to the black-backed *M. a. melana* (Sel.) of which the Tring Museum possesses specimens from Iquitos, N.E. Pern. The females of the two forms are not distinguishable.

69. *Myrmotherula longipennis* Pelz.

Myrmotherula longipennis Pelzeln, *Zur Ornith. Brasil.* ii. p. 153 (1868—Marabitanas and Rio Negro).

No. 774. ♂ ad., 7. vi. 06. "Iris brown, feet bluish black, bill black."—Wing 58; tail $32\frac{1}{2}$; bill 14 mm.

This bird has the belly of the same dark slaty grey colour as a series from Cayenne, but the malar region is paler grey and the ear-coverts narrowly striped with silvery white as in the Pará specimens (cfr. *Nov. Zool.* xiii. p. 369), which, however, have the middle of the abdomen whitish grey. Yet it must be remarked that in a ♂ from the Caña River, Venezuela, the belly is quite as pale, while others from the same locality do not differ in this respect from the Cayenne skins. More material is required to settle the question whether there are any geographical races of this species or not.

70. *Myrmotherula menetriesii* (D'Orb.)

Myrmotherula Menetriesii D'Orbigny, *Voyage, Oiscane*, p. 184 (1838—Yuracarés, Bolivia); cfr. Ménégau & Hellmayr, *Bull. Soc. philomat. Paris*, 1905, p. 51.

Myrmotherula brevicauda juruana Ihering, *Revis. Mus. Paulist.* vi. 1904, p. 440 (1905.—Rio Juruá W. Brazil).

M. longipennis Selater, *Cat. Birds Brit. Mus.* xv. p. 241 (part., specimens *p* and *q*; Rio Javari and Chamucuros, E. Peru).

Nos. 700, 749, 755, 910. ♂♂ ad., 23. v., 3, 5, 26. vi. 06. "Iris brown or grey, feet and bill black."—Wing $51\frac{1}{2}$ —54; tail 27—30; bill $13\frac{1}{2}$ —15 mm.

No. 898. ♂ imm., 24. vi. 06. "Iris greyish brown."

Nos. 731, 751, 770, 904. ♀♀ ad., 1, 3, 7, 25. vi. 06. "Iris brown, feet, grey-blue, bill black, below grey."—Wing 51—54; tail 29—30; bill 14 mm.

The ♂♂ ad. differ somewhat *inter se* in the markings of the tail. One (No. 910) has the rectrices uniform light grey with narrow white apical margins, exactly as the types of *M. bolivianum* Berl., and the original example of *M. menetriesii*

in the Paris Museum: while in the three others the white ends are followed by a more or less distinct black subapical band, more pronounced on the outer rectrices than on the inner ones. The two ♂♂ in the British Museum agree perfectly with these specimens.

The ♀♀ correspond well with Count Berlepsch's description.* No. 731 is rather darker on the under-parts than the three others. The colour of the upper surface varies from olive grey to dull olive.

Although mixed up with *M. longipennis* in the *Catalogue of Birds*, *M. menetriesii* is quite distinct from it, and much more nearly related to *M. cinereiventris*, as correctly pointed out by Count Berlepsch. In fact, it seems to be its southern representative, but the exact range in Peru of the two forms is not yet satisfactorily established. *M. cinereiventris* is known to me from Pebas and Iquitos, on the north bank of the Marañon, and also from Chyavetas, south of that river, where Bartlett collected several specimens, while of *M. menetriesii* the British Museum possesses an adult ♂, said to be from Chamienros. The ♂ of *M. menetriesii* differs from that of *M. cinereiventris* merely by having the middle of the throat and foreneck extensively black. The ♀♀ of the two forms I am unable to distinguish.

Prof. Ihering has kindly sent me the type of *M. brevicauda juruana*, and I found it to agree with the types of *M. boliviana*.

The range of *M. menetriesii* is, according to our present knowledge, as follows:

North Bolivia: San Mateo (Garlepp). *East Bolivia*: Yuracarés (D'Orbigny). *N.E. Peru*: Chamienros (Hauxwell). *N.W. Brazil*: Rio Juruá (Garbe); Teffé (Hoffmanns); Rio Javari (Bates).

The ♂ of the present species differs from *M. longipennis* Pelz. by its much shorter wings and tail, much paler, clear cinereous (Ridgw. pl. ii. 16) instead of deep slate-grey coloration, whitish grey (not black) chin and considerably smaller white shoulder-patch. The middle and greater upper wing-coverts are clear cinereous with a sharply defined black anteapical spot which is followed by the white tip (in *M. longipennis* they are black tipped with white and scarcely edged with slate-grey along the outer web); the primary coverts show distinct white apical margins which are entirely absent in *M. longipennis*; the axillaries and under wing-coverts pale cinereous, not deep slate-grey, etc., etc.

The ♀♀ of the two species are altogether different, that of *M. longipennis* having the back warm wood-brown (Ridgw. t. iii. fig. 13), the upper wing-coverts, the outer web of the quills and the edges of the rectrices bright russet, the abdomen white, etc., etc. It is, moreover, much larger.

71. *Myrmotherula haematonota* (Scl.)

Formicivora haematonota Sclater, *P.Z.S.* 1857, p. 48 (Chamienros, Peru), descr. juv.

Myrmotherula pyrthonota Sclater & Salvin, *Nomencl. Ar. Noct.* p. 160 (1873.—Rio Negro and Oyapoc, Cayenne), descr. adult.

Myrmotherula pyrthonota amazonica Ihering, *Revis. Mus. Paul.* vi. 1904, p. 410 (1905.—Rio Juruá).

No. 909. ♂ fere ad., 26. vi. 06. "Iris light brown, feet bluish grey, bill black."—Wing 54; tail 40; bill 13½ mm.

No. 908. ♀ juv. 26. vi. 06. Soft parts as above.—Wing 51; tail 41½; bill 14 mm.

The examination of a large amount of material revealed the fact that the two supposed species, *M. haematonota* (with less rufous on the back and with "a longer

* *Journ. f. Ornith.* 1901, p. 96.

tail") and *M. pyrrhonota* (with the whole back rufous chestnut and with "a shorter tail") are merely young and adult of a single form. As will be seen from the measurements given below, there is no difference in the length of the tail between Peruvian examples (*haematonota*) and those from more eastern localities when series of both are compared. Thus, we have only to deal with the other supposed characters—viz. the intensity and the extent of the rufous colour on the back, and the coloration of the apical spots on the upper wing-coverts.

The Tring Museum possesses a very instructive series from the Cauca River, Venezuela. On comparing these ten specimens we find that the fully adult ♂♂ have the whole back and rump deep chestnut rufous, and the apical spots on all the upper wing-coverts pure white,* while in immature birds the rufous is paler and confined to the upper back (the rump being brown) and the wing spots are always buff or fulvous. Those with the least amount of rufous on the back and with bright fulvous spots on the wing-coverts are undoubtedly the youngest, as is proved by the fluffly texture of the feathers. The type of *F. haematonota* (from Chamieuros) is a young bird, and agrees in colour and size perfectly with several of our Cauca specimens, while the two other examples of *M. haematonota* in the British Museum are even younger, there being but a slight rufous admixture in the middle of the back. On the other hand, a nearly adult ♂ from north-east Peru in the Paris Museum, collected by Count Castelnau, has the wing spots (except on the greater series) white and the whole back deep chestnut rufous, just like the type of *M. pyrrhonota* from Marabitanas! The type of *M. p. amazonica* kindly lent by Prof. von Ihering is absolutely identical with several skins from the Cauca.

I cannot find any constant difference between ♀♀ from Peru, Marabitanas, Venezuela, etc., either in size or in colour.

Measurements :

	Wing.	Tail.
3 ♂♂ ad., Marabitanas (including the type of <i>M. pyrrhonota</i>)	47—49 ;	35—37 mm.
1 ♂ ad., Sta. Barbara, Rio Negro	50 ;	36 "
1 ♂ imm., Borba, Rio Madeira	53 ;	40 "
4 ♂♂, Nericagua and Munduapo, Orinoco	50—52 ;	37, 38 "
7 ♂♂, Cauca River, Venezuela	48½—50 ;	37—40 "
1 ♂, Rio Jurná (type of <i>M. p. amazonica</i> Ihering)	49½ ;	36 "
3 ♂♂ jr., Chamieuros and Chyavetas, North Peru (including the type of <i>F. haematonota</i> Sel.)	51—53 ;	37, 38, 41 "
1 ♂ ad., N.E. Peru (Castelnau coll., Mus. Paris)	50 ;	35½ "

72. *Gymnopithys salvini* (Berl.)

Pithys salvini Berlepsch, *Journ. für Ornith.* 1901. p. 98 (S. Mateo, N. Bolivia); Ihering, *Revisit. Mus. Paul.* vi. p. 443, tab. xvi. fig. 2 (1905.—Rio Juruá).

No. 689. ♂ ad., 22. v. 06. "Iris greyish brown, feet bluish black, bill black."—Wing 75; tail 45; tars. 23½; bill damaged.

No. 669. ♂ imm., 20. v. 06. "Iris dark brown, feet blue-grey, bill black."—Wing 74; tail 47; tars. 25; bill 37½ mm.

* Only a few on the greater series are very slightly tinged with buff.

Nos. 697, 882. ♀♀ ad., 22. v., 22. vi. 06. "Iris greyish brown, feet grey, bill black, below grey."—Wing 77, 72; tail 50, 46; tars. 25; bill 18, 17½ mm.

This is one of the most interesting species in the collection. Hitherto only two specimens were known, an adult ♂ (the type) in Count Berlepsch's Museum, obtained by G. Garlepp in Northern Bolivia, and an immature ♂ from the Rio Juruá, sent by Garbe to the Museu Paulista.

The adult ♂ collected by Mr. Hoffmanns agrees with the type except that the white bands on the rectrices are confined to the inner webs. The second male has the general colour of No. 689, but there are still some brown feathers of the juvenile plumage to be seen. This specimen is particularly interesting, as it seems to indicate that the young bird, before attaining the coloration of the adult ♂, molts into a transitional plumage, since the newly-grown greater upper wing-coverts and inner secondaries show a narrow white apical margin and a distinct black subterminal band, while they are uniform schistaceous in the adult ♂♂.

The ♀ of this species, which has not yet been described, is coloured as follows: Nasal feathers cinnamon rufous with black tips; lores, sides of the head (including a broad superciliary stripe), throat and foreneck deep cinnamon rufous (Ridgw. iv. fig. 16), passing into reddish cinnamon on the middle of the breast; rest of under-surface pale olive-brown, under tail-coverts slightly washed with cinnamon. Forehead and crown mainly black, the feathers of the former ferruginous at the base, those of the latter narrowly edged with dull rufescent brown; occiput dull cinnamon rufous, clouded with dusky. Back pale olive-brown, each feather with a broad (about 1½ to 2 mm.) black subterminal bar and a rather narrower cinnamon-rufous apical band. These markings are more sparingly distributed and less pronounced on the rump. The feathers of the upper back are pale cinnamon-rufous on the basal half, as in the female of *G. leucospis* (Scl.). Upper tail-coverts clear cinnamon rufous, each feather with a distinct black subterminal bar. Lesser and median upper wing-coverts olive blackish, broadly edged with deep cinnamon rufous; greater series dark olive-brown or blackish, with a broad cinnamon-rufous margin on the tip and along the outer web. Quills dark brown, outwardly rufescent brown, the secondaries with a broad, pale cinnamon apical band, followed by a narrow blackish line. Tail-feathers clear cinnamon rufous, crossed by six to seven black bands. Bend of the wing cinnamon rufous. Axillaries and under wing-coverts pale olive-brown. Bill black, lower mandible whitish.

Count Berlepsch (*loc.*) suggested that *Pithys lunulata* Scl. & Salv.* might be the ♀ of *G. salcini*. After comparing our specimens with the type in the British Museum, I am led to believe that such is not the case. The bird from the Ucayali agrees with the ♂ ad. of *G. salcini* in the colour of the throat and sides of the head, but the upper parts are olive-brown, as in the ♀ of this species, and marked in the same manner. The light bands on the back and the margins of the wing-coverts are, however, buff (not cinnamon-rufous), the rectrices dark brown with three to four white cross-bands on the inner web, and there is a very small **whitish** interscapular patch. It must also be remembered that Taczanowski described a similar specimen (marked ♀) obtained by Stolzmann near Yurimagnas, North Peru,† and it is, therefore, probable that *G. salcini* and *G. lunulata* are nearly allied, but distinct species.

* P. Z. S. 1873, p. 276, tab. xxvi. (Sarayaen, Ucayali, East Peru).
Orn. Pérou ii, p. 75.

73. *Phlegopsis nigromaculata* (Lafr. et D'Orb.)

Myiophora nigromaculata Lafresnaye & D'Orbigny, *Syn. Av. i. in Mag. Zool.* 1837. cl. ii. p. 14 (Gnarayos, Eastern Bolivia).

No. 795. ♂ ad., 26. v. 06. "Iris reddish brown, skin round the eye light red, feet and bill black."—Wing 93; tail 61; bill 22 mm.

No. 900. ♀ ad., 25. vi. 06. "Iris dark red, bill and feet black."—Wing 88; tail 60; bill 21 mm.

The two specimens agree perfectly with others from Bolivia and north-eastern Peru (Ucayali) except in being a shade more brownish on the upper parts. In the male the tail is uniform chestnut rufous, and the bend of the wing largely mixed with white; while the female has no white at all on the shoulder, and a narrow, but very distinct, lanceolate black shaft-streak on all the rectrices near the tip. Neither of them shows white spots on the nape.

These birds are very distinct from *P. paraensis*,* of Pará, of which I have now examined eight specimens. The back is very much paler, light yellowish or greyish olive-brown (instead of warm rufescent brown); the black spots are very much larger and not margined with cinnamonaceous at the tips; the greater wing-coverts have broad blackish shaft-stripes which reach almost to the base of the feathers, while in *P. paraensis* there are only large oval subapical spots surrounded by a pale cinnamonaceous line; the flanks are considerably paler, being pure olive-brown (not rufescent brown); the bill is much stronger and the tail decidedly longer.

This is apparently the first record of the species for Brazil, but I suspect that the specimen from the Rio Juruá, recorded by von Ihering,† s.n. *Phlegopsis nigromaculata bowmani*, will also turn out to belong to the true *P. nigromaculata*.

P. bowmani Ridgw., to which I refer four specimens from Borba,‡ differs from the Teflé birds principally by having the wing-coverts much brighter, of a fine golden olive, and by the black markings on the back and wings being transverse instead of longitudinal.

74. *Formicarius colma* Bodd.

Formicarius colma Boddaert, *Tabl. Pl. enl.* p. 44 [1783—ex Daubenton, *Pl. enl.* 703, fig. 1 (= ♀ ad.) —Cayenne].

Formicarius nigrifrons auct. (cfr. my revision of Spix' types, p. 620).

No. 834. ♂ juv., 15. vii. 06. "Iris dark brown, feet brown, bill black."

75. *Formicarius analis analis* (Lafr. et D'Orb.)

Myiophora analis Lafresnaye et D'Orbigny, *Syn. Av. i. in Mag. Zool.* 1837. cl. ii. p. 14 [Yuracarés et Chiquitos (Bolivia)].

No. 795. ♂ in moult, 10. vi. 06. "Iris and feet brown, bill black."

Differs from a Peruvian specimen (Chanchamayo district) by its much stronger bill, darker brown pileum and darker, more slate-grey abdomen. Topotypical Bolivian birds are not available for comparison.

* *Orn. Monatsber.* xii. 1904, p. 53.

† *Revista Mus. Paul.* vi. p. 43.

‡ *Orn. Monatsber.* xii. 1904, p. 54.

76. *Threnetes leucurus* (Linn.)

Trochilus leucurus Linnaeus, *Syst. Nat.* xii. l. p. 190 (1766—ex Edwards & Brisson: Surinam).

No. 827. ♂ ad., 25. vii. 06. "Iris black, feet yellowish grey, bill black."—Wing 61½; tail 36½; bill 29½ mm.

No. 891. ♀ imm., 23. vi. 06. "Iris black, feet yellow, bill black."—Wing 54; tail 32; bill 29 mm.

These birds differ from typical Surinam specimens merely by having the abdomen more washed with rusty buff, less greyish white in the middle. The light portions of the rectrices are **pure white**, as in *T. leucurus* of Surinam and British Guiana.

It is remarkable that this species, hitherto supposed to be confined to the Guianas, reoccurs on the south bank of the Rio Solimões, where we should expect to meet with its Upper Amazonian representative, *T. cerrinicauda* Gould, which has lately been found in the Pará district (cfr. *Nor. Zool.* xiii. (1905), p. 374). I must confess I am at a loss to understand the singular distribution of these two forms.

T. leucurus is new to the Brazilian fauna.

77. *Glaucis hirsuta* (Gm.)

Cfr. *Nor. Zool.* xiii. (1906) p. 374.

No. 876. ♂ ad. moulting, 27. vi. 06. "Iris black, feet yellow, bill black, below yellow." Agreeing with Bahia skins.

78. *Phoethornis philippii* (Bourc.)

Trochilus philippii Bourcier, *Ann. Soc. Agric. Lyon* x. (1847), p. 623 (1847—"Bolivia").

Phaethornis philippii Berlepsch, *Journ. f. Ornith.* 1889, p. 100 (Fonteboa).

P. bourcierii (nec Lesson!) Ihering, *Revis. Mus. Paul.* vi. (1905) p. 443 (Rio Juruá).

No. 745. ♂ ad., 2. vi. 06. "Iris black, bill black, below red."—Wing 59; med. rectr. 63; submed. rectr. 37; outermost rectr. 27; bill 34 mm.

No. 762. ♂ vix ad., 6. vii. 06. "Iris black, bill black, below red."—Wing 62; rectr. (as above) 72, 39, 29; bill 33 mm.

Mus. Paulista. No. 3674. Adult, Rio Juruá, ix. 02. E. Garbe coll.—Wing 59; rectr. 62, 37, 25; bill 32 mm.

The second specimen is an immature bird, the feathers of the crown and back being margined with buff, while in the two other examples these parts are uniform golden green.

This very rare species was only known hitherto from two specimens: the type said to be from Bolivia, and an immature bird collected by Garlepp near Fonteboa, Rio Solimões. It was, therefore, with great pleasure that we met with two additional examples in Mr. Hoffmanns' lot. Soon after the receipt of these, Prof. von Ihering forwarded to us the specimen recorded by him as *P. bourcierii*, and we found it identical with the Tefé examples. *P. philippii* is a very near ally of *P. bourcierii* (Less.), of the Guianas and the Upper Rio Negro, agreeing with it in the straightness of the bill and in the shape of the tail, but differs at a glance in coloration. The under-surface, instead of being greyish buff, is bright ochraceous (between Ridgway's *Nomencl.*, pl. v. figs. 7 and 10), the upper tail-

coverts have much brighter, ochraceous (not buff) bars and edges, and the tips to the four outer tail feathers (on each side) are deep cinnamon-rufous (instead of buff).

79. *Phoethornis ruber ruber* (Linn.)

Cfr. *Nor. Zool.* xiii. (1906) p. 375.

No. 820. ♂ ad., 13. vi. 06. "Iris black, feet yellow, bill black, below yellow." Black tip of lower mandible 8 mm. long.—Wing 29; tail 29; bill 23 mm.

No. 715. Av. juv., 30. v. 06. "Iris black, feet yellow, bill black, below greenish yellow." Black tip of lower mandible 7 mm.—Wing 32; tail 33; bill 22 mm.

The first of these specimens is a fully adult male with a broad dark purplish brown pectoral band. The tail feathers are bronze brown, very narrowly fringed with buff or whitish on the tips. In the young bird (No. 715) wings and tail are much longer, the rectrices more pointed, and ending in long, bright cinnamon-rufous tips.

In the extent of the black tip to the under mandible, the Tefé birds agree with others from Eastern Bolivia and Matto Grosso, while in skins from Eastern Brazil (Bahia, Rio, Pernambuco) and Cayenne nearly the entire apical half (9—11 mm. long) is black. In a series from Pará, however, this black stripe varies from $7\frac{1}{2}$ to 11 mm., and I have therefore little hesitation in referring the birds from Western Brazil and Bolivia to the typical form.

According to our present knowledge, the following geographical races of *P. ruber* are to be recognised:

a. *Phoethornis ruber ruber* (Linn.)

Hab. Cayenne; Surinam; Brazil: from Pará west to Tefé on the Rio Solimões; east through Pernambuco and Bahia to Rio de Janeiro, thence through Goiás and Matto Grosso to Eastern Bolivia (Guanai, San Augustin).

b. *Phoethornis ruber longipennis* Berl. & Stolzmann.

Phaethornis rufigaster longipennis Berlepsch & Stolzmann, *P. Z. S.* 1902. ii. p. 19 (Chanchamayo).

Hab. Chanchamayo district in Central Peru.

Exactly like *P. r. ruber*, but with much longer wings, $41\frac{1}{2}$ — $43\frac{1}{2}$ mm.

c. *Phoethornis ruber nigricinctus* Lawr.

Phaethornis nigricinctus Lawrence, *Ann. Lyc. N. H. New York* vi. p. 260 (1858—Ecuador).

Hab. Eastern Ecuador: Rio Napo, Sarayacu; N.E. Peru: Pebas (Hauxwell), Chyavetas, Chamicuro (Bartlett), Yurimaguas (Stolzmann).

Topotypical Napo specimens have only the extreme tip of the lower mandible (1—2 mm.) dusky. Quite similar examples occur on the Peruvian Amazons, where, however, others are also met with in which the blackish tip is scarcely shorter than in *P. r. ruber*.

d. *Phoethornis ruber episcopus* Gould.

Phaethornis episcopus Gould, *P. Z. S.* 1857. p. 14 (Demerara).

Eremita whitelyi Boucard, *Genera Humming Birds*, p. 390 (1895—"Canela Mountains, British Guiana"—the type is from the Canuku Mountains).

Phaethornis caurensis Simon et Dalmas, *Ornis* xi. p. 208 (1901—Caura R., Venezuela).

Hab. British Guiana: Camacusa, Bartica Grove, Annai, Canuku Mts.; Venezuela: Suapure and Nicare, on the Caura River; and near Nericagua and Muudnapo, on the Upper Orinoco.

♂ ad. Differs from that of *P. r. ruber* by its much broader and deeper, velvety black pectoral band with purple gloss (instead of dark purplish brown), and by having a distinct coppery gloss on the under-surface of the tail.

♀ and juv. As a rule distinguishable from the corresponding plumages of *P. r. ruber* by its more coppery tail, but single specimens are sometimes scarcely different. I examined the type of Boncard's *E. whitelyi*, now in the Paris Museum, and found it to be identical with *P. r. episcopus*. It is a ♀ in the "eremita" plumage, i.e. with long cinnamon-rufous tips to the rectrices, etc.

Mons. Simon is now convinced that his *P. caurensis* is inseparable from *P. r. episcopus*. Two adult ♂♂ from the Canra in the Tring Museum are absolutely identical with others from Aunai (British Guiana), and Mundaupo, Orinoco.

80. *Phoethornis* sp.

No. 681. ♂ juv., 21 v. 06. "Iris black, feet brown, bill black, below yellowish red."

This bird belongs to one of the many forms of the group of *P. affinis* and *P. malaris*, but cannot be identified with any of them. I hope to discuss the various races of this section on a future occasion.

81. *Agyrtria fluviatilis laeta* Hart.

Agyrtria fluviatilis laeta Hartert, *Journ. f. Ornith.* 1909, p. 360 (Nauta, Peru).

A. fluviatilis (nec Gould) Berlepsch, *Journ. f. Ornith.* 1889, p. 100 (Tonantins, Rio Solimões).

No. 708. Imm., 28. v. 06. "Iris and feet black, bill black, base of lower mandible red."—Wing 52; tail 30; bill 21¼ mm.

This bird agrees in every respect with the typical specimens from Nauta. *A. f. laeta* differs from *A. f. fluviatilis* of Eastern Ecuador only by its smaller size, shorter wings and bill. The coloration of the central rectrices mentioned by Hartert is, however, not a reliable character. The range of the two forms is as follows:

a. Agyrtria fluviatilis fluviatilis (Gould).

Thaumastias fluviatilis J. Gould, *Introd. Trochil.* p. 154 (1861—"Banks of the River Napo").

Hab. Eastern Ecuador: Zamora, Rio Pastaza (Baron), Gualaquiza, Zamora (Festa).

12 adult birds from East Ecuador: wing 57—58; bill 23—25 mm.

b. Agyrtria fluviatilis laeta Hart.

Hab. N.E. Peru: Pebas, Nauta, Iquitos, Lower Ucayali; N.W. Brazil: Tonantins and Tefé on the Rio Solimões.

10 ♂♂, Peruvian Amazons: wing 52—54 (two from Pebas 56); bill 21—22 mm.

4 ♀♀, Peruvian Amazons: wing 50—52; bill 20—21 mm.

1 imm. from Tefé: wing 52; bill 21¼ mm.

82. *Chlorestes caeruleus* (Vieill.)

Cfr. *supra*, p. 33.

Nos. 714, 758. ♂♂ ad., 29. v., 5. vi. 06. "Iris and feet black, bill black, below red."

Nos. 687, 707. ♀♀, 21, 28. v. 06. "Bill black, below pale red."

Identical with the specimens from Olidos.

83. *Thalurania simoni* Hellm.

Thalurania simoni Hellmayr, *Bull. Brit. Orn. Cl.* xix. (Oct. 1906) p. 8.

No. 664. ♂ ad., 19. v. 06. "Iris, feet, and bill black."—Wing 53; tail 37; bill 20½; caud. grad. 11 mm. *Type of species.*

No. 665. ♂ ad., 19. v. 06. "Iris, feet, and bill black."—Wing 54; tail 37½; bill 20; caud. grad. 12 mm.

No. 676. ♀ ad., 20. v. 06. "Iris, feet, and bill black."—Wing 59; tail 32; bill 22 mm.

♂ ad. Upper parts dark shining green, slightly tinged with bronze on the occiput and upper tail-coverts. Interscapular region, when seen from in front, blackish, with a hardly perceptible greenish hue. On the base of the forehead a narrow edge of glittering green feathers. Chin, throat, and ear-coverts glittering golden green, this colour ending in a straight line across the lower throat; breast and abdomen, as well as a large spot on the shoulder, glittering royal-purple (Ridgw. viii. fig. 7). Under tail-coverts steel black, with broad white edges. Lesser wing-coverts glittering blue, remainder of the upper wing-coverts bronze green; quills purplish brown; tail bluish black.

The second ♂ ad. differs from the type by having the top of the head and the upper tail-coverts much more tinged with bronze.

♀ ad. Agrees with that of *T. balzani* Sim. in the small size and in the pale greyish underparts, but has a slightly longer beak. The ♀♀ of *T. jelskii* Tacz. and *T. tschudii* are larger and have the under-surface much darker, more smoky grey.

The ♂ of this new form, which I have dedicated to Mons. Eugène Simon, of Paris, the great authority on Humming birds, resembles *T. jelskii*, of Central Peru and Northern Bolivia, but is considerably smaller: the green of the throat is more golden, the under tail-coverts are much more broadly edged with white; the interscapular region appears blackish (not bluish green), when held against the light; and there is a narrow glittering green frontal edge, barely indicated in *T. jelskii*. In most of these characters, as also in the small size, the new form agrees with *T. balzani* Sim., of the plains of Eastern Bolivia, which, however, is easily recognisable by its pure white under tail-coverts.

For the present I refrain from employing trinomials for any of these *Thaluraniæ*, which, together with *T. nigrofasciata*, *T. tschudii*, *T. refulgens*, etc., will ultimately prove to be geographical representatives of the *T. fuscata* group, but I think it useful to say a few words about the distribution of those forms that are found in the Upper Amazonian region.

(1) *T. nigrofasciata* (Gould), which, in the ♂ sex, is so well characterised by the green of the throat being drawn to a point over the chest and separated from the blue abdomen by a distinct velvety black line, inhabits the **north** bank of the Peruvian Amazons (Iquitos, Pebas) and its northern tributaries, such as the Rio Napo, Zamora, Gualaquiza, Pastaza, etc., etc. It also occurs on the Upper Rio Negro (Cobati, Guia, Marabitanas, and Rio Icaña), and is not uncommonly met with in the Bogotá trade-collections. I have seen many specimens from Iquitos, Pebas, etc., and Eastern Ecuador, and Dr. Lorenz, of Vienna, kindly sent me the series obtained by Natterer on the Rio Negro, and several Bogotá skins for comparison.

(2) *T. tschudii* Gould, inhabits the mountainous districts of North Peru **south** of

the Marañon, at elevations from 1200 to 1500 metr. It seems to be rather common in the valley of Huayabamba, where Messrs. G. Garlepp and O. T. Baron procured a large number of specimens. Mons. Baer met with it near Nuevo Loreto. I compared our series from these localities with Gould's types in the British Museum, and found them perfectly alike. I doubt, however, whether the original examples were really obtained "in the neighbourhood of the River Ucayali."* The ♂ of *T. tschudii* is easily recognisable by the green colour of the throat being separated from the purple-blue abdomen by a distinct greenish-blue area, which is bordered laterally by a velvety black line. Messrs. Berlepsch and Hartert † recorded this species from the Upper Orinoco, and the specimens from there are certainly very much like the Peruvian ones, especially on the underparts. Most of them are, however, immature, and the only adult ♂, which is much damaged by the shot, seems to have a violet band across the interscapular region. I feel sure that if a series of adult ♂♂ could be compared, the distinctness of the Orinoco form would become apparent.

(3) *T. jelskii* Tacx. inhabits the Andes of Central and South-eastern Peru, and of North Bolivia. The Tring Museum possesses this form from La Gloria (Chanchamayo), elev. 1100 metr.; Carabaya, 1000 metr.; and a series from San Augustin, Eastern Bolivia, 1200 metr. Here belong also all the Bolivian specimens in the British Museum, recorded by Salvin, ‡ s.n. *T. tschudii*, and the examples obtained by D'Orbigny near Santa Cruz § and preserved in the Paris Museum. The ♂♂ of *T. jelskii* differ from *T. tschudii* by the green throat being immediately followed by the royal purple colour of the breast and abdomen.

(4) *T. balzani* Sim. replaces the foregoing species in the lowlands of Eastern Bolivia. The Tring Museum received a good series from Salinas, on the banks of the Rio Beni. The ♂♂ ad. of *T. balzani* are at once known by their pure white under tail-coverts, which occasionally show a few very small blackish discs near the base.

84. *Anthracothorax nigricollis* (Vieill.)

Cfr. *Nov. Zool.* xiii. (1906) p. 377.

Nos. 682, 723. ♂♂ ad., 21, 30, v. 06. "Iris, feet and bill black."

No. 713. ♀ ad., 29, v. 06. Soft parts as above.

85. *Nyctibius grandis* (Gm.)

Cfr. *suprà*, p. 33.

No. 844. ♀ imm., 16, vi. 06. "Iris dark brown, feet yellowish grey, bill black."—Wing 364; tail 259 mm.

Agrees with the Obidos specimen.

86. *Nyctidromus albicollis albicollis* (Gm.)

Cypripoides albicollis Gmelin, *Syst. Nat.* 1. ii. p. 1030 (1788.—ex Latham: Cayenne).

Nos. 867, 804, 764. ♂♀ and an immature bird, not sexed: 20, 11, 6, vi. 06. "Iris dark brown (♂♀), black (No. 764); feet greyish; bill black."

* *P. Z. S.* 1860, p. 312.

† *Nov. Zool.* ix. (1902), p. 86.

‡ *Cat. Birds Brit. Mus.* xvi. p. 83.

§ *Ornismya fuscata* Lafr. & D'Orbigny, *Syn. Ar.* ii. in *Mag. Zool.* 1838, el. ii. p. 27.

Agreeing in size with a series from Cayenne, Surinam, Trinidad, etc.

The southern form, *N. a. derbyanus* Gould, is larger, especially the tail much longer, and the upper parts of a much clearer, paler brown.

87. *Chloronerpes capistratus* (Malh.)

Chloropicus capistratus * (Natterer MS.) Malherbe, *Monogr. Pic.* ii. p. 140, pl. lxxxiii. fig. 4, 5 (1862)—“Brésil.”—Natterer coll.—as typical locality accepted. *Rio Negro*.

Nos. 702, 753. ♀ ad., ♀ imm., 24. v., 3. vi. 06. “Iris white or pale grey, feet greyish green, bill black.”—Wing 138; tail 78, 80; bill 26, 27 mm.

Specimens from the Rupununi River, British Guiana, differ by the much paler, yellowish or yellowish white (instead of deep golden yellow) ground-colour of the lower parts. Additional material is required to show whether the Guianan birds are separable.

88. *Chrysoptilus punctigula guttatus* (Spix.)

Cfr. Hellmayr, *Abhandl. Bayer. akad. Wissensch.* ii. Kl. Bd. xxii. Abth. iii. (1906) p. 605 f.

Nos. 865, 853, 701. (♂) ad., ♀ ad., ♂ jr. 19, 17, vi., 23, v. 06. “Iris brown, feet grey or greenish grey, bill black.”—♂: wing 111; tail 72; bill 22 mm.—♀: wing 114; tail 74; bill 24½ mm.

These birds seem to belong to *C. p. guttatus*. The ♀ ad. agrees perfectly with the characters given by me *loc.*, while the 2 ♂♂ have the back dull greenish (instead of golden yellow), hence more like Bogotá skins. The latter, however, differ by having the rump much brighter yellow and more coarsely spotted with black, and the belly is also of a clearer, brighter yellow. *C. speciosus* Malh., based upon a specimen from the Peruvian Amazons, is perhaps identical with *guttatus* of Spix. If such be the case, the Bogotá form would probably require a new name.

89. *Melanerpes cruentatus* (Bodd.)

Picus cruentatus Boddaert, *Tabl. Pl. enl.* p. 43 (1783.—ex Daubenton, *Pl. enl.* 694, fig. 2.—Cayenne).

Nos. 737, 738, 763, 765, 873. ♂♂ ad., 1. v., 1, 6, 20. vi. 06. “Iris yellow, feet grey or black, bill black.”

All five specimens are typical *M. cruentatus* with broad superciliaries, creamy above the eye and golden yellow in the posterior portion.

90. *Celeus jumana* (Spix.)

Cfr. Hellmayr, *Abhandl. Bayer. akad. Wissensch.* ii. Kl. xxii. Bd. Abth. iii. (1906) p. 603.

No. 685. (♀) ad., 21. v. 06. “Iris red, feet black, bill pale grey.”—Wing 153; tail 103; bill 29½ mm.

The inner webs of the quills are regularly and broadly barred with blackish grey and pale yellow, as in specimens from Pará, Santarem, and the Orinoco region. Both the ♀ from Tefic and the ♂ from Itaituba, Santarem (see *supra*, p. 25) have the upper tail-coverts bright rufous brown, while they are yellow with pale rufous brown edges in a series from Pará. *C. citreopygius* Sel. & Salv. of Eastern Ecuador and Peru has also rufous brown upper tail-coverts, but differs at a glance by the uniform isabelline rufous inner webs of the remiges.

* *Chrysopicus capistratus* Bonaparte [*Cousp. Volucr. Zygod.* (repr. from *Ateneo italiano*, No. 8, Maggio 1854), p. 9, no. 151] is a pure *nou-n unum*.

91. *Celeus grammicus* (Malh.)

Picus grammicus Malherbe, *Mém. Soc. Roy. Liège* 1845, p. 69 ("Brésil."—coll. Natterer in *Mus. Vindob.*—sc. Rio Madeira and Rio Negro: cfr. Pelzeln, *Orn. Brasil.* iii. 1869, p. 252).

No. 703. ♀ ad., 24. v. 06. "Iris dark red, feet black, bill whitish grey."—Wing 120; tail 80; bill 22½ mm.

Differs from Orinoco examples by having the feathers of the crown centred with black, and the throat narrowly, but distinctly striped or banded with the same colour.

92. *Crocomorphus flavus* (P. L. S. Müll.) subsp.

Cfr. *suprà*, p. 25.

No. 802. ♀ fere ad. 12. vi. 06. "Iris dark red, feet greyish green, bill yellowish green."

In the coloration of the wings this specimen agrees perfectly with the one from Santarem, mentioned in my former paper, except that the inner webs of the remiges are paler, more isabellinae. The birds from the Brazilian Amazons most likely constitute a geographical form of *C. flavus*, but I should like to see more specimens before separating it.

93. * *Picumnus flavifrons* Harg.

Picumnus flavifrons Hargitt, *Ibis* 1889, p. 229 (Sarayaçu, East Peru).

No. 683. ♂ ad., 21. v. 06. "Iris brown, feet bluish grey, bill black, base of lower mandible whitish."—Wing 50½; tail 25; bill 11 mm.

Mus. Brit. ♂ ad., Sarayaçu, East Peru, July 17, 1865. Bartlett coll. *Type of the species.*—Wing 50; tail 23; bill 11 mm.

The Teflé bird differs from the type, the only known specimen, by having the tips to the sinciput feathers of a rather darker golden yellow; the ear-coverts not quite so dark, more sepia brown; and the blackish bars on the chest somewhat broader. These slight differences, however, are quite within the range of individual variation in allied species.

P. flavifrons Harg. is a very near ally of *P. aurifrons* Pelz. (from Mattogrosso and the Upper Rio Madeira), but can easily be distinguished by having rounded spots on the belly (instead of narrow longitudinal stripes). The back is perhaps somewhat more greenish.

I am very doubtful whether *P. wallacii* Harg. is really distinct from *P. aurifrons*. The type and only known specimen is a young bird, as is proved by the fluffy texture of the feathers on the under-surface. In the tinge of the golden yellow tips to the feathers of the sinciput it agrees perfectly with the ♂ from Teflé, and it does not differ from the type of *P. flavifrons*, except by having the ground-colour of the head of a paler and duller brown, and the ear-coverts buff (instead of blackish brown). Both these variations **may be** merely signs of immaturity. Anyhow, further specimens are required to establish the validity of *P. wallacii*.

P. flavifrons is new to the Brazilian avifauna.

94. *Coccyzus melanocoryphus* Vieill.

Coccyzus melanocoryphus Vieillot, *Nouv. Dot.* viii. p. 271 (1817.—ex Azara, No. 267.—Paraguay).

Nos. 782, 796. ♂♂ ad., in rather worn plumage: 8, 10, vi. 06. "Iris brown, feet bluish grey, bill black."

95. *Capito aurovirens* (Cuv.)

Bucco Auro-virens Cuvier, *Règne Anim.* i. p. 458 (1829.—ex Levaillant, *Hist. Nat. Couronous* iii. Suppl. p. 44, fig. E.—“Brésil”).

Nos. 662, 864. ♂ ad., ♂ jr., 19. v., 19. vi. 06. “Iris red, feet grey-blue, bill black, base of lower mandible whitish or pale grey.”—Wing 89, 90; tail 69, 66; bill 21, 23 mm.

No. 835. ♀ ad., 16. vii. 06. “Iris red, feet greenish grey, bill black.”—Wing 85; tail 66; bill 22 mm.

Nos. 663, 666. ♀♀ imm., 19. v. 06. “Iris yellowish grey, feet greenish grey, bill black.”

Not different from Peruvian skins.

The adult male has the base of the lower mandible white; the back is of a purer olive-green, the cheeks and ear-coverts are more blackish and the abdomen clearer greenish than in the other specimens.

This species has already been recorded for Brazil by Prof. von Ihering, who received several examples from the Rio Jurua.*

96. *Capito amazonicus* Dev. & Des Murs.

Capito amazonicus Deville and Des Murs, *Rev. Mag. Zool.* 1849. p. 171 (Santa Maria and Ega, Upper Amazons).

C. auratus var. *amazonicus* Pelzeln, *Zur Ornith. Bras.* iii. (1869). p. 239 (Rio Negro, near Castanheiro; Marabitanas; Rio Xié).

Nos. 717, 842. ♂♂ in moult, 30. v., 16. vi. 06. “Iris red, feet blue-grey, bill greyish black.”—Wing 84, 85; tail 53—54; bill 23½ mm.

No. 778. ♀ ad., 30. v. 06. “Iris red, feet green, bill black.”—Wing 83; tail 56 mm.

This species differs at once from *C. auratus* (Dum.) and its geographical races by the bright scarlet (instead of orange) throat.

The specimen mentioned by Pelzeln † as being intermediate between the two species is, thanks to the kindness of Dr. Lorenz, now before me. It belongs undoubtedly to *C. amazonicus*, and does not differ from average specimens of this species, though the colour of the throat has faded into a rather paler scarlet, the bird having been exposed to the light for a long time. The other examples obtained by Natterer on the Rio Negro, agree with those from Teffé, except that the female from Marabitanas has small black spots on the throat, this being uniform scarlet in the female sent by Mr. Hoffmanns.

Comte de Dalmas ‡ has pointed out that *C. amazonicus* is the proper name of the red-throated species, while the *C. punctatus* of the *Catalogue of Birds* ought to be called *C. auratus* (Dumont).

It may be interesting to say a few words about the geographical forms of the orange-throated species, the distribution of which is very peculiar. In addition to the fine series of the Tring Museum, which comprises most of the specimens formerly in Comte de Dalmas' collection, I have before me the four examples from Barcellos, Rio Negro, collected by Natterer, and on studying this material I arrive at the following conclusions.

* *Revis. Mus. Paulist.* vi. 1904 (1905), p. 416.

† *Zur Orn. Bras.* iii. p. 240, note 1.

‡ *Bull. Soc. Zool. France* xxv. 1900. p. 178.

a. Capito auratus auratus (Dumont).

Hab. From Central Peru (Pozuzo and Chunchurras, prov. Huánuco)* northwards through North Peru and Eastern Ecuador to Colombia (Bogotá collections).

♂. Throat orange (Ridgw. *Nomencl.* vi. fig. 3); feathers of lower back edged with sulphur-yellow (Ridgw. vi. 14). Forehead and crown dull brownish olive.

♀. Throat much paler than in the ♂, about deep chrome (Ridgw. vi. 9) and densely covered with coarse black spots except on the chin, which is uniform whitish. Feathers of lower back, forehead and crown as in the ♂.

Examined: 5 ♂♂, 5 ♀♀ from Chunchurras and Pozuzo, prov. Huánuco, C. Peru (Hoffmanns coll.); 1 ♂ ad., Valle, Upper Huallaga (G. Garlepp coll.); 4 ♂♂, 4 ♀♀, Rio Napo, Eastern Ecuador; 3 ♂♂, 3 ♀♀, Bogotá collections.

The specimens from East Ecuador have, as a rule, the forehead and crown paler and less brownish, but those from Bogotá are exactly like the Peruvian ones.

b. Capito auratus intermedius Berl. & Hart.

Nov. Zool. ix. (1902), p. 98 (Nericagua).

Hab. Only known from Nericagua, Upper Orinoco; and from S.E. Peru and North Bolivia.

♂. Differs from that of the foregoing form by having the throat of a deeper orange (between Ridgway's "cadmium orange" and "orange," *Nomencl.* vi. figs. 2 and 3), the forehead distinctly clearer, more saffron yellow (*Nomencl.* vi. fig. 4) and mixed with orange, and the edges to the feathers on the rump rather brighter, more lemon yellow (Ridgw. vi. fig. 11).

♀. Throat **entirely unspotted**, and of a much deeper colour than in the ♀ of *C. a. auratus*, being fully as bright as in the ♂ of this form. Forehead wax yellow (Ridgw. vi. fig. 7). Rump as in the ♂.

Examined: 1 ♂, Nericagua; 1 ♀ (type), Nericagua; 1 ♂, Marcapata, S.E. Peru; 1 ♂ ad., Píllon, North Bolivia.

I am unable to distinguish the Marcapata and Bolivian ♂♂ from the typical Orinoco specimen, and I must confess that I do not know how to explain the singular distribution of this form.

c. Capito auratus aurantiicinctus Dalm.

Capito aurantiicinctus Dalmas, *Bull. Soc. Zool. France* xxv. (1900), p. 177 (Caura Valley).

Capito auratus (nec Dumont) Pelzeln, *Zur Ornith. Brus.* iii. (1862), p. 239 (Barcellos).

Hab. Venezuela: Caura Valley (E. André coll.). North Brazil: Barcellos on the Rio Negro (Natterer).

♂. Throat deep orange, like *C. a. intermedius*, but easily distinguishable by having the whole middle of the abdomen as well as the edges to the feathers of the rump deep cadmium yellow (Ridgw. vi. fig. 6).

♀. Throat deep orange and entirely unspotted, as in the ♀ of *C. a. intermedius*, but easily recognisable by the feathers of the rump being edged with cadmium yellow. The middle of the abdomen is also washed with pale cadmium.

Examined: 3 ♂♂ (including the type), 2 ♀♀, Caura River, Venezuela; 2 ♂♂ 2 ♀♀, Barcellos, Rio Negro.

The 2 ♂♂ from Barcellos differ from the Venezuelan ones by having the spots on the flauks coarser and of a deeper black.

* A good series in the Tring Museum, collected by Mr. W. Hoffmanns.

97. *Pteroglossus flavirostris mariae* Gould.

[*Pteroglossus flavirostris* Fraser, *P. Z. S.* 1840. p. 61 (ex Gould: *P. azarar* (nec Vieillot!) *Monogr. Rhizoph.* ed. i. (1834) pl. 17.—no locality).]

Pteroglossus Mariae Gould, *Monogr. Rhizophast.* ed. 2. pl. 30 (1854.—“the woods clothing the sides of the Lower Amazons, whence many specimens have been sent by Mr. Hawkswell” (sic)—errone! We substitute *Peruvian Amazons* as the typical locality).

No. 452. ♀ ad., 3. vi. 06. “Iris red, feet blackish grey, bill yellowish white, **lower mandible brown.**”—Wing moulting; tail 135; bill 79½ mm.

The examination of the material in the British Museum, and of the smaller, but much more carefully labelled, series in the Tring collection, convinced me that Gould was perfectly correct in separating *P. mariae* from typical *P. flavirostris*. Although there is no constant difference in size between the two forms, the coloration of the bill serves to discriminate them at a glance.

In *P. f. flavirostris* the lower mandible is yellowish except a narrow elongated patch of ochraceous along the cutting edge, while in *P. f. mariae* the whole mandible is ochraceous brown. This observation, which is based on a large number of skins, is fully corroborated by the notes made by Messrs. Cherrie, Klages and Hoffmanns from freshly killed birds. In six specimens of *P. f. flavirostris* from the Orinoco and Caura the under mandible is stated to be “pale primrose yellow, with an elongated stripe of ochraceous along the cutting edge,” while Mr. Hoffmanns calls the colour of the lower jaw in three specimens of *P. f. mariae* “light brown.”

The range of the two forms is as follows:

a. *P. f. flavirostris* Fras.

South Cayenne: Oyapoc (Verdey); Venezuela: Nericagna and Munduapo, Orinoco (Cherrie), La Vuelta (Klages) and La Pricion (André) on the Caura River. N.W. Brazil: Marabitanas, Rio Xié and Manáos on the Rio Negro (Natterer). East Ecuador: Rio Napo (Goodfellow, etc.). Colombia: Bogotá collections.

Examined: 1 Rio Napo, 2 Sarayaçu (Mus. Brit.), 1 Coca, Rio Napo (Goodfellow.—Tring Mus.), 4 Bogotá skins (Brit. Mus.), 1 Oyapoc, Cayenne* (Brit. Mus.), 1 ♂ Nericagna, ♂ ♀ Munduapo, 1 ♂ La Pricion, 2 ♀ ♀ La Vuelta (Tring Museum).

b. *P. f. mariae* Gould.

Rio Solimões: Tefé (Hoffmanns, Bates), Manaqueri † (Natterer); N.W. Brazil: Rio Javari (Bates); Peru: Samiria on the Amazons (Hauxwell), Chuchurras, province of Huánuco (Hoffmanns), etc.

Examined: 2 Tefé (Brit. and Tring Museums), 1 Rio Javari (Brit. Mus.), 4 Rio Amazons (Mus. Brit., including the types of *P. mariae*), ♂ ♀ Samiria (Mus. Brit.), ♂ ♀, Chuchurras, Huánuco (Tring Museum).

98. *Pteroglossus humboldti* Wagl.

Pteroglossus Humboldti Wagler, *Syst. Av. Genus Pteroglossus* sp. 4 (1827.—“Brasilia”—Mus. Monae.—descr. ♀ ad.).

No. 845. ♀ ad., 17. vi. 06. “Iris light red, feet green; upper mandible yellow, culminal ridge and a row of spots along cutting edge black; lower mandible black, margined with yellow at the base.”—Wing 127; tail 144; bill 81 mm.

* This is a typical Cayenne skin, the legs being tied together, etc.

† *P. flavirostris* apud Pelzeln, *Zur Ornith. Brasil.* iii. 1869, p. 237, note 3.

99. *Selenidera langsдорffii* (Wagl.)

Pteroglossus Langsdorffii Wagler, *Syst. Av. Genus Pteroglossus* sp. 12 (1827.—"Brasilien."—Mus. Monae.—deser. ♂ ad.).

No. 696. ♂ ad., 22. v. 06. "Iris grey-brown, feet blue-grey, bill black, base of both mandibles greenish."—Wing 132; tail 115; bill 65 mm.

Differs from two ♂♂ from Huánuco, Peru, only by its rather brighter, more chrome-yellow nuchal band.

100. *Monasa morphoeus peruana* Sel.

[*Monasa morphoeus* Hahn, *Vögel aus Asien, etc.*, Lief. xiv. tab. 2 (1823.—Brasilien).]

Monasa peruana Selater, *P. Z. S.* 1855. p. 194 ("in Peruvia Orientali in regionibus fl. Amazonum superioris: Chamieuros").

No. 678. ♀?, 21. v. 06. "Iris dark brown, feet black, bill red."

Agrees with North Peruvian skins in the small amount of white on the forehead and chin.

101. *Chelidophera tenebrosa tenebrosa* (Pall.)

Cfr. *Nor. Zool.* xiii. (1906) p. 381.

No. 679. ♂ in moult, 21. v. 06. "Iris dark brown, feet and bill black."

Agreeing with Surinam specimens.

102. *Galbula cyanicollis* Cass.

Cfr. *l.c.* xii. (1905) p. 296.

No. 829. ♀ moulting, 15. vii. 06. "Iris brown."

This bird differs from Pará ♀♀ by its paler ochraceous lower parts and much less violet blue admixture in the malar region. It may be a young female.

103. *Jacamerops aurea* (P. L. S. Müll.)

Alcedo Aurea P. L. S. Müller, *Natursyst. Suppl.* p. 94 (1776.—ex Vosmaer: Berbice, Brit. Guiana); cfr. *Nor. Zool.* ix. (1902) p. 104.

No. 677. ♂ in moult, 19. v. 06. "Iris, feet and bill black."

Agrees best with a specimen from Bogotá collections in having the forehead pure golden green, while this is always more or less suffused with bluish in a series from British Guiana.

104. *Ceryle superciliosa superciliosa* (Linn.)

Alcedo superciliosa Linnaeus, *Syst. Nat.* xii. i. p. 179 (1766.—ex Edwards: "America." As typical locality substituted: *Surinam*; cfr. *Nor. Zool.* ix. (1902) p. 104).

No. 856. (♂), 18. vi. 06. "Iris brown, feet dark grey, bill black."

Rather pale on the lower parts.

105. *Trogon curucui* Linn.

Trogon Curucui Linnaeus, *Syst. Nat.* xii. 1. p. 167 (1766.—ex Brisson and Marcgrave: Brasilien (excl. syn. Hernandez); cfr. my revision of Spix' types, p. 596).

No. 832. ♂ ad., 15. vii. 06. "Iris brown, feet black, bill yellowish grey."

106. *Ara severa* (Linn.)

Psittacus severus Linnaeus, *Syst. Nat.* x. p. 97 (1758.—“in Indiis.”—errore! We substitute *Amazons* as the typical locality).

Nos. 754, 798. ♀♀ ad., 2, 10. vi. 06. “Iris yellow, feet and bill black.”

107. *Conurus leucophthalmus* (P. L. S. Müll.)

Psittacus leucophthalmus P. L. S. Müller, *Natursyst. Suppl.* p. 75 (1776.—ex Daubenton, *Pl. enl.* 407.—Cayenne).

Conurus callogenys Salvadori, *Cat. Birds Brit. Mus.* xx. p. 188 (1891.—Eastern Ecuador); *Ibis* 1906, p. 454.

Nos. 788, 877. ♂♂ ad., 9, 21. vi. 06. “Iris yellow, feet greyish yellow, bill yellowish white.”—Wing 178, 175; tail 167,—mm.

No. 803. ♀ ad., 11. vi. 06. “Iris yellow, feet grey, bill yellowish grey.”—Wing 170; tail 156 mm.

The first of these specimens has a number of red spots on the cheeks and below the eye; in No. 877 there is a small spot just under the eye and another near the base of the lower mandible; while No. 803 shows but one small red feather on each side of the neck.

We have also adult ♂♂ from Surinam, Descalvados in Mattogrosso and S. Paulo, with red spots on the cheeks and sides of the neck. On the other hand, an adult ♀ from the Rio Napo, East Ecuador, has no trace of red on the sides of the head and neck!

Thus, it is evident that the presence of these red markings is a purely individual character, and cannot be relied upon for distinguishing *C. callogenys* Salvad., which, however, is said to be “much larger,” the wing measuring about 190 mm. Salvadori (*l.c.*) gives only Eastern Ecuador as its habitat, though he refers to it three specimens from Santa Cruz, Peruvian Amazons! Other examples from North Peru (Iquitos) and Bogotá, however, are referred to *C. leucophthalmus*. This singular distribution at once raised my suspicion, and a careful examination of the fine series in the Tring Museum and of other material in the Munich and Vienna Museums convinced me that the size is as variable as the red spots on the sides of the head. The largest specimen I have seen, an adult male from Belem do Descalvado, State of S. Paulo, collected by Mr. A. Hempel, has the wing 190 mm. (= types of *C. callogenys*); in three skins from Bernalducé, Paraguay (Munich Museum) the length varies from 177 to 185 mm. On the other hand, a ♀ from the Rio Napo (typical locality of *C. callogenys*) measures on the wing only 175 mm.; an adult bird (not sexed) from the Upper Huallaga, 175; and a ♀ from Pozuzo, Huánuco, Peru, 174 mm. Therefore there can be no longer any doubt that *C. callogenys* has been based on exceptionally large specimens of *C. leucophthalmus*, and that the characters assigned to it are of no geographical significance. At the same time a good series from Cayenne (the typical locality of *C. leucophthalmus*) should be compared, since the few specimens I have seen from Dutch and French Guiana are of rather small size. If the difference be constant, Selater’s term *C. propinquus* would become available for the large southern birds.

108. **Psittacula passerina crassirostris* Tacz.

[*Psittacus passerinus* Linnaeus, *Syst. Nat.* x. p. 103 (1758.—ex "America").]

Psittacula crassirostris Taczanowski, *P. Z. S. London* 1883, p. 72, descr. orig. juv. (Yurimaguas, North Peru).

No. 825. ♂ ad., 15. vii. 06. "Iris light yellowish grey, feet and bill light grey."—Wing 78; tail 38; bill 13 mm.

Nos. 789, 794. ♂♂ juv., 10. vi. 06. "Iris brown, feet and bill greyish white."

No. 726. ♀ ad., 31. v. 06. "Iris yellow, bill and feet greyish yellow."—Wing 75; tail 37; bill 12½ mm.

The adult ♂ differs from those in the British Museum, collected by Huxwell near Samiria and Nauta on the Peruvian Amazons, by its slightly more yellowish green underparts, and by the back being a shade lighter green. The blue under the wings and on the rump is of exactly the same tinge.

The ♀, which was unknown hitherto, has no blue whatever in the plumage, the axillaries and under wing-coverts being yellowish green like the under-surface; the rump as well as the upper wing-coverts and the exterior secondaries are light parrot-green like the back. It differs from the ♀ of *P. p. passerina* by its shorter wings, larger and higher bill, and by having the forehead and sides of the head purer green like the back (not yellowish).

P. p. crassirostris is new to the Brazilian fauna.

I append a short review of the various forms allied to *P. passerina*, which, owing to lack of material, are very unsatisfactorily treated in the *Catalogue of Birds*. As pointed out in my report on the birds from Obidos, *P. deliciosa* Ridgw. is an excellent form. The fine series in the Tring Museum enables me to prove that *P. guianensis* (Sw.) and *P. viridissima* Lafr. are perfectly distinct, and the examination of four specimens from the Rio Branco tends to show that *P. cyanochlora* Hartl. is also separable. It appears to me that the following forms ought to be recognised:

a. *P. passerina passerina* (Linn.) *Hab.* Ceará, N.E. Brazil.

b. *P. passerina vicina* Ridgw. *Hab.* Eastern Brazil from Bahia to Santa Catharina, thence westwards through S. Paulo to Paraguay.

I have not sufficient material before me to form an opinion about the distinctness of these two forms. Two ♂♂ ad. from Ceará in Count Berlepsch's collection are certainly more yellowish green on the back and more yellowish on the front and sides of the head than any other specimen I have seen, with the exception of the type of *P. flavescens* Salvad. (ex Bolivia), which is obviously identical with *P. p. passerina* as restricted by Mr. Ridgway (*Proc. U.S. Mus.* x. p. 538). Though the distribution (N.E. Brazil and Bolivia) might at first appear extraordinary, it would not be the only instance of a species ranging from the campos of Eastern Bolivia through the dry districts of the interior of Brazil to the north-eastern provinces; for I have lately ascertained—by direct comparison of the types—that *Nothura marmorata* Gray (ex Bolivia) is the same as *N. boracquire* (Spix) of Bahia and Pianhy.* Yet the examination of a good series of fresh skins from Bolivia and Ceará may prove *P. p. passerina* and *P. flavescens* to be separable.

* See my revision of Spix' types, p. 705.

Ridgway (*l.c.*) states that he has seen specimens from Pará of true *P. p. passerina*, but as no *Psittacula* has been found recently in this district, the locality requires confirmation.

Of *P. p. vivida* I have examined fifty specimens in the Museums of Triug, Vienna, Berlepsch and Munich: from Bahia, Rio, S. Paulo, Santa Catharina and Paraguay.

e. P. passerina crassirostris Tacz.

Hab. Northern Peru: Yurimagnas (Stolzmann), Samiria and Nauta (Hanxwell). N.W. Brazil: Teffé, on the Rio Solimões (Hoffmanns).

♂ ad. Differs from *P. p. passerina* and *P. p. vivida* by its larger and higher bill, shorter wings, and by having the rump, axillaries, and under wing-coverts rather lighter blue, more "ultramarine blue" (Ridgw. *Nomencl.* ix. 9) instead of smalt blue (Ridgw. ix. 8).

♀ ad. Characters given above.

Three ♂♂ from Samiria and Nauta, Peru, measure as follows: wing $86\frac{1}{2}$, 78, 77; tail 38, 37, 38 mm.

d. P. deliciosa Ridgw.

Hab. Lower Amazons: Santarem (Riker, Garbe); Obidos (Hoffmanns).

♂ ad. Easily known from the three preceding forms by having the lower back and rump light emerald green, tinged with delicate Nile-blue on the anterior portion. Upper tail-coverts much more yellowish green; greater upper wing-coverts delicate Nile-blue, passing into ultramarine blue along the shaft (instead of being uniform ultramarine). Axillaries and under wing-coverts considerably darker, intense hyacinth-blue. Secondaries ultramarine blue, narrowly edged with light green on the apical half of the outer web (as in *P. p. passerina* and *P. p. vivida*). Wing 79; tail 40 mm.

♀ ad. (No. 3418 Mus. Paulista, Santarem, January 1903. E. Garbe coll.). Differs from the ♀♀ of *P. p. vivida* only by its smaller size. Wing 77; tail 39 mm.

Material: 1 ♂ ad., Obidos; 1 ♀, Santarem. For the loan of the ♀ I am much indebted to Prof. H. von Ihering, of S. Paulo.

e. P. guianensis guianensis (Sw.).

Agapornis guianensis Swainson, *Anim. in Menag.* p. 320 (1838—Demerara).

Hab. British Guiana: Demerara (Swainson), Annai (Whitely); Surinam: near Paramaribo (Chunkoo coll.).

♂ ad. Like *P. deliciosa*, with the axillaries and under wing-coverts intense hyacinth-blue, but differing at a glance by having the lower back and rump pure emerald green (without any Nile-blue tinge), the greater upper wing-coverts glaucous green, and the secondaries dull bluish green (instead of bright ultramarine blue).

Wing 78—83; tail 41—43 mm.

♀ ad. Not distinguishable from that of *P. deliciosa*.

Wing 78—80; tail 39—40½ mm.

Material: 3 ♂♂ ad., 1 ♂ juv., 2 ♀♀ from Surinam in the Triug Museum; 1 ♂ ad., Annai, Brit. Guiana (H. H. Whitely, jr., coll.), in British Museum.

The ♂ ad. from British Guiana has, like those from Surinam, all the under wing-coverts and axillaries uniform hyacinth blue, and it seems to me, therefore, extremely doubtful whether the locality of the Essequibo specimen in the American

Museum of New York, mentioned by Ridgway (*Proc. U. S. Nat. Mus.* x. p. 544) as agreeing with the types of *P. viridissima* Lafr. (from Caracas), is reliable.

f. P. guianensis cyanochlora Hartl.

Psittacula cyanochlora Hartlaub, *P.Z.S.* 1885. p. 615 (Rio Branco).

Hab. Forte do S. Joaquim, on the upper Rio Branco, North Brazil (Natterer).

♂ ad. Differs from that of the foregoing form only by its smaller and weaker bill and by having the under-surface as well as the lower back and rump decidedly more yellowish green.

Wing 80, 81; tail 40, 41 mm.

♀ ad. Differs from that of *P. g. guianensis* only by its smaller bill.—Wing 78; tail 40½ mm.

Material: 2 ♂♂ ad., 2 ♀♀ from S. Joaquim, Rio Branco, in the Vienna Museum. I am much indebted to Dr. von Lorenz for sending me these valuable specimens.

A larger series might perhaps prove this form to be inseparable from *e*, but for the present it must be maintained as distinct.

g. P. guianensis viridissima Lafr.

Psittacula viridissima Lafresnaye, *Rev. Mag. Zool.* 1848. p. 172 (Caracas).

Hab. Venezuela: from Cumaná to Caracas, south to the Orinoco valley (Altigracia, Ciudad Bolívar); Northern Colombia: Valle Dupar and Valencia in the plains south of the Sierra de Santa Marta.

♂ ad. Differs at once from all the preceding forms by having the **under wing-coverts** and **axillaries glaucous green** except a patch of dark hyacinth blue on the under secondary coverts. Otherwise it agrees with the ♂ of *P. g. guianensis*, the greater upper wing-coverts being glaucous green, the secondaries dull greenish blue towards the base, and the rump bright emerald or Paris green.

Wing 78—84; tail 37—44 mm.

♀ ad. Not different in coloration from that of *P. g. guianensis*, but averaging rather larger.

Wing 79—84; tail 41—46 mm.

Material: 12 ♂♂, 4 ♀♀ from the state of Cumaná; 3 ♂♂ ad., 1 ♂ juv., 6 ♀♀ from Altigracia and Ciudad Bolívar, Orinoco, all in the Tring Museum. 1 ♂ ad., Carupano, Cumaná (Goering coll.), a series of so-called "Orinoco" or "Trinidad" skins, and 3 ♂♂ ad. from Valencia and Valle Dupar, North Colombia (Simons coll.), in the British Museum.

Twenty-five adult males show the coloration of the under wing-coverts as described above, only in one specimen from Valle Dupar the outer under wing-coverts are also suffused with hyacinth blue, the tips of the feathers being, however, glaucous green. The locality "Trinidad" rests on trade skins only, and as no *Psittacula* has been found on the island by any of the recent travellers, it is more than doubtful.

109. *Brotogeris sanctaethomae* (P. L. S. Müll.)

Psittacus st. thomae P. L. S. Müller, *Natursyst. Suppl.* p. 81 (1776.—ex Daubenton, *Pl. enl.* 456, fig. 1. —"Insel St. Thomae."—errore! We substitute *Brazilian Amazon* as the typical locality).

Brotogeris (sic) *tui* auct.

Nos. 814, 813, 854. ♂♀♀: 13, 13, 16. vi. 06. "Iris yellowish white, feet greyish yellow, bill pale brown."

These specimens agree well with an adult ♂ from Nauta, N.E. Peru, collected by Hauxwell. None of them has a yellow streak behind the eye.

110. *Pionites leucogaster xanthomerius* (Sel.)

[*Psittacus leucogaster* (Illiger MS.) Kuhl, *Consp. Psitt.* p. 70. [1820.—“*Brasilia*”].
Catca xanthomeria (G. R. Gray MS.) Selater, *P.Z.S.* 1857. p. 266 (Rio Javari).]

No. 706. ♂ ad., 24. v. 06. “Iris yellowish red, feet and bill greyish white.”—Wing 143; tail 81 mm.

This bird differs from our series of *P. l. leucogaster* (Kuhl) of Pará by having the flanks and thighs bright yellow (instead of green). The tail feathers are also yellow, except the basal half of the middle pair. A specimen from the Rio Jurui in Count Berlepsch’s collection has the base of all rectrices green, only the tips being yellow, while in the typical specimens from the Rio Javari the tail is green as in *P. l. leucogaster*.

P. l. xanthomerius replaces the latter form on the middle Amazons and its southern tributaries, and is, therefore, more properly called by a trinomial appellation.

111. *Asturina nitida* (Lath.)

Falco nitidus Latham, *Inl. Orn.* i. p. 41 (1790.—“*Cayana*”).

No. 823. ♀ ad., 14. vi. 06. “Iris brown, feet yellow, bill black.”

Less closely barred with grey on the lower parts than several specimens from Surinam.

112. *Rostrhamus sociabilis* (Vieill.)

Heopetotheres sociabilis Vieillot, *Nouv. Dict.* xviii. p. 318 (1817.—ex Azara no. 16.—Corrientes, between 27° and 30° south latit.); cfr. Hellmayr, *Abhandl. akad. Wissensch. München* 1906, p. 569 note.

No. 706. ♀ juv., 27. v. 06. “Iris dark red, feet yellowish grey, bill black, cere whitish yellow.”

This bird belongs to the long-tailed species with the base of the rectrices, upper and under tail-coverts white.

Although Azara describes only the young bird, there can be no doubt that the name *H. sociabilis* refers to this species, this being proved by an adult from Corrientes, coll. D’Orbigny, in the Paris Museum (cfr. my remarks *l.c.*).

113. *Pisorhina choliba crucigera* (Spix).

[*Strix choliba* Vieillot, *Nouv. Dict.* vii. p. 39 (1817.—ex Azara No. 48.—Paraguay).]
Strix crucigera Spix, *Ar. Bras.* i. p. 22. tab. ix. (1821.—“*juxta flumen Amazonum*”).]

No. 743. Adult (not sexed), 2. vi. 06. “Iris brown, feet and bill greyish yellow.”

On the geographical races of this species cfr. my revision of Spix’ types. p. 575.

114. * *Porzana hauxwelli* Sel. & Salv.

Porzana hauxwelli Selater & Salvin, *Exotic Ornith.* p. 105, tab. liii. (1868.—Pebas, Peru).

No. 724. ♀ ad., 31. v. 06. “Iris dark red, feet reddish yellow, bill black.”—Wing 91; tail 25; tarsus 35½; bill 20 mm.

This specimen agrees well with others from the Peruvian Amazons except in being a very little smaller. The Tring Museum possesses also one Bogotá skin, which differs from the Amazonian one by being more brownish green on the back, and by the brighter ferruginous ground-colour of the abdomen with the cross-bands broader and of a deeper black. These, however, are not likely to be constant differences. These two specimens extend the range of the species considerably to the north and east.

New to the Brazilian fauna.

115. *Creciscus exilis exilis* (Temm.)

Rallus exilis Temminck, *Rec. Pl. Col.* livr. 87. pl. 523 (1831.—“envoyé au Musée de Paris par M. Martin,” no locality given. We substitute *Cayenne*, whence Martin sent many birds to the Paris Museum).

Nos. 816, 907. ♂♂ ad., 13, 26. vi. 06. “Iris red or yellowish red, feet brown, bill black or blackish grey.”—Wing 74, 75; tail 35; bill 18, 19½ mm.

These two birds differ from a Merida specimen by their much stronger and longer bills, longer tail, darker sepia-brown back, smaller chestnut patch on the nape, and more cinereous foreneck. With the scanty material at my command I cannot say whether these differences are of any importance, nor whether the birds from Tefé or that from Mérida represents typical *C. exilis*. This question can only be decided by the examination of a series from Cayenne.

Rallus cinereus Vieill.,* quoted in the *Cat. of Birds* as a synonym of *C. exilis*, can scarcely belong here, no mention being made of the large chestnut rufous nape patch.

116. *Aramides cajanea* (P. L. S. Müll.)

Fulica cajanea P. L. S. Muller, *Natursyst. Suppl.* p. 119 (1776.—ex Daubenton, *Pl. enl.* 352.—Cayenne).

No. 797. ♀ imm., 10. vi. 06. “Iris yellow, feet light red, bill greyish green.”

Agreeing with specimens from various localities of northern South America.

There is a dull rufescent brown patch on the occiput. Cfr. my revision of Spix' types, pp. 712–13, where I have pointed out that *A. cajanea* (sic) and “subsp. *A. chiricote*” of the *Cat. of Birds* are based on individual variation, the presence or absence of the brown patch on the occiput being of no geographical significance.

117. *Crypturus cinereus* (Gm.)

Cfr. *Nov. Zool.* xiii. (1906) p. 385.

No. 880. ♀, 22. vi. 06. “Iris yellow, feet brown, bill brown.”

This specimen does not differ in coloration from Guiana and Surinam skins, and seems, therefore, to belong to typical *C. cinereus*, described from Cayenne. An adult ♀ from Maipures, Orinoco, is much paler and more rufescent brown everywhere.

118. *Crypturus brevirostris* (Pelz.)

Tinamus brevirostris Pelzelu, *Verhandl. zool. bot. Gesellsch. Wien* xiii. pp. 1128, 1130. (1863.—Barra do Rio Negro).

No. 848. ♀ ad., 17. vi. 06. “Iris brown, feet grey, bill black, below grey.”—Wing 141; bill 23 mm.

* *Nouv. Dict.* xxviii. (1819) p. 556.

This specimen, which agrees perfectly with von Pelzela's description, is of particular interest, proving as it does that *C. brevirostris* is a very distinct species. As far as I know, the types collected by Natterer were the only examples in existence.

Our Tefé specimen, apparently an adult bird, differs from a large series of *C. variegatus* (Gm.) from British Guiana, Caura and Pará by its considerably shorter wings and much smaller, shorter bill. Besides this, there are very striking differences in coloration. The top of the head, which is uniform slate-black in *C. variegatus*, is chestnut rufous, each feather with two black cross-bands; lores and all the sides of the head are bright ferruginous (instead of blackish slate-colour); the sides of the breast and abdomen, instead of being broadly barred with black, show but a few narrow cross-lines, the lower flanks alone being regularly banded. The chest is distinctly paler ferruginous than in *C. variegatus*; the back including nropygium and upper tail-coverts is pale olive-brown with broad black bands (instead of black with numerous, narrow ochreous cross-lines as in the allied species); the ochreous bars on the upper wing-coverts are three to four times broader, being about 3 to 5 mm., while in *C. variegatus* they are not more than 1 mm. wide.

In other respects, particularly in the pale brown legs and in the deep rufous colour of the hindneck, sides of the neck and jugulum, *C. brevirostris* agrees with *C. variegatus*. Even young birds of the latter species are much larger than the ♀ from Tefé, from which they differ—in addition to the characters given above—by the presence of white spots on the foreneck and upper wing-coverts. For the sake of comparison I append the measurements of several skins of *C. variegatus*.

Six adults from British Guiana and Caura Valley: wing 160—162; bill 29—33 mm.

Two young birds from British Guiana and Pará: wing 159, 158; bill 30, 32 mm.

NEW SPHINGIDAE.

BY THE HON. WALTER RÖTHSCHILD AND K. JORDAN.

1. *Clanis stenosema* spec. nov.

♀. Near *C. bilineata* Walk. (1866). Body deeper ochraceous below. Mid- and hindtibiae white above as in *bilineata*, spurs also as in that species.

Wings, *above*.—Pale costal space of forewing much longer than in *bilineata*, extending basad to near the first line, and its distal edge being also more oblique and more straight than in *bilineata*; grey subapical patch larger than in *bilineata*.—Hindwing centrally broadly black from base to near apex, costal margin pale buff, abdominal margin buff, distal margin brownish fawny-ochraceous.

Underside.—Oblique apical line of forewing more straight than in *bilineata*; besides the black streak situated behind cell there is an ill-defined black patch upon the cross-veins; the three vestigial discal lines more oblique than in *bilineata*.

Tenth abdominal tergite as in *bilineata*, the two lobes rather broader.

Vaginal armature also almost the same as in that species, postvaginal plate feebly rounded in middle: a small tubercle in front of vaginal orifice.

Length of forewing: 70—73 mm.

Hab. Kalim Bungo, Nias (R. Mitschke).

2 ♀ ♀.

2. *Polyptychus calcareus* spec. nov.

♂. Body fawn-colour, sides of palpi and head chestnut. Palpi long, rounded at apex, the joint slightly open. Tongue long and strong. Tibiae spinose; foretibia with several prolonged spines at the apex; spurs of mid- and hindtibiae very long, the long apical one of hindtibia surpassing the tibia in length; first hindtarsal segment twice as long as the tibia. Numerous spines at the apices of the abdominal tergites.

Wings, *upper side*.—Forewing dark fawn-colour: a slight stigma and a faint subapical patch blackish; distal margin sinuate below apex, then evenly rounded, hindmargin slightly sinuate before angle.—Hindwing salmon-buff, distal margin washed with blackish brown.

Underside salmon-buff, washed over with brown; apical third of forewing blackish brown, this area gradually shading off. Cell of hindwing about one-third the length of the wing, cross-veins oblique, the lower angle of cell being acute, R^2 from centre.

Genitalia: Tenth tergite very broad, hardly narrowing apical, apex bisinuate, with the lateral angles produced into a black, obtuse lobe each; tenth sternite a very low ridge which appears sinuate on account of the edge being centrally bent upwards. No friction-scales. Harpe only slightly narrowing apical, the apex obtuse, bent dorsad, the dorsal edge feebly dentate, the proximal dorsal corner bearing a large tooth. Penis-sheath without free external process, but with a patch of thorn-like teeth all pointing towards the right-hand side; a spinose process within the sheath.

Length of forewing : 30 mm.

Hab. Masasi, German East Africa, January—February 1905.

1 ♂.

The scaling of the specimen has much suffered. It is therefore possible that well-preserved individuals may be somewhat different in colour from the one here described. The enormous tibial spurs and the long first hindtarsal segment are very striking characteristics, by which *calcareus* will easily be recognised.

3. *Likoma crenata* spec. nov.

♂. Body and wings grey-buff, forecoxa, metanotum and underside of head mummy-brown. Paronychium with two slender lobes on each side. Tongue vestigial. Lines of forewing, above, umber-brown, not sharply marked; four in proximal half, the interspace between the third and fourth partly filled in with brown, a small stigma on cross-veins; three lines on disc, the first and third consisting of half-crescents which are open proximally, the second discal line broad, band-like, ill-defined; a triangular distal marginal patch mummy-brown, widest costally at SC^5 , its proximal edge almost straight; a small apical dot and a hindmarginal one also mummy-brown, the latter preceded by a black-brown dot; fringe chestnut.—Apex of hindwing rounded, the fringe white, chestnut at the veins, a bar before anal angle chestnut, proximally bordered with white-grey; an indistinct patch at abdominal margin brown.

Underside.—Forewing russet in proximal half; three lines of half-crescents on disc, the central one broader and less distinct than the others, marginal patch much paler than above, extended to costal margin, where it is widest.—Hindwing with three lines between tip of cell and margin, curved like the latter, composed of half-crescents; anal angle chestnut.

Tenth tergite broad proximally, prolonged into a slightly spatulate process, which is broader than in *Likoma apicalis* and pointed; sternite very broad, emarginate, the angles very strongly rounded. Clasper with small patch of friction-scales which are mostly bidentate, not differing much from the other scales of the clasper except in being smaller and of a brownish tint; ventral edge of clasper sinuate below apex; harpe extending to near this sinus, triangular, with a short, obtuse, free tip. Penis-sheath without free apical process, with a rather large patch of small teeth instead.

Length of forewing : 25 mm.

Hab. Megana, British East Africa, August 6th, 1896 (C. S. Betton).

1 ♂.

4. *Chromis meeki* spec. nov.

♂ ♀. Close to *C. heliodes* Meyr. (1889). Frons the same colour as occiput and thorax, not paler, and first segment of palpus the same colour as second. Underside of body more uniformly testaceous-red. The two subbasal lines of forewing less straight; hindmargin narrowly blackish brown. Extreme base of hindwing black, marginal band strongly angulate before centre; no semidetached spot before anal angle.

The upperside of forewing in fresh specimens of ♂ green, in ♀ brown flushed with olive.

Hab. Biagi, Upper Mamberé River, British New Guinea, end of January to April 1906 (A. S. Meek).

A series.

C. heliodes occurs also in the same locality.

5. *Panacra pulchella* spec. nov.

♂. Head yellowish green, a dorso-lateral line, two spots on frons, and a central white-bordered spot on occiput green-black; thorax yellowish green, with green-black and grey stripes; two bright creamy lines at side; abdomen dorsally green-black, along centre two grey lines, from which emanate oblique grey or yellowish lines; side of abdomen proximally greenish yellow, blackish on fourth segment, variegated with tawny, white, and yellowish green scales on segments 5 to 7. Underside of body pure white centrally; a brown mesial line on segments 2 to 5 of abdomen, the line widened at apex of each segment.

Wings, *above*.—Forewing black-green, the interspaces between the lines paler green; a conspicuous creamy line parallel to costal margin, touching lower angle of cell, not reaching apex of wing or base, giving off two spurs on costal side; a halfmoon on cross-veins also creamy; a submarginal greenish creamy line touching margin at apex, and a similar postdiscal line which neither reaches costal nor inner margin.—Hindwing orange-red, with a black distal border; fringe greenish cream between the veins as on forewing.

Underside.—Forewing orange-red from base to disc; stigma black, on disc a creamy angled-shaped spot corresponding to the distal portion of the central line of upperside; distal area brown, scaled green, especially at costal and near distal edge; some creamy postdiscal spots and a row of buff admarginal ones.—Hindwing greyish green, irrorated with black; a dot each at base of cell and at upper angle white; costal edge buffish yellow; a broad stripe in front of abdominal margin extending from base to distal edge orange-red; an indistinct median line black; an ill-defined submarginal band of blackish and orange-red spots.

Length of forewing: 39 mm.

Hab. Biagi, Upper Mamberé River, British New Guinea, 5000 ft., March 1906 (A. S. Meek).

4 ♂♂.

Nearest to *P. micholitzii* R. & J. (1893), which Mr. Meek also obtained at the same place.

6. *Hippotion chloris* spec. nov.

♂. Body above green, below grey washed with green; segments 4 to 6 of abdomen with two white glossy apical dots on each side. Segments 1 and 2 of palpus laterally convex.

Wings, *above*.—Forewing washed with green, the lines green, nearly the same as in *H. celerio* L. (1758), but the discal ones less longitudinal; three inner lines on disc separated from the outer lines by a pale green interspace corresponding to the silvery band of *celerio*, the line extending from the apex of wing to the inner margin more or less black, ending in a black spot; marginal band greyish irrorated with black; distal edge undulate; costal edge the same colour as distal margin.—Hindwing more extended black than in *celerio*, a discal band and a longitudinal streak behind cell, uniting before anal angle, ochraceous buff; black submarginal band continuous with the blackish abdominal border.

Underside as in *celerio*, but washed with green, and the ground-colour only very slightly reddish on forewing and without a red tint on hindwing.

Length of forewing : 28 mm.

Hab. Njoro, British East Africa (A. T. Cholmley).

1 ♂ in the British Museum (the six other species here described are in the Tring Museum).

The specimen stands intermediate between *Hippotion* and *Basiothia*. It has the look of being a hybrid between *H. celerio* and *B. medea*. But as the hindwing is more extended black than in either species, and as there is no trace of yellow in the basal area of the underside of the forewing, we believe *H. chloris* to be an independent species.

7. *Rhagastis rubetra* spec. nov.

♂ ♀. Third segment of palpus triangular, as in *R. acuta* Walk. (1856), the apical tuft both on the outer and inner surface longer than in that insect. Centre of head and thorax and the markings of forewing, on upperside, mummy-brown. Underside of wings and sides of breast ferruginous; underside of abdomen pinkish.

Wings, *above*.—Forewing similar to that of *R. velata* Walk. (1866), the markings prominent; three subbasal lines, more or less confluent, the interstices being filled in with mummy-brown, a patch distally of apex of cell, followed before inner margin by some dots representing lines; halfway between this patch and apex a large costal patch composed of three lines with the interstices partly filled in, these lines continued by some dots situated on the veins, more numerous and merged together at sinus of inner margin; submarginal area more evenly greyish than in *velata*, the distal edge of wing and fringe mummy-brown.—Hindwing brown, a small, ill-defined patch near anal angle clayish; fringe white between the veins.

Underside as in *R. acuta*, deeper ferruginous.

Clasper of ♂ with two or three large friction-scales. Penis-sheath without free processes; on left side an oblique row of small teeth.

Hab. Nias.

One pair.

TROIDES ALEXANDRAE SPEC. NOV.

BY THE HON. WALTER ROTHSCCHILD, Ph.D.

MR. A. S. MEEK has added another very interesting discovery to the many made by him in the Papuan Subregion. In January 1906, while travelling from the north-east coast of British New Guinea inland to the headwaters of the Mambaré River, he met with a species of *Troides* unknown to him, and obtained a single ♀, which he sent me. Mr. Meek remarked in his letter that the insect reminded him very much of *Troides victoriarum* from the Solomon Islands. It is indeed a new species, standing intermediate between *Troides victoriarum* and *Troides tithonus*, thus bridging over the gulf that separated *T. victoriarum* from *T. tithonus*, *T. priamus*, *T. goliath*, and *T. chimæra*.

♀. Body as in *T. tithonus*. Wings more elongate than in that species. On forewing a small patch of white streaks in cell, and two parallel rows of white spots on disc; the proximal row consists of six spots, extending from R¹ to SM², the first two and the last spot small, the other three arrowhead- or wedge-shaped, spot M¹—M² being the largest, measuring 9 mm. in length, and 4½ mm. in width; the spots of the distal row are all small, the first standing in the subcostal fork; there is also a long streak of rather dispersed white scales before the subcostal fork; vein SC³ stands proximally of apex of cell, the stalk of SC¹⁻⁵ is longer than in *T. tithonus*; the upper angle of cell is obtuse, R¹ standing nearer lower than upper angle; fringe spotted white from R² backwards.—Hindwing: SC² not quite so far distal as M²; a small spot in cell and seven large patches on disc grey-white, slightly yellow on upperside, distinctly yellow distally on underside; these patches separated from each other by broad black lines situated on the veins and joining the black marginal band, the distal half of the wing appearing grey-white streaked with black; the patches bear each a round black spot, except the first, second, and sixth, in which the spot is vestigial or missing.

Mr. Meek intends going again to the country where he found this female, and we hope that he will succeed in obtaining a good series of both sexes. The male was seen by him high in the air, but he could not get it. It had elongate wings like the female.

On account of the relationship of this new species with *Troides victoriarum* we think the name *alexandrae* to be very appropriate.

There is possibly another species of *Troides* in existence in New Guinea, an insect standing in between *T. paradisea* and *T. goliath*, with the hindwing of the male less reduced than in *T. paradisea*.

NEW *DREPANULIDAE*, *THYRIDIDAE*, *URANIIDAE* AND
GEOMETRIDAE FROM BRITISH NEW GUINEA.

By W. WARREN, M.A., F.E.S.

THE insects here described were collected by A. S. Meek at Biagi (= Biaghi), on the Upper Mamberé River, at an altitude of 5000 ft., from the end of January to April 1906. The Mamberé River flows from the Owen Stanley Range north-eastwards.

FAMILY *DREPANULIDAE*.

1. *Callidrepana discipunctata* Warr.

The ♂ of this species is dark fulvous brown, thickly sprinkled with lustrous scales, especially before outer line, which is deep olive-brown edged by a lustrous line; a marginal lustrous line; a row of small submarginal brown dots on veins; the inner line is sometimes fairly plain, slender and dark brown.

Hindwing: with the costal half always yellowish.

One specimen has a large cloudy black-brown blotch towards the end of cell of forewing, while two others have the ground-colour paler brown.

Expanse of wings: 40 mm.

8 ♂♂ along with 2 ♀♀ as large and pale as the type.

2. *Holoreta cervina* spec. nov.

Forewing: fawn-colour with a decided olive tinge, with short transverse dark strigae; no inner line, but a brown costal spot at two-fifths; a red-brown oblique line, faintly curved from apex to middle of inner margin, preceded on costa by a short dark streak; the apex in one example filled with black scales; fringe black-brown; a white dot at middle and lower end of discocellular.

Hindwing: costal area pinkish; the brown line crossing at one-third; discal dots and fringe as in forewing.

Underside bright red, yellowish towards costa of forewing, with some dark scales between the veins; the line thick and black, externally grey-edged in upper half of forewing; hindwing with the line nearly central, and the spots between veins stronger.

Face, pectus, and forelegs bright scarlet; vertex brownish; thorax olive fawn-colour, the shoulders pale grey; abdomen olive fawn with a reddish tinge; underside and legs scarlet.

In the smaller ♂ the underside of forewing is suffused with black; in the ♀ the red tints of the underside show through and almost obliterate the olive tinge of the upperside.

Expanse of wings: ♂ 40—48 mm.; ♀ 48 mm.

2 ♂♂, 1 ♀.

Nearest to *H. unilinea* Warr. from Ron Island.

3. *Oreta patiens* Warr.

The ♀ of this species is evidently very variable in coloration, though constant in size and markings. The original ♀, described in *Nor. Zool.* xiii. p. 62 (1906), is dull greyish olive freckled with darker; of 4 ♀♀ lately received from Biagi, not one agrees with the typical form; two are much paler, yellowish olive, with the lines reddish brown, and the hindwing pinkish-tinged; the third is dull reddish, with a blackish, red-edged line and dark speckling towards apex, the hindwing being deep red; the fourth alone is nearest the type in coloration, being uniform dark olive-brown, with the lines hardly visible, the hindwing brownish ochreous, greyer towards base.

The 2 ♂♂ received with the ♀♀ scarcely differ from the type ♂.

4. *Oreta sulphurata* spec. nov. and ab. *fasciata* nov. and ab. *obsoleta* nov.

♂. *Forewing*: pale yellow; the base of costa reddish; two pale brown lines from inner margin to vein 6 and the subcostal vein, oblique outwards parallel to outer margin, at one-half and three-fourths, the outer curving outwards above; outer margin purplish grey, widening downwards, edged by a brown submarginal line, which on veins 2 and 3 forms a small black-brown pink-edged blotch, and a smaller one on inner margin; fringe dark brown.

Hindwing: with the two brown lines from one-fourth and one-half, not reaching above cell; apex with a slight purplish grey tinge; fringe brown above, yellow below, middle.

Underside without lines; base of costa bright red; the marginal border dark brown edged inwardly with orange-red, very slight in hindwing.

Face, pectus, and forelegs deep red; vertex, thorax and abdomen yellow.

In the second ♂, ab. *fasciata*, the interval between the lines is filled up with pinkish brown, forming a central fascia stopping short at the cell in both wings, and showing a pale cell-spot in forewing; in the third, ab. *obsoleta*, only the outer of the two lines is visible, and the marginal blotch is obsolete above middle of forewing, pinkish brown below, and at apex of hindwing; the black spots absent.

♀. *Forewing*: greyish pink with an olive tinge; the lines purplish, reaching costa; the first curved inwards to one-fourth of costa, the second curving into apex; the first edged inwardly, the second more plainly outwardly with yellowish; no marginal shade, but the two spots purplish on veins 2 and 3.

Hindwing: with costal area yellowish; the lines straight, not marked above cell.

Underside deep yellow; the base of costa, the outer line, and a marginal shade red; in the hindwing the outer line is red, and the outer margin reddish tinged.

Thorax and abdomen concolorous with wings; the rest as in the ♂.

In both sexes, but more plainly in the ♀, the forewing bears a horizontal yellow streak from line to line between veins 6 and 7.

Expanse of wings: ♂ 26 mm. : ♀ 30 mm.

3 ♂♂, 1 ♀.

Apparently the representative in New Guinea of the Queensland species *pusilla* ♂, *roseola* ♀, and *fascimargo* ♀, which will probably prove to be, as in the present case, forms of one species.

5. *Peridrepana verticata* spec. nov.

Forewing: white, semitransparent; crossed by five grey bands, all nearly parallel to the outer margin, and marked on the veins with darker grey linear dashes; two antemedian, of which the basal is very obscure; one postmedian, broadest of all; two submarginal, the outer of which is a lunulate-dentate line, with the teeth touching the grey marginal line; fringe grey; discocellular marked by a white crescent with some grey scaling round it; costal edge yellow.

Hindwing: with all the bands present; the last three meeting at anal angle.

Underside white; costa of forewing yellow.

Head, thorax, and abdomen white; upper part of face, vertex, antennae, and forelegs brownish ferruginous.

Expansion of wings: ♂ 30 mm.; ♀ 35 mm.

A series of ♂♂ and 1 ♀.

In forewing 9, 10, 11 are stalked and 6, 7, 8 also stalked from the depressed end of cell, 11 leaving areole at one-half, 10 just before end, 9 anastomosing with 8; in hindwing vein 7 from about one-half of cell anastomoses strongly with 8; tongue and frenulum present; antennae bipectinate; hindtibiae with two spurs.

6. *Teldenia illunata* spec. nov.

Forewing: shining white; costal edge greyish ochreous; beyond the middle a nearly vertical double grey lunulate-dentate line, of which the inner arm is slightly the darker; sometimes this line seems to run quite straight to costa, at others to be incurved to a small dark spot; a single grey submarginal line indented between veins 5 and 6 and again between 2 and 3; grey or blackish marginal spots between veins, sometimes absent; fringe white beyond a very fine grey marginal line.

Hindwing: like forewing.

Underside white; costa of forewing ochreous.

Head, thorax, and abdomen white; face brownish grey; palpi and lower part of face deep brown.

Expansion of wings: 26 mm.

3 ♂♂, 4 ♀♀.

7. *Tridrepana fulvata* ab. *olivacea* Warr.

The ♀ of this aberration is uniform fawn-colour, with the lines a little darker, and with an olive-brown blotch at lower end of cell round the lower white spot of discocellular; the three or four black submarginal spots below apex conspicuous.

Expansion of wings: 45 mm.

1 ♀, with a long series of ♂♂, all with dark central fascia and hindmargin.

Along with them came also a long and beautiful series of the ab. *fasciata*, all being ♂♂ but one.

8. *Urogonodes colorata* spec. nov.

♂. *Forewing*: olive brown, the lines and shades dark purplish brown; the scales whitish at their tips, giving a frosted appearance to the wing, especially in outer half; three dark brown costal spots, from which the lines rise; the

inner and median bent in cell, then thickened and forming a blotched space to inner margin; outer angled acutely on 6, then inwardly oblique; all very obscure; cell-spot of lustrous scales edged with brown; a red and brown blotch at anal angle with white scales on it; a patch of white scales beyond angle of outer line; fringe red-brown, with the tips shining white.

Hindwing: dull red-brown, brighter red towards costa; traces of two dark lines from middle of inner margin to middle of wing; fringe as in forewing.

Underside red; costa of forewing golden brown; some pearly scales before the excision; traces in both wings of a black blotched outer line.

♀ redder, with the ground-colour paler olive, especially beyond outer line towards costa, where the underside bears a large olive yellow blotch.

Face, palpi, forelegs, and pectus bright red; thorax and abdomen concolorous with wings in each sex.

Expanse of wings: 30—35 mm.

6 ♂♂, 2 ♀♀.

A form of the ♂ occurs in which the whole of the forewing is dull olive or greyish olive, without any darker shading, the lines hardly marked. The species is separated from *U. scintillans*, besides its larger size, by the much blunter angle in the outer margin of hindwing.

9. *Urogonodes flavida* spec. nov.

Forewing: pale yellow, towards base diffusely pinkish brown; the inner line placed as in *colorata*, red-brown, only distinct at costa; outer line absent except for a brown spot on costa; cell-spot as in *colorata*; costal area between the two lines grey-brown; outer margin with a reddish brown border, broader at apex, and hardly reaching inner margin; fringe red-brown.

Hindwing: yellow, with two straight pink lines, antemedian and median, the interval between them also pink but paler; a marginal brown-red border.

Underside yellow, with the marginal border of both wings blood-red, and the base of each wing diffusely of the same colour.

Face and forelegs bright red; vertex brown; thorax pinkish grey; abdomen yellow (greased).

Expanse of wings: 27 mm.

1 ♀.

FAMILY THYRIDIDAE.

10. *Addaea fulva* spec. nov.

Forewing: ochreous washed with pale fulvous in ♂, with deep fulvous in ♀, and covered with fulvous coalescing striae; a thick oblique fascia from middle of inner margin to end of cell, fulvous only in ♂, dark brown in ♀, obscurely curved above to a costal triangle; sometimes a faint band between it and outer margin; costal edge brownish dotted with pale ochreous; fringe with basal half dark brown, apical half paler.

Hindwing: similar, paler, especially towards costa, the striae plainer.

Underside paler, with the striae brown and very concise.

Head, thorax in front, and base of patagia deep fulvous or brown; tips of patagia, metathorax, and abdomen pale ochreous; the dark bar of hindwing continued across dorsum.

Expanse of wings : 22 mm.

9 ♂♂, 8 ♀♀.

Resembles *A. striola* Feld., but darker in ground-colour ; the apex of forewing more acute and outer margin more sinuous.

11. *Addaea maculata* Warr.

This species was described from a ♂ only, from the Angabunga River, British New Guinea (cf. *Nor. Zool.* xiii. p. 63). From Biagi, Mamberé River, there have now arrived 7 examples, including 2 ♂♂, which latter are very different from the more strongly marked ♀♀. The brown central fascia is much thinner, stopping short at vein 2 ; the bent outer line is fine and brown above middle, thick and dark brown in the inbent portion below ; the dark brown submarginal line is very fine and hardly visible ; lastly, instead of the grey-brown or black-brown conspicuous blotch on inner margin, there is a much slighter pale brown tinge, containing some dark brown striae ; fringe pale brown.

In the hindwing the markings remain as in the ♀, but much paler brown.

In size the ♂ is a little smaller than the ♀.

12. *Bansia dohertyi* ab. *longistriata* nov.

In *Nor. Zool.* xii. p. 410 I described an aberration of the ♂ of this species from the Solomon Islands, which was distinguished by black **transverse** markings on both wings ; I have now to record an aberration of the ♀, which is marked by a cloudy blackish **horizontal** streak running from base to outer margin of forewing along the submedian fold.

3 ♂♂ and 7 ♀♀, another ♀ being an example of the aberration *nigriflexa*.

13. *Bansia lateralis* spec. nov.

Forewing : brownish ochreous, with rather deeper brown reticulation, and with square black blotches ; darker basal, antemedian, postmedian, submarginal, and apical fasciae are visible ; the postmedian forked at middle to inner margin ; the apical running from costa to middle of outer margin ; this and the lower half of submarginal and the outer fork of postmedian are marked by black quadrate spots between veins ; the middle of wing is marked by a large blackish blotch, filling end of cell and the base of interval between veins 2 and 3 ; fringe colorous.

Hindwing : similar ; the middle fascia complete and narrow at inner margin.

Underside with most of the markings repeated, but not the large blotch of forewing.

Head and shoulders brownish ; thorax, patagia, and abdomen shining ochreous ; dorsum tinged with brown ; first three segments of abdomen with square black lateral spots

Expanse of wings : 30 mm.

1 ♀.

Perhaps a form of *B. ordinaria* Warr., but the coloration is different.

14. *Bansia vermiculata* spec. nov.

Forewing : rufous ochreous, crossed by numerous closely placed wavy lines of pale brick-red, forming slight reticulations, the whole wing uniformly coloured

along the costa can be seen some slight darker spaces indicating the commencement of fasciae ; fringe deep rufous.

Hindwing : with ground-colour paler, especially in costal half of wing.

Underside paler, the cross-lines sparser but plainer.

Head, thorax, and abdomen deep rufous ; anal tuft of ♂ pale.

Expanse of wings : 22 mm.

1 ♂, 1 ♀.

15. *Herdonia papuensis* spec. nov.

Forewing : glossy whitish, washed with very pale greyish olive, some roundish spots and elongated blotches above inner margin only remaining white ; in the outer area beyond two-thirds three darker curved streaks leave the costa, partially interlaced, with the intervals between them paler, united and narrowed and hardly darker between 5 and 4, then becoming bifid, the outer part broadening and ramifying to outer margin between anal angle and vein 3, brown with dark edging, the intervals paler ; costa at base and towards apex paler, before apex marked by a long shallow black-brown blotch ; fringe pale olive, with brown mottling beyond veins 2 and 3.

Hindwing : white, the fringe and extreme outer margin olive ; crossed by three dark brown lines edged by black-brown ; one close to base, broader and oblique outwards from vein 1, sinuous ; second narrow from before middle of costa to two-thirds of inner margin, nearly straight, but widened at each end ; third also narrow, curved from before apex to anal angle.

Underside like upper, but the markings plainer, the basal line of hindwing longer.

Face, palpi, and forelegs dark olive-brown ; vertex and shoulders paler olive ; patagia still paler ; thorax and abdomen shining whitish ; second dorsal segment with a dark brown band.

Expanse of wings : 52 mm.

1 ♀.

In the forewing veins 7 and 8 are short-stalked ; and in hindwing vein 7 rises before the end of cell.

16. *Hypolamprus biplagiata* spec. nov.

Forewing : dark fulvous, speckled with grey ; costal edge snow-white dotted with black in basal half, and with a black dash beyond middle ; a row of dark spots visible above and below the submedian fold ; a submarginal curved line of blackish spots, that above vein 5 large and square, with some black marks obliquely beyond it towards outer margin ; apical half of outer margin clouded with dark ; fringe fulvous with black chequering.

Hindwing : with basal area white, streaked with fulvous on inner margin ; outer two-thirds pale fulvous with darker streaks, between vein 2 and anal angle forming a quadrate deep brown blotch with the edges black ; inner margin and fringe whitish ; fringe brownish, below vein 2 white.

Underside dull fulvous, with transverse spots between the veins, plainest in the hindwing ; forewing with a brown costal spot before middle and a triangular black one beyond middle.

Head and prothorax, and the anal half of abdomen fulvous; patagia, meta-thorax, and basal segments of dorsum shining whitish.

Expanse of wings: ♂ 17 mm.; ♀ 20 mm.

1 ♂, 2 ♀♀.

17. *Hypolamprus fuliginosa* spec. nov.

Forewing: dull smoky black, covered with granular whitish grey spots, which are really arranged in double lines between the darker fasciae, which are more or less obscured; a ferruginous patch at base in the submedian interval, and the costa in apical third of the same colour, below which the white spots are absent; veins towards outer margin lined with whitish dots; fringe concolorous.

Hindwing: without any red tint; the costal area whiter; the rest of wing black speckled with white.

Underside black thickly peppered with whitish; costa of forewing yellow.

Head, thorax, and abdomen black, the dorsum with a strong reddish gloss; palpi black, with the extreme tip whitish.

Expanse of wings: 35 mm.

1 ♀.

A species of peculiar appearance. The outer margin of hindwing is straight from vein 7 to anal angle.

18. *Hypolamprus grandis* spec. nov.

Forewing: flesh-coloured ochreous, the markings deep red-brown; these consist of three fasciae, the first broad at base, the second antemedian, nearly vertical; the third oblique from beyond middle of inner margin to two-thirds of costa, where it is broader and forked; from the outer arm a brown slender streak runs below costa, curving quite slender to outer margin; inner margin below vein 1 red-brown throughout; the ochreous areas contain traces of very fine reticulated lines, a connected streak of which from inner margin before anal angle is often conspicuous; fringe concolorous; the cell and costal area above it, as far as outer fascia, are overspread with grey scales.

Hindwing: with two red-brown streaks to inner margin at one-third and two-thirds.

Underside paler, the markings less brown.

Head and face deep red-brown; thorax and patagia grey-brown; abdomen red-brown, with the basal segments paler.

Expanse of wings: 44 mm.

2 ♂♂.

Like *H. stylophora* Swinh., but immensely larger.

19. *Hypolamprus laticosta* spec. nov.

Forewing: pale ochreous, with faint pale brownish double or X-shaped short streaks between veins; a broad chestnut brown subcostal stripe, the costa itself paler brown, the costal edge dark with pale ochreous intervals; a pale brown oblique mark near base, a vertical one before middle from median to inner margin, a lyre-shaped blotch at three-fourths below vein 2, and a rectangular mark before outer margin lying on vein 5; three dark spots at end of cell in a brown shade; fringe brown.

Hindwing: with apex brownish; the other markings as in forewing, but much fainter.

Underside with the double dark marks very concise and clear, and the intervals pale and regular, those of hindwing circular with brown centres; an oblique black-brown subcostal streak from apex.

Head and prothorax dark brown; metathorax and abdomen pale ochreous, the latter with a brown dot on penultimate segment.

Expanse of wings: 22 mm.

2 ♂♂.

Forewing with blunt subfalcate apex and outer margin bulged below middle; hindwing subdentate at vein 7.

20. *Letchena albicollaris* spec. nov.

An almost exact mimic of *Canaea semitessellata* Wlk.; distinguished at once by the face and shoulders being glossy white, and also by the costa of forewing being alternately ochreous and brown, whereas in Walker's species the costa is uniformly brown; the antennae, of course, will always separate the two species, those of *Letchena* being simple, while those of *Canaea* are unipectinate.

3 ♂♂, accompanied by 4 ♂♂ of *Canaea semitessellata*.

21. *Letchena composita* spec. nov.

Forewing: reddish fulvous, more or less overlaid with grey-brown, and crossed by short dark reticulations; a large reddish patch from two-thirds of costa to beyond cell, outwardly edged by a curved line of darker spots; below it between vein 4 and the submedian fold are three hyaline white spots, that between 2 and 3 large and conical in shape; fringe dark fuscous.

Hindwing: with outer margin and a central fascia broadly grey-brown; space on each side of the fascia fulvous yellow, the interval between veins 4 and 5 with five small round white hyaline spots, between 3 and 4 with two, and that between 2 and 3 with only one spot; the dark reticulations are plainer than in forewing; inner margin and base of costa whitish.

Underside duller; the hindwing yellower, with a dark central blotch, but no fascia.

Head and prothorax dark grey-brown; patagia and abdomen brown and fulvous red mixed.

Expanse of wings: 40 mm.

1 ♀.

Nearest to *Letchena angulata* Warr., but the margin of forewing merely rounded.

22. *Pharambara lucida* spec. nov.

Forewing: shining whitish; the markings pale olive-brown; basal, antemedian, and postmedian fasciae all projecting outwards in cell, separated by a pale curved space with a brownish line in middle; the projection of the postmedian is prolonged across submarginal fascia to join an oblique coal-black subapical blotch running to middle of outer margin and followed before apex by a white tadpole-shaped mark containing a brownish speck; fringe grey-brown in basal half, paler towards the tips.

Hindwing: pale ochreous, suffused with rufous grey, except towards inner

margin, with three darker fasciae, partly black-dotted, the inner one strongly marked and narrowed at inner margin; the intervals with fine lines.

Underside ochreous tinged with fulvons; costa of forewing with regular grey blotches separated by pale intervals minutely dotted with dark; along subcostal vein a fulvous orange stripe and below it in outer half a lustrous silvery stripe joining the white apical blotch, the outer half of wing above median shining blackish grey; the brown fasciae plain only on inner margin; a black cell-spot beyond second fascia; some black and white streaky scales at end of cell, and beyond it below subcostal vein; hindwing washed with fulvous; the veins fulvous; the fasciae brown and broken up.

Head, palpi, forelegs, and shoulders brownish; thorax and abdomen shining ochreous; patagia grey at base; dorsum with second segment dark grey, the third paler but marked with grey in middle; prae-anal segments fuscous, fulvons at sides; anal tufts ochreous.

Expanse of wings: 22 mm.

1 ♂.

Closely resembling *P. nitens* Butler, for which it might easily be mistaken.

23. *Siculodes rufistrigata* spec. nov.

Forewing: whitish, covered with minute rufous vermiculations; a red-brown curved line at one-fourth, indented on median nervure; a red-brown submarginal line, thickened at the veins, emitting a spur to outer margin at middle, running to anal angle and connected inwardly with a furcate mark on submedian fold beyond middle; an ocelloid spot at end of cell; two submarginal dots below apex and one below vein 4; fringe white chequered with rufous; costal edge red-brown, dotted with white; costa grey towards base.

Hindwing: with the red markings thicker and more complicated, forming four or five partially parallel streaks to inner margin.

Underside whiter, with all the red markings plainer; costa broadly red-brown for two-thirds; subcostal and median veins with shining scales.

Thorax and abdomen white, slightly ringed with rufous; head wanting.

Expanse of wings: 22 mm.

1 ♂.

24. *Striglina condensata* spec. nov.

♂. *Forewing*: yellow, crossed by rows of fulvons spots between the veins; the yellow ground-colour is restricted to the basal third of wing and a triangular patch on costa before apex, the outer two-thirds being suffused with greyish black, crossed by lines of deeper spots, the grey scales forming a blotch on inner margin before anal angle below vein 2; a small brown-grey curve close to base and a dark round spot on submedian fold beyond it; fringe dark grey, fulvous-tinged beyond vein 5, where the extreme margin itself is also fulvous.

Hindwing: with basal fourth yellow, without the dark curved mark; the suffused outer area not so dark and containing a large diffuse fulvons patch below middle of outer margin, beyond which the grey fringe is also fulvous; fringe of inner margin yellowish.

Underside duller, greyer fulvons, the dark suffusion present only in forewing.

Head, thorax, abdomen, palpi, pectus, and forelegs fulvous; abdomen beneath and the other legs yellow; penultimate segments of dorsum grey-black; foretarsi fuscous.

In the ♀ the fulvous tints are replaced by fiery red, and all the dark markings are intenser; the broad central fascia is flushed with leaden purplish throughout, and the fringes of both wings are broad and iron-grey: the apical half of patagia, the metathorax, and sides of the basal segments of abdomen are all dark instead of fulvous.

Expanse of wings: ♂ 22 mm.; ♀ 27 mm.

8 ♂♂, 1 ♀.

A small condensed mimic of *S. xanthoscia* Warr.

25. *Striglina costirufata* spec. nov.

Forewing: red, like *S. recessa* and *scintillans*, but without the blackish costa; crossed by curved rows of deeper spots with slightly paler spaces between them; of these rows two basal, two median, and a postmedian are more or less marked with black, the two median forming a black blotch at inner margin; costa with nine black spots; black dots at ends of veins; fringe pinkish.

Hindwing: similar; the dark spots less conspicuous; inner margin and fringe pale ochreous.

Underside paler, reddish ochreous, with the spots showing deeper; costa with the black spots of upperside; the marginal dots black.

Head, thorax, abdomen, pectus, and forelegs red; abdomen beneath and legs ochreous.

Expanse of wings: 23 mm.

2 ♂♂.

26. *Striglina dentifascia* spec. nov.

Forewing: deep orange-red at base dotted with yellow, crossed by four curved rows of dark marks; in the marginal area the orange-red is obscured, except towards costa, by blackish suffusion; between them a plumbeous lilac-grey irregular fascia, its inner margin running from one-third of costa towards middle of inner margin, above which it crosses to join the outer margin; this starts from three-fifths of costa, runs outwards at right angles along vein 5, forming a tridentate projection towards outer margin, and is then incurved across submedian interval to anal angle; the costa above it black and orange-red; at the end of cell touching the basal area, of which it seems to form a projection, is an oblong vertical black-edged cell-spot; fringe pale grey; the inner half paler than the outer, but traversed by a dark line.

Hindwing: without the plumbeous suffusion; inner margin and fringe pale ochreous.

Underside dull rufous, darker along margins before the grey fringes.

Head, palpi, and thorax orange-red; patagia and dorsum grey, the former pale; a red line down middle of dorsum; abdomen beneath and legs rufous ochreous.

Expanse of wings: 32 mm.

1 ♂.

Evidently representing a third species distinct from *condensata* and *xanthoscia*.

27. *Striglina ignefissa* spec. nov.

Forewing: grey-brown, washed with fiery-red towards base and darkened with blackish in the anal fourth; the wing is crossed by pale yellow red-edged transverse streaks, of which a straight antemedian and curved postmedian are conspicuous,

forming complete lines : three others near base and one submarginal from costa to middle are also generally plain ; the rest are broken up into short transverse dashes ; the median vein throughout and the submedian in part are finely yellow ; at the anal angle is a small grey patch on the blackish suffusion : fringe rufous grey, with a slender pale basal line, the basal half darker than the apical.

Hindwing : with the median vein yellow, and all the streaks partially fractured : inner margin and fringe conspicuously pale ochreous.

Underside uniform dull brownish ochreous, with the streaks fine and pale ; costa of forewing red at base ; outer half of fringe darker brown.

Pectus, front of forelegs, palpi, head, and prothorax fiery orange ; patagia, metathorax, and dorsum shaded with brown ; dorsum with a yellow red-edged central line.

Expanse of wings 24—28 mm.

12 ♂♂.

28. *Striglina metallifera* spec. nov.

Forewing : dull greyish fulvous, crossed by curved series of darker spots between veins bearing specks of shining metallic scales, the veins themselves slightly paler ; costa diffusely smoky grey-brown : fringe concolorous, with minute metallic dots at end of the veins.

Hindwing : similar, but the area above submedian fold with a diffuse black cloud, the inner margin below it and the fringe pale glossy ochreous ; in one example the black cloud is absent.

Underside pale ochreous, the spots hardly visible, except below costa of forewing, and the marginal dots.

Head, thorax, and abdomen greyish fulvous ; anal half of dorsum blackish in the examples which have the black cloud on the hindwing.

Expanse of wings : 22 mm.

3 ♂♂.

Allied to *S. scintillans*, but of quite different coloration.

29. *Striglina nigripuncta* spec. nov.

♂. *Forewing* : greyish straw-colour ; costa with five brown spots, increasing in size and depth of colour towards apex ; from the third a curved irregularly edged olive-grey central band descends ; the fourth and fifth are confluent below costa, giving rise to an interrupted submarginal band ; the whole wing is crossed by slight grey and brown reticulations ; fringe concolorous.

Hindwing : with the submarginal band narrower but plainer and continuous, edged by darker reticulations ; above the anal angle in submedian interval is a round black spot.

Underside with the dark markings much clearer.

Head, thorax, and abdomen straw-colour ; palpi dark brown.

♀ greyer, especially towards outer margin ; the costal spots grey instead of brown, and the fasciae broken up ; a straight grey-brown bar from apex to two-fifths of inner margin, where it is somewhat broader, continued across hindwing at one-third from base ; the black spot above anal angle as in the ♂ ; the markings of the underside inconspicuous.

Expanse of wings : ♂, 38 mm. ; ♀, 44 mm.

4 ♂♂, 1 ♀.

The ♀ has the apex of forewing produced upwards and pointed, and the anal angle of both wings prominent. *S. variegata* Warr., also from New Guinea, to which it is nearly related, has the costal blotches black and no distinct oblique bar in the ♀.

30. *Striglina xanthoscia* Warr.

Hitherto ♂♂ only of this species have been seen; but now along with 26 ♂♂ there have come 4 ♀♀; these differ from the ♂♂ in coloration and fringe exactly as the ♀ of *S. condensata* Warr. differs from its ♂, being deep orange-red instead of fulvous, with the fringe grey and broad, and expanding 32 mm.

FAMILY URANIIDAE.

SUBFAMILY MICRONIINAE.

31. *Cyphura albisecta* spec. nov.

Forewing: wholly grey-black, the outer half of wing with wavy black striae; costa whitish with thick black strigulae; a straight oblique white band of uniform width from two-fifths of costa to four-fifths of inner margin; fringe blackish, the extreme margin of wing being pale.

Hindwing: white, with a black submarginal fascia, very broad at costa, narrowed below vein 4 to anal angle, the margin white with two black spots below the tail; fringe white from vein 6 to 4, elsewhere black with a black marginal line; a faint brown curved streak from inner margin above anal angle.

Underside like upper, but the markings of the forewing black.

Vertex, centre of face, and palpi externally black; the rest white.

Expanse of wings: 48 mm.

1 ♂, 1 ♀.

32. *Cyphura atramentaria* spec. nov.

Forewing: smoky-blackish, with a small white triangular space at base, the upper edge of which runs down the middle of cell to a little beyond the discocellular, where it is bent at right angles and goes straight to two-thirds of inner margin; fringe black.

Hindwing: white with a broad black outer band, the inner edge of which runs from about middle of costa to inner margin above anal angle, before which it is slightly curved; outer margin narrowly white from apex, with two large black spots and traces of another smaller below the tail; a black marginal line except in the projection above tail; fringe white above tail, black below.

Underside with the black band of hindwing much broader and touching margin except between veins 4 and 6, where the fringe also is white.

Vertex, middle of face, and palpi externally black; all the rest of body white.

Expanse of wings: 44 mm.

3 ♂♂, 1 ♀.

33. *Cyphura multistrigaria* spec. nov., and ab. *dealbata* nov.

Forewing: white, with the marginal area from three-fifths of costa to four-fifths of inner margin smoky grey-brown covered with black strigae, and with a cloudy pale space running from below apex to anal angle; costal area above

middle of cell with long black wavy strigae, the subcostal vein clouded with brown; two narrow pale brown oblique lines cross the wing from one-third and one-half (or sometimes two-thirds) to before and beyond middle respectively, both sometimes partially or entirely obsolescent; fringe black.

Hindwing: white, with a fuscous black submarginal band bent at vein 4 and narrowed to anal angle; a straight pale brown line from below one-third of costa joins it at anal angle; outer margin white, with two large black spots before tail; marginal line black; fringe white.

Underside like upper, but without any trace of lines.

Vertex and face in middle black; base of shoulders fuscous; all the rest white.

Expanse of wings: ♂, 48 mm.; ♀, 54—60 mm.

1 ♂, 4 ♀♀.

In the aberration *dealbata* only the margin is fuscous, the strigae being clear on a brownish white ground, and the band of hindwing is paler.

34. *Cyphura semialba* spec. nov.

Forewing: with the basal half white, the outer dull greyish-black, the limiting line running straight from just before middle of costa to four-fifths of inner margin; from one-third of costa an oblique grey bar runs, narrowing and becoming obsolete before middle of inner margin; in the smaller specimen this bar is very slight; costa in basal half white with black striae; a dark narrow shade before outer margin; fringe blackish.

Hindwing: white, with a blackish submarginal border, the inner edge of which is straight till just before anal angle, above which there is a faint brown shade; outer margin white with two large round black spots below tail; fringe white, beyond a black marginal line except from 6 to 4.

Underside with the dark areas black, the bar from costa of forewing reduced to a slight cloud.

Head, thorax, and abdomen white, only the vertex and centre of face black.

Expanse of wings: 38—44 mm.

2 ♂♂.

35. *Stesichora zebra* spec. nov.

Forewing: white; the costa marked with sparse but large black striae; from the subcostal vein to inner margin the wing is crossed by six oblique thick brown-grey stripes of which the first, second, and fourth are wider than the others, the sixth being partially sometimes strigose; marginal line black; fringe white; in the only ♀ specimen received there is an additional thin line near base.

Hindwing: with four stripes, the first three broad, the fourth strigose, all bent below middle towards anal angle, where they are joined by a grey streak along vein 1; marginal line black from apex to vein 4, where it is thickened; three black spots on margin below tail; fringe white.

Underside white, the stripes showing through.

Head, except face, thorax, and abdomen white; face and palpi externally black.

Expanse of wings: 60 mm.

4 ♂♂, 1 ♀.

SUBFAMILY EPIPLEMINÆ.

36. *Chaetoceras parvidens* spec. nov.

Forewing: dull greyish fawn-colour, of the same tint as *Chaetoceras cashiata* (described as an *Epipterna*), with which it may be easily confounded; lines often very indistinct, but marked by black spots between veins, the two on the folds always more distinct than the others; the four spots from apex distinct; cell-spot obscure; fringe concolorous.

Hindwing: with the lines also marked by spots, the outer ending in a double blotch on inner margin, as in *cashiata*, and with a pale cell-spot; but the outer line is farther from outer margin, and the angle at 4 is therefore much more obtuse; the spot below lower tooth is a black dot only, not a spot with lustrous scales, and not showing on the underside; the teeth at veins 4, 6, 7 are quite small and blunt.

Underside of forewing grey, of hindwing whitish, both slightly black-speckled.

Face and palpi blackish; thorax and patagia grey like wings; abdomen paler, with a pair of black spots or a bar at base; vertex and antennal shaft whitish.

Expanse of wings: 35 mm.; one specimen expands only 30 mm.

4 ♂♂.

37. *Chaetoceras strigulosata* spec. nov.

Forewing: bone-colour, tinged with pale olive-grey except along the two folds, and covered throughout with fine dark grey striae; inner line marked only by a spot on submedian fold; traces of a double waved brown outer line at two-thirds, not reaching above vein 6; cell-spot black; fringe ochraceous, with a slightly darker marginal line at base; three or four dark dots from apex to vein 4 before margin; costa thickly striated with dark.

Hindwing: less densely striated, especially in cell, and without the grey tinge; the double outer line acutely angled on vein 4; a black line from tooth to tooth; a brown streak into lower tooth with a dark spot at its base, preceded by some lustrous scales; a dark line on discocellular, ending at bottom in a black spot.

Underside cream-colour, with slight fine speckling, tinged with grey-brown in forewing at base and along costa.

Face and palpi black; head, thorax, and abdomen pale ochreous, the dorsum with a faint brownish tinge.

Expanse of wings: 30 mm.

6 ♂♂, 4 ♀♀.

38. *Chaetoceras striolata* spec. nov.

Forewing: like *strigulosata*, but larger, the ground-colour whiter, with a slight brownish not greyish tinge, and striated with brown; costa with a few striae; first line diffuse and obscure, with a brown spot on submedian fold; cell-spot large, black; the outer double line brown, the external arm thick, lunulate dentate, separated by distinct white spaces between the veins from the diffuse brown submarginal shade; three black submarginal spots from apex; fringe ochreous; the veins pale ochreous.

Hindwing: as in *strigulosata*; but the ground-colour whiter, and the bands and striae browner and more distinct.

Underside whitish, with sparse brown speckling; forewing brownish at base and along costa; cell-spot black in both wings.

Head, thorax, and abdomen whitish; face and palpi black; vertex and shaft of antennae white, the pectinations brown.

Expanse of wings: 35 mm.

3 ♂♂.

In the hindwing all the examples show a black spot above, as well as below, the streak in lower tail.

39. *Chaetoceras sulphurata* spec. nov.

Forewing: costal streak and basal area cream-colour; the costa with short, even, dark striae, the base with light grey striae, bounded by a faint pale brown curved inner line; cell-spot black in a central area of pale yellow; outer line broad, dark brown, from subcostal vein at two-thirds to vein 4, then incurved, reaching inner margin a little beyond middle, followed by a broad lilac-grey band not reaching above vein 6; an obscure dark brown patch from apex to middle of outer margin, edged inwardly by dark lunules between the veins, starting from apex, the whole with transverse striae; extreme margin and fringe yellowish; the cell from inner line and space beyond to outer line often shows as a long pale yellow blotch, especially in the greyer ♀♀.

Hindwing: basal half yellow; a slight cloudy basal band; a fine brown line on discocellular with a dot at each end; the broad outer band edged by a fine black line and acutely angled on vein 4, followed by a pale space of ground-colour before the mixed brown and lilac marginal area; a fine black line from tooth to tooth, and a blackish spot below lower tooth.

Underside of forewing pale ochreous, tinged with grey and striated with brownish along costa and broadly along outer margin; hindwing cream-colour, with some brownish striae along margin; cell-spots black in both wings.

Face and palpi brown-black; thorax and abdomen cream-colour; anal segments of dorsum marked with grey; vertex and antennal shaft white, the pectinations yellowish.

Expanse of wings: 26 mm.

A series including both sexes.

Outer margin of forewing evenly curved, of hindwing with prominent teeth at 4 and 7, a smaller one at 6.

40. *Chaetoceras transnigrata* spec. nov.

Closely allied to the two preceding species, but the ground-colour greyer, thickly striated; the lines brown, more distinct, and marked by black blotches and spots; inner line with a black spot in cell, as well as a larger one on submedian fold; outer line hardly double, the outer edge distinct to costa, and marked by black spots between veins, those on the folds large and diffuse; that beyond cell followed by another, submarginal; the three spots from apex large and black; cell-spot black; fringe concolorous.

In the hindwing the outer line is angled on vein 4, and preceded above and below the angle by a black shade.

Underside whitish, irregularly speckled; the forewing suffused with grey all over; a black spot on submedian fold of hindwing above anal angle.

Face and palpi black ; vertex and antennal shaft white ; thorax and abdomen like wings.

Expanse of wings : 35 mm.

4 ♂♂, 1 ♀.

41. *Dirades brunnea* spec. nov.

Forewing : brown ; the ground-colour split up into three longitudinal wedge-like streaks from base to outer margin by two dark grey patternless similar spaces along the folds : costal streak above subcostal vein dark fuscous, the edge dotted with white ; across the middle of the wing runs a dark brown curved fascia with still darker edges, not visible except across the brown portions ; two slight black dots close before apex ; fringe dark grey, with paler basal and dividing lines.

Hindwing : brown, with a large snow-white semi-oval costal blotch from near base to before apex, below which the deeper brown fascia runs as far as submedian fold, its dark edges slightly protruding into the white ; the furrow grey, with the tuft of hairs ochreous and broad : from the base of tuft to base of wing a long hyaline slit lies in a pale triangular space ; along outer margin from 7 to 4 a broad dark grey lustrous belt, really formed of three coalescent lumps, containing pale dots at the vein ends.

Underside of forewing dull cinereous ; of hindwing white, with the basal and apical costal tufts grey ; the marginal line and fringe also grey from apex to vein 4, below white.

Face, palpi, and forelegs black ; vertex and base of antennae snow-white ; shoulders dark fuscous ; thorax and abdomen grey-brown ; the anal tuft ochreous.

Expanse of wings : 20 mm.

1 ♂.

The outer margin of hindwing is bent at vein 7, and again below vein 4.

42. *Dirades semicarnea* spec. nov.

Forewing : whitish grey, somewhat glossy, shaded with darker in the basal area, along costa, and before apex, and thickly dusted with dark grey atoms ; a slight cloudy grey cell-spot, preceded by a small pale space ; outer line at quite two-thirds, blackish edged with pale, angled outwards below 8 and inwards on the cell-fold, where it is marked by a dark spot, then outcurved and interrupted, ending beyond middle of inner margin in a horseshoe-shaped spot, which is filled up with dark grey and outwardly edged with black ; a submarginal line of black spots between veins from apex to anal angle, those below middle elongated ; anal angle in ♂ tinged with flesh-colour, in ♀ with blackish and pink ; fringe dark grey.

Hindwing : in ♂ dull flesh-colour, with an outer white line straight from costa to vein 5, then bent inwards, internally dark-edged, and with the veins across it white ; vein 4 edged with black scales from base, the inner margin below vein 1 the same ; the furrow between and the contained pencil of hair white ; submarginal black dots minute, that between 4 and 5 on a white spot : in ♀ dark grey, above the middle blackish ; the two lines whitish, both angled on vein 4, the space between them, except on inner margin, black, with the veins grey ; base below middle also black ; submarginal dots black.

Underside of forewing pale grey, of hindwing in ♂ white, in ♀ whitish, with greyer margin.

Face and palpi blackish grey; vertex and antennae white; thorax and abdomen dark grey, the latter with a dark ring at base and in the ♂ paler towards anus.

Expanse of wings : ♂ 26 mm. ; ♀ 28 mm.

1 ♂, 1 ♀.

43. *Epiplema adornata* spec. nov.

Forewing: black-grey, slightly speckled; the markings dark brown, consisting of a central fascia and a subapical blotch on outer margin; inner edge of fascia curved from below one-fourth of costa to one-third of inner margin; outer from below middle of costa, obliquely curved outwards to below 4, then incurved and irregularly crenulate to two-thirds of inner margin; the brown of the fascia is broken up by patches of the pale ground-colour and the pale veins; it is followed at a narrow interval by a brown line; a subapical spot, which is dark brown-grey, edged inwardly by a wavy black-brown line from vein 7 to 3; a submarginal shade is shown by a brown costal cloud, and a double patch of brown striae before anal angle; fringe grey beyond a dark marginal line, dark-flecked beyond veins.

Hindwing: with the markings restricted to the upper two-thirds of wing above vein 4, and to the inner margin below vein 1, the intervening space whitish; dark, pale-edged lunules along margin.

Underside whitish, with slight speckling along costa and towards apex.

Face and palpi black-brown; thorax and abdomen grey like wings; vertex, shoulders, and shaft of antennae white.

Expanse of wings: 22 to 25 mm.

3 ♀♀.

Outer margins of wings slightly crenulate; hindwing with sharp teeth at 4 and 7; apex of forewing truncate.

44. *Epiplema aequisecta* spec. nov. and ab. *flavicata* nov.

Forewing: dark brown or brown-grey, more or less speckled; costa finely black-dotted; first line very indistinct in ♂; black and outcurved in ♀, with basal area black-brown; outer line vertical, thick and well-marked, from a little beyond middle of costa to a black-brown blotch at three-fifths of inner margin, followed in ♀ by a black-brown cloud widening below to anal angle; marginal area at middle diffusely darker, edged inwardly by a fine curved line, often very obscure; fringe concolorous.

Hindwing: with basal line biangulate, black; discal mark thick, black, and angled along 5; outer line orange, dark-edged on both sides, bluntly angled at vein 4, with a black blotch on its inner edge from 2 to 4; a series of dark, paler edged, dull lustrous submarginal lunules from upper tooth to vein 2; space below submedian fold pale ochreous, unmarked, except by the outer line.

Underside of forewing grey-brown, of hindwing whitish, tinged with brown towards apex, all the brown areas with black speckling; hindwing with outer line, cell-spots, and lunules marked.

Vertex, thorax, and abdomen brown; face and palpi black.

Expanse of wings: ♂ 19 mm.; ♀ 22 mm.

3 ♂♂, 1 ♀.

Forewing with apex depressed; outer margin vertical from 8 to 6, incised from 6 to 4, then gibbous to anal angle; hindwing with the usual two teeth at 4 and 7.

3 ♂♂ from the same locality are possibly a distinct species, but I prefer at present to refer to them here as an aberration : though much fainter, the markings, where visible, are practically identical, but the ground-colour of all three, above and below, is dull yellow, which has suggested the name *glucicata*.

45. *Epiplema bipunctigera* spec. nov.

Forewing : greyish fuscous, striated with darker and sprinkled with lustrous bluish scales (which are probably more numerous when fresh) ; a paler oblique, slightly curved band at one-third, from subcostal vein to inner margin, inwardly darker edged ; an outer similar band oblique from two-thirds of costa to vein 4, then incurved and dark ; apex and a marginal shade brownish, like the fringe ; cell-spot formed by two black dots at ends of discocellular, connected by some lustrous blue scales ; a patch of grey scales at anal angle.

Hindwing : brown ; outer line thick and dark, angled on vein 4, concave on each side ; apex and marginal streak darker ; a deep fulvous line edged with lustrous scales from tooth to tooth, and a black spot below lower tooth ; cell-spot as on forewing.

Underside of forewing fuscous with coarse black speckling, the costa ochreous ; of hindwing whitish ochreous, with dark striae and a blackish marginal border to below middle ; a pair of black dots on each discocellular.

Head dark brown ; collar whitish ; thorax and abdomen like wings ; abdomen beneath and legs whitish ; forelegs and pectus fuscous.

Expanse of wings : 26 mm.

1 ♀.

Forewing with outer margin bulged between 3 and 4, insinuate from 7 to 4 ; hindwing with very slight teeth at 4 and 7, a blunt tooth at 3, and crenulate to anal angle.

46. *Epiplema caligata* spec. nov.

Forewing : grey, speckled with darker : crossed in middle by a bent fascia with dark edges ; inner edge dark brown acutely angled on vein 4, then oblique inwards to one-third of inner margin, the upper arm obsolete above subcostal vein, but marked by a grey spot on costa at one-fourth ; outer edge sinuous, from two-thirds of costa to three-fourths of inner margin, convex outwards above middle, concave below, preceded below subcostal by a broad dark brown band ; a row of dark submarginal spots from costa to below middle of outer margin, and traces of a dark submarginal shade on costa and inner margin ; fringe grey.

Hindwing : with both edges of the fascia bluntly angled on vein 4 ; a slight submarginal shade ; faint lunules from upper to below lower tooth and a fulvous shade between the teeth.

Underside grey thickly black-speckled.

Face and palpi black ; thorax and abdomen grey ; vertex and antennal shaft snow-white.

Expanse of wings : 30 mm.

2 ♀♀.

The second specimen is paler grey than the type, and the brown edges of the fascia consequently are much plainer.

Forewing truncate at apex, slightly hollowed out beyond cell ; hindwing with two short teeth at 4 and 7.

47. *Epiplema facilis* spec. nov.

Forewing : slaty grey, densely striated with brown ; lines dark brown, thick : first nearly straight, at one-fourth ; outer from two-thirds of costa, outerveed to vein 2, then vertical to three-fourths of inner margin, edged outwardly with ferruginous ; cell-spot black ; three black submarginal spots from apex ; fringe concolorous.

Hindwing : similar, but the outer line is bluntly angled on vein 4 ; a slight dark spot below lower tooth.

Underside pale slate-colour, bluer in hindwing ; both wings with numerous speckles.

Head, thorax, and abdomen concolorous ; fillet white ; face black.

Expanse of wings : 28 mm.

1 ♀.

Hindwing with short blunt teeth at 4 and 7.

48. *Epiplema foedicosta* spec. nov.

Forewing : whitish, with slight grey striae and speckling ; the costal area with a dull grey-brown tinge ; the costal edge finely black-dotted, with a large cloudy blackish blotch beyond middle and three small black spots before apex ; lines obscure, first close to base, curved : outer very indistinct, from the large costal blotch, vertical and wavy, to the outer edge of a slightly marked brownish flattened spot on inner margin ; from the outer of the three small costal spots an indistinct submarginal line to anal angle, preceded by a brownish cloud on inner margin, and marked by small brownish dots between veins ; a blackish blotch on outer margin between veins 6 and 3, with deep black inner edge, and with a small black dot above it ; two rufous spots on discocellular ; fringe whitish, grey beyond the blotch.

Hindwing : white ; a dark spot near middle of base ; cell-spot oblique, blackish ; space between cell and submedian fold speckled with dark ; inner margin with dark striae ; outer line bluntly angled on vein 4, edged by two dark shades above the angle, and with a small blotch on the inside below ; a small dark cloud at apex ; a thin black line from tooth to tooth, and two bluish lunules below lower tooth, preceded by some lustrous grey scales.

Underside of forewing washed with pale brown and coarsely speckled ; a small dark blotch on outer margin ; hindwing white, with a few black specks along costa.

Face and palpi black ; thorax and abdomen whitish ; vertex snow-white.

Expanse of wings : 22 mm.

2 ♂♂.

Forewing with outer margin slightly indented beyond cell ; hindwing with fine teeth at 4 and 7 ; antennae thick, with deep clavate teeth.

49. *Epiplema funesta* spec. nov. and ab. *subrufa* nov.

Forewing : dull grey, densely speckled with fuscous ; costal area above subcostal vein rather paler ; a very fine curved black line at one-third, touching or running close to the black cell-spot ; outer line broad, forming a band, at three-fifths, well curved outwards in middle and outwardly edged by a blackish line ; an indistinct submarginal shade, plainest at costa and above anal angle ;

veins finely pale towards outer margin ; fringe grey ; three black costal spots before apex.

Hindwing : blackish, the speckling and striae coarse and close ; a black line close to base ; outer line bluntly angled on vein 4 ; some slight dark lunules at lower tooth.

Underside uniform dull fuscous ; the costa of forewing ochreous.

Face and palpi black ; vertex and shoulders pale grey ; thorax and abdomen like forewing ; underside and legs pale ochreous.

Expanse of wings : ♂ 28 mm. ; ♀ 32 mm.

1 ♂, 1 ♀.

Forewing excised from 7 to 4, then straight and oblique ; hindwing toothed at 7 and 4, less so at 6 ; margin straight from 4 to anal angle.

The ♂ is darker, without striations or speckling, and smaller ; the outer line fine and indistinct ; the fringe darker, with a slight ferruginous line at base ; underside of hindwing dull ochreous with dark speckling and a smoky brown submarginal shade.

The aberration *subrufa* differs from the type in being rufous speckled with darker instead of fuscous ; the dark costal spots visible, but the lines, though traceable, very obscure ; fringe red-brown ; hindwing rather darker, with equally obscure markings. Underside ochraceous ; forewing with a dark cloud towards base, leaving costa and margin pale ; hindwing as in the type ♂, but more ochraceous.

Expanse of wings : 30 mm.

3 ♂♂.

These three insects **may** represent a distinct species ; it is difficult, in the case of New Guinea forms, to decide on first acquaintance, especially if the series is small, to what rank to assign them.

50. *Epiplema sulcata* spec. nov.

Forewing : whitish, thickly grey-speckled, in the ♀ tinged with darker grey ; cell-spot dark, followed beyond middle by a broad vertical darker fascia, of which the inner edge is diffuse and the outer obscurely angulated on vein 5 and concave on each side, the lower end below vein 2 filled up with bright brown, the costal end grey ; submarginal line vertical, blackish grey, formed of elongated blotches between veins ; a row of distinct black lunules from costa before apex to vein 2 ; fringe grey, dark-dotted.

Hindwing : with an inner and outer line, both bluntly angled above vein 4, dark brown in ♀, ferruginous in ♂ ; a row of dark lunules, with brown or ferruginous edges, before outer margin, the ground-colour of ♂ being reddish grey, and of ♀ purplish fuscous ; space between vein 1 and the submedian fold whitish, without scaling.

Underside of forewing in ♂ pinkish ochreous, of hindwing whitish ; in ♀ brownish, of hindwing ochreous, becoming brown along costa ; antemedian and postmedian tufts of hair on costa of hindwing, ochreous in ♂, dark grey in ♀.

Face and palpi black-brown ; vertex and antennal shaft white ; thorax pale grey ; abdomen ochreous in ♂, dark fuscous in ♀.

Expanse of wings : 22 mm.

1 ♂, 1 ♀.

The teeth at veins 4 and 7 of hindwing are much stronger in ♀ than in ♂. In both sexes there is a conspicuous furrow running longitudinally from base to outer margin along and beyond cell in both wings above, with a corresponding ridge on the underside; this, being paler, shows more clearly in the darker ♀.

51. *Gathynia nigella* spec. nov.

Forewing: costal margin broadly velvety-black; rest of wing blurred grey, separated into two wedge-shaped areas by a brownish-black wedge running between cell and submedian interval; the inner margin below vein 1 also black; traces of two darker transverse lines parallel to outer margin, antemedian and postmedian; fringe black.

Hindwing: with more than costal half blackish brown, with two short thick very black lines beyond cell; the costa itself at base also black; inner margin below vein 1 black; the furrowed space white, the enclosed pencil of hairs slightly ochreous.

Underside of forewing dull dark grey, with a blackish cloud on outer margin at middle; of hindwing whitish, greyer towards margin.

Head and thorax deep black; abdomen grey; vertex snow-white; antennae dark.

Expanse of wings: 24 mm.

1 ♂.

Homoplexis gen. nov.

Forewing: short and broad; costa straight, convex before apex; outer margin curved, as long as inner margin, which is straight.

Hindwing: truncate from 8 to 7, then straight to a slight tooth at 3, thence curved to anal angle in ♀; in the ♂ the area below submedian fold is shortened, and contorted, without scales, and contains a large tuft of hairs, much as in *Dirades*.

Neuration as in *Epiptema*.

Type: *Homoplexis planimargo* Warr. (*Epiptema*).

52. *Homoplexis planimargo*.

Epiptema planimargo Warr., *Nov. Zool.* xiii. p. 74, ♀ (1906).

The ♂ of this species does not differ from the ♀ except in the hindwing, where the fold is whitish and the pencil of hairs ochreous.

2 ♂♂, 1 ♀.

The insect is superficially not at all unlike [*Pterotosoma bilineata* Warr., but the abdomen of ♂ is quite normal, without tufts.

Paroecia gen. nov.

Forewing: short and broad; costal and outer margin curved, the latter hardly oblique.

Hindwing: broad; hindmargin bluntly toothed at 7 and 4, vertical and faintly concave between, then crenulate to anal angle.

Antennae of ♂ bipectinate; forewing of ♂ with a fovea near base above vein 1.

Neuration as in *Epiptema*.

Type: *Paroecia acupicta* spec. nov.

53. *Paroecia acupicta* spec. nov.

Forewing: whitish grey, covered with excessively fine brownish striations; lines brown, furry-looking; first curved close to base, enclosing the fovea; second at middle, passing over discocellular, and hardly marked below median; third marginal, edged inwardly by black spots between veins, inwardly angled on vein 7, thinning to a point at anal angle; fringe brown, with ferruginous base.

Hindwing: without marginal line; fringe as in forewing.

Underside of forewing dull bluish grey, of hindwing bluish white, both with large and small speckles.

Head, thorax, and abdomen above grey like wings; face and palpi blackish; abdomen below white.

Expanse of wings: 18 mm.

1 ♂.

54. *Platerosia albipennis* spec. nov.

Forewing: white, slightly striated with red-brown; costa with short striae; markings red-brown; some brown spots in basal area and along subcostal vein; a brown horseshoe-shaped spot at middle of inner margin, with the centre whitish; its outer edge joined by a curved and crenulate white line from costa at middle, edged on each side by brown shading; a patch of brown scaling before anal angle and a less conspicuous one on costa at three-fourths indicate the submarginal shade; a row of brown spots from below apex to below middle of outer margin, confluent below vein 6 and followed by a brownish grey cloud, which runs out into the white fringe; marginal line waved, brown; fringe mottled with brown.

Hindwing: with a double brown outer line from costa to vein 4, there bluntly angled, marked by a brown blotch between veins 3 and 2 and another on inner margin; the whole wing slightly grey-speckled, more strongly at apex; marginal line brown, fine, preceded by an interrupted thicker submarginal.

Underside white, with fine brown striae along costa and outer margin in both wings.

Face, palpi, and collar black; vertex, thorax, and abdomen white; the dorsum with pairs of dark curved marks, sometimes confluent.

Expanse of wings: 22 mm.

2 ♂♂.

FAMILY GEOMETRIDAE.

SUBFAMILY OENOCHROMINAE.

Gerusia gen. nov.

♂. *Forewing*: costa straight; apex blunt; outer margin bluntly dentate at 6 and 4, below 4 very oblique, the anal angle obtuse.

Hindwing: broad; apex squarely rounded; outer margin denticulate, bent at vein 3; anal angle rounded.

Antennae of ♂ stoutly bipectinate to near apex; palpi porrect, stout, heavily scaled, terminal segment minute; tongue present; frenulum present; hindtibiae with four spurs; foretibiae with a pencil of stiff hairs from the femoro-tibial joint and a broad, blunt, curved, claw-like process from end on outer side.

The forewing has a patch of black scales at base of submedian vein beneath,

covered by a long pencil of black hairs from base; and the hindwing has a corresponding patch of black scales along the upper half of cell above; below the median vein of hindwing from base to two-thirds the wing membrane is hyaline white.

Neuration: forewing, cell longer than half of wing; discocellular vertical, very faint, slightly concave outwards; first median nervule at two-thirds, second at eight-ninths; radials normal; 7, 8 stalked from the bend, 9, 10 stalked just before, 11 free, anastomosing at a point with 12, 9, 10 anastomosing with 11, 9 again with 8; hindwing, costal anastomosing with subcostal shortly in basal half of cell; 7 and 3 from before ends of cell; radial from centre of discocellular.

Type: *Gerusia virescens* spec. nov.

55. *Gerusia olivescens* spec. nov.

Forewing: glossy cream-colour, speckled with olive; the lines and shadings deep olive-green; lines as in *viridescens*, but thicker and more strongly marked; basal patch wholly olive, separated from first line by a narrow line of pale ground-colour; median shade diffuse, incurved below middle and outcurved again to inner margin near outer line; a deep olive-green cloud along submedian interval from beyond basal line to beyond outer line; outer line dark green, with a diffuse shade in the angle, followed by a costal triangle of green edged by the pale submarginal line; a grey-green patch on the margin from 7 to 4, and another below middle reaching outer line and traversed by the lunules of submarginal line; two blackish green spots before this line on each fold; fringe olive-green, with pale spots on the veins.

Hindwing: with the lines as in *viridescens*, but all deep olive-green; costal half dull blurred grey-green, with a pink tinge.

Underside dark olive, with all the pale spaces sulphur-yellow; some red scales between veins 2 and 4 on each wing, and orange and yellow dots along cell of hindwing; spots at anal angle of hindwing yellow.

Palpi olive-green externally, white within and above; face olive-green, pale below; vertex and antennal shaft white; prothorax olive-green; apical half of patagia, metathorax, and two basal segments of abdomen greenish white; rest of dorsum olive-green with the segmental rings white; abdomen beneath, legs, and pectus ochreous dotted with green.

Expanse of wings: 44 mm.

2 ♂♂.

Differs from the type species, *virescens*, in having no dark scales on either wing at base, and the pencil of hairs from base of forewing smaller and paler.

56. *Gerusia rasimargo* spec. nov.

Forewing: almost exactly like that of *G. viridescens*, but the lines pale olive-brown, and the costa olive-brown at base; a snow-white streak from apex to the hyaline spot on vein 6; fringe olive-brown; outer margin smoothly rounded, without trace of teeth or crenulations.

Hindwing: costal half paler green, rust-coloured towards apex; lines brown, much as in *viridescens* but more distinct; an additional bent shade just beyond postmedian line; space below middle not hyaline white; fringe olive-brown; outer margin well rounded, with hardly an indication of teeth.

Underside of both wings yellow, speckled with brown; the lines dark brown; costa and base of cell of forewing dark olive-brown; inner margin of forewing whitish; two hyaline white spots between veins 6 and 7 towards apex.

Palpi and face olive; basal segment of antennae and base only of shaft white, the rest along with the pectinations dark fuscous; vertex greenish white; shoulders dark olive; thorax and patagia greenish ochreous; abdomen yellowish ochreous with pairs of dark dots; abdomen beneath, pectus, and legs yellow, the legs much dusted with fuscous.

Expanse of wings: 44 mm.

I ♂.

Differs from the type species, and from *olivescens*, not only by the smooth outer margins, but also by the entire absence of the pencil of hairs and patches of dark scales. The anastomosis of costal and subcostal of hindwing is common to all.

57. *Gerusia virescens* spec. nov. and ab. *viridimacula* nov.

Forewing: pinkish ochreous, overlaid with very pale green and covered with fine black atoms; the lines olive-green, indistinct; first curved from one-fifth of costa to one-fourth of inner margin, marked by a dark spot on submedian vein; median outcurved from about middle, becoming obsolete below; outer line from two-thirds of costa, oblique outwards and sharply angled on vein 6, then oblique inwards, vertically curved from vein 2, marked by dark dots on veins; submarginal line white, preceded by a greener shade, angled inwards at 6 to angle of outer line and there marked by a hyaline white spot, on the two folds preceded by two blackish spots; fringe olive-brown, with broad pale yellow chequering at the vein-ends; cell-spot green; central area often more suffused with green than the rest of wing.

Hindwing: above middle dull whitish with a pinkish tinge, speckled with green, below hyaline white, green-speckled; a broad straight antemedian line, curved lunulate-dentate postmedian, and waved submarginal; marginal area below 4 dull grey-green, its inner edge straight; fringe olive-brown, with basal line and teeth pale yellow; cell-spot green; base of cell below subcostal vein with a long patch of black scales.

Underside of forewing ochreous, green-speckled; the lines broadly green, the apex and anal angle green; in cell some rust-coloured scaling; margin below middle yellow, inwardly limited by a curved reddish line; inner margin whitish; the pencil of hairs from base black; hindwing sprinkled with green; the cell dull pink; antemedian line dark at inner margin; marginal area below middle darker green with a brown patch containing two pale ochreous spots.

Palpi externally greenish, white within and below; face dark green, white below; vertex and thorax pale olive-green; abdomen greenish ochreous mixed with pink, with pairs of green dorsal spots; abdomen beneath and legs cream-colour speckled with grey-green; foretarsi greenish, with pale joints; antennal shaft white.

Expanse of wings: 40—44 mm.

II ♂♂.

In three of these—ab. *viridimacula*—the sinus of outer line across the submedian fold is filled with a large round blackish green blotch.

Palaeodoxa gen. nov.

Forewing: shaped much as in *Therapsis*; the apex blunt; the outer margin indented below it and elbowed at vein 6, then faintly curved and passing into inner margin without forming a real angle.

Hindwing: with apex rounded; outer margin slightly excised between veins 6 and 7 and deeply between 6 and 4, which are both bluntly toothed; inner margin and outer margin below 4 forming a single curve.

Antennae of ♂ strongly bipectinate almost to apex, the outer series of pectinations longer than the inner; palpi upturned, second segment long and heavily scaled, third quite short; tongue weak; frenulum present; hindtibiae with four spurs.

Neuration: forewing, cell half as long as wing; discocellular vertical, oblique below; first median nervule at four-fifths, second close to third; lower radial from a little above middle of discocellular, upper from upper end; 7, 8, 9 stalked from a little before end; 10 and 11 from cell, 11 anastomosing with 12; hindwing, discocellular biangulate, the lower outer angle slight; subcostal upcurved from base, approximating to costal shortly, before middle of cell; 7 and 3 from before angles of cell; radial from the slight outward angle.

Type: *Palaeodoxa subignea* sp. nov.

58. **Palaeodoxa subignea** spec. nov. and ab. **suffusa** nov.

Forewing: olive ochreous, marked with strong dark striae, more or less obscured by olive-brown suffusion; the basal patch, a broad curved inner line at one-third, and a broad postmedian fascia, edged inwardly by a sinuous median line and outwardly acutely angled above vein 5—all rich olive-brown; an irregular olive-green submarginal shade from a large praecapital blotch, containing a pale spot on vein 6; a purplish brown shade on outer margin from apex to middle; a shade of similar colour edges the dark brown markings; cell-spot vertical, narrowly pale, with deep olive edging; veins pale across the dark spaces, and dark across the pale.

Hindwing: blurred pink in costal half, fiery orange at anal angle, red-brown, olive, and ochreous between, crossed by dark striae; a dull pearly waved line with dark edges across middle of wing to above anal angle, and traces of a zigzag pale submarginal line; inner margin, in basal two-thirds, ochreous with darker reticulations and olive suffusion.

Underside of forewing purple-grey to an oblique dark-edged pearly lustrous postmedian line; the cell yellow, crossed by a brown line; marginal third yellow, with dark brown striae, and fulvous at apex; inner margin below vein 2 blurred pearly grey; hindwing redder, with the same two lines, the outer angled before inner margin; the broad marginal area reddish and grey.

Collar, face, palpi, base of antennae, legs, and abdomen beneath deep orange-red, the legs yellow-spotted; thorax and patagia pinkish grey, the shoulders darker; abdomen dull reddish mixed with olive; vertex and basal segment of antennae in front white.

Expanse of wings: 44—48 mm.

3 ♂♂.

In the larger example, ab. *suffusa* a, the paler ochreous tints are hidden by a

purple-grey suffusion, and on the underside the wings are greyer, with the marginal area of forewing deep fulvous instead of yellow.

Thaumatographe gen. nov.

Forewing: narrow; costa straight till close to apex; outer margin oblique, bent at vein 5, nearly as long as inner margin, which is also straight.

Hindwing: short and rounded; costa straight; outer margin strongly excurved, slightly elbowed at vein 3, irregularly crenulate.

Abdomen elongate, stout, the anal segment squared; thorax densely scaled; antennae bipectinate to two-thirds in both sexes; palpi short, thickly scaled, first and second segments dentiform in front, third short; tongue absent; frenulum absent; pectus and femora woolly; legs short, hindtibiae with four short spurs.

Neuration: forewing, cell less than half of wing; discocellular vertical; first median nervule just before end of cell; second and third on a long stalk; vein 5 from a little above middle of discocellular, 6 from upper angle; 10, 7, 8, 9 stalked from close to 6; 11 free; hindwing, costal and subcostal approximated shortly at base, 7 from before end of cell, 6 from the depressed end; discocellular inangulate; 5 from the upper end close to 6; 3, 4 stalked; 2 at three-fourths.

Type: *Th. singularis* spec. nov.

A genus standing quite by itself.

59. **Thaumatographe singularis** spec. nov.

♂. *Forewing*: pinkish ochreous, grey-brown along costa and outer margin, pink along inner margin; a diffuse green patch at base between subcostal and submedian veins, crossed by a curved black line indented on median, limited by the same two veins; cell-spot thick, red-brown; outer line from three-fourths of costa, blackish, zigzag on subcostal, then marked by vein-dots to 4, thence bisinuate to 1, from which it runs sharply oblique to middle of inner margin; submarginal line whitish, strongly zigzag above middle, below approximated to outer line; outer margin greenish below vein 4; fringe pale green chequered with darker.

Hindwing: with a strongly marked black line from base of costa oblique to middle of discocellular, then horizontal, boldly curved at three-fourths of wing and vertical to vein 1; the enclosed space brightly white in cell, below it whitish green at base, then pinkish and green; costal area black-brown to submarginal line, which is strongly waved and preceded by a greenish shade; outer margin pinkish and green, paler before margin, which above middle is marked with blackish lunules; fringe pale green; inner margin below vein 1 and the fringe pale pinkish ochreous.

Underside of forewing in the main like upper, but band beyond outer line dark brown, and with a brown streak inwards along submedian fold; the costa not darker; hindwing with the strong black line starting beyond middle of costa and simply sinuous, followed by a broad brown band, the whole basal area whitish.

♀ throughout paler, less pink than the ♂.

Head and thorax green varied with pinkish; abdomen ochreous speckled with darker; antennal shaft in ♂ pure pinkish ochreous, in ♀ speckled with black.

Expanse of wings: ♂ 48 mm.; ♀ 58 mm.

2 ♂♂, 1 ♀.

SUBFAMILY PSEUDOTERPNIINAE.

60. *Actenochroma amethystina* spec. nov.

Forewing: deep violet, with darker violet shading in the neighbourhood of the two lines; these are very pale green; two near base, the outer bent in cell; postmedian broad and oblique outwards to 6, then slender, lunulate-dentate inwards to two-thirds of inner margin; a deep violet cell-spot on lower half of discocellular, followed by a large snow-white spot, and often preceded by a smaller one; the two lines white on costa; in the outer line a white spot on inner edge above vein 6; an erect yellow mark below vein 2 beyond inner line; beyond this mark and on each side of the discocellular are beds of lustrous scales; fringe violet chequered with pale green between the veins; two or three white costal dashes before apex.

Hindwing: with outer line broad throughout, with darker green speckling; blotches of pale green with darker speckles beyond and below cell, and along inner margin.

Underside of forewing bright red in and below cell, shaded and spotted with blackish, becoming red-brown in marginal area; costa and lines dull green, black-speckled; a white spot in cell on inner line and below costa on outer; the spot beyond cell hyaline white; apex pale green; hindwing with a broad green outer band, and some green shading along margin; the white spot beyond cell marked.

Palpi red; head dull violet; shoulders and patagia pale shining green edged with violet; thorax and abdomen pinkish violet; tufts of metathorax and dorsum pale green; abdomen beneath pinkish ochreous; legs dull green spotted with dark; pectus olive ochreous, blotched with vermilion; antennae pink dotted with black.

Expanse of wings: 52 mm.

12 ♂♂.

61. *Hypochroma corrosa* spec. nov.

Forewing: moss-green, speckled with black; the black forming a band between outer and submarginal lines, the edges rounded externally between veins and running into the lunules of submarginal line; lines much as in *H. leprosa* described below; distinguished at once by the whole of central area, except costal, and the marginal below vein 2 being filled with brown, the veins marked across it in green; some brown scales at base of wing; cell-spot linear, blackish; some brown scaling on each side of submarginal line towards costa.

Hindwing: mainly brown, the green being confined to the space between veins 2 and 4, the whole well speckled; tufts green and prominent; those of the submarginal line brown; apical fringe brown.

Underside of forewing greenish ochreous, orange towards base, of hindwing entirely orange; both wings with broad blackish margin, leaving apex of forewing ochreous; cell-spot of forewing black, large; costa with black striae; fringe dull yellowish.

Head and thorax green; face with a dark bar; palpi and forelegs blackish; metathorax, tips of patagia, and dorsum brown mixed with green; dorsum with pairs of small tufts; abdomen below and legs yellow; pectus reddish.

Expanse of wings: 48 mm.

1 ♂.

62. *Hypochroma leprosa* spec. nov.

Forewing: moss-green, covered with dark speckling, which is confluent and forms a kind of shade before first and after outer line, marked with ferruginous between the veins; lines black; first from one-fourth of costa to one-third of inner margin, roundly outcurved above and below median vein and angled below vein 1; outer line lunulate-dentate, from two-thirds of costa to three-fifths of inner margin, vertical to vein 4, then oblique, approaching first line on inner margin; cell-mark black, linear, oblique; both lines separated from the shade by a narrow space of unspckled green; submarginal line a row of green dark-pointed lunules; marginal spots black; fringe green; ferruginous marks in outer shade elongate, absent between 3 and 4, and expanded into a blotch between 1 and 2.

Hindwing: without the shades; the tufts on inner margin and towards base green and large.

Underside of forewing dull olive tinged with red, of hindwing dull dirty yellow; a diffuse obscure blackish submarginal cloud on both wings, and black cell-spot in forewing.

Head, thorax, and abdomen moss-green and black; dorsum with pairs of dark spots; abdomen beneath and legs dull olive-yellowish; pectus reddish-tinged; foretarsi black and ochreous.

Expanse of wings: ♂ 48 mm.; ♀ 52 mm.

2 ♂♂, 1 ♀.

The ♀ is more strongly marked and dusted with black throughout; the shoulders and tufts of hindwing black; costal half of central area of hindwing pinkish-ochreous, undusted.

63. *Hypochroma lichenosa* spec. nov.

Forewing: moss-green, like *leprosa*, but with less dark dusting, and the lines more obscure; the dark scales before inner and beyond outer line mixed with pink; cell-spot dark with a few pink scales; submarginal line marked mainly by dark patches on the two folds.

Hindwing: similar; the tufts green and prominent.

Underside of both wings dull white, greenish towards outer margin; costa of forewing pinkish; base and inner margin of hindwing yellow; both wings with black submarginal fascia, the margin in forewing speckled; cell-spot of forewing black.

Head, thorax, and abdomen moss-green slightly dark-speckled; abdomen with small tufts in pairs; anal segment and underneath and legs pale ochreous; foretibiae green, black-mottled.

Expanse of wings: ♂ 48 mm.; ♀ 52 mm.

3 ♂♂, 1 ♀.

In the ♀ the basal half of hindwing is darker, more speckled; the submarginal line of forewing plainer, whitish, and the whole central area of forewing whiter, with less dark scaling.

Both this and *leprosa* belong to the group containing *muscosaria* Guen. and *hypochromaria* Guen. from Australia; they are distinguished from each other by the undersides.

64. *Hypochroma purpurissa* Warr.

The ♀ of this species, described in *Nor. Zool.* vol. xiii. p. 77 from a ♂, is much larger and darker; suffused in both wings with dark olive slate-colour and heavily black-speckled; the first line preceded and the outer followed by pale pearly scales; the apex of forewing remains pale bluish white.

Head, thorax, and dorsum similarly darker.

Expanse of wings: 60 mm.

1 ♀, along with 4 ♂♂.

65. *Hypochroma rufivaria* spec. nov.

Forewing: pale shining green, with a bluish tinge in parts, and striated with dark green; costa striated with dark green and with two triangular blackish spots; lines dark green; first vertical, from the first black spot, curved above and below median; outer angled on vein 6, toothed on 4 and 3, then interrupted, ending on inner margin in a dark spot close to inner line, the space between them dark green; a blackish green, angled line close to base; submarginal line deep green, angled outwards on veins 5 and 2, preceded by a variable band of pinkish ochreous; cell-spot crescentic, of the same colour, edged with blackish; patches of it also appearing sometimes in submedian fold before inner line, on inner margin between the two lines, and in the tooth of outer line on vein 4; costa often tinged with the same colour; fringe pale bluish green, mottled with blackish beyond veins.

Hindwing: without inner line; submarginal preceded by blotches of pinkish ochreous, the cell and space beyond similarly coloured and spotted with black, and a patch of it on inner margin near base; fringe of inner margin bright orange.

Underside pale fulvous in forewing, tinged with reddish below cell and towards outer margin, with coarse black striae becoming confluent in places; cell-spot black; a greenish-ochreous blotch on margin between 3 and 4; fringe greenish-ochreous broadly mottled with black; hindwing orange-fulvous with deeper postmedian band and marginal fascia, the latter with black striae, and a black blotch beyond cell; cell-spot linear, small, black.

Head, thorax, and abdomen pale green; face with a broad ferruginous bar; palpi ferruginous, pale beneath; shoulders tinged with fulvous; dorsal tufts green; anal tuft and abdomen at sides orange; beneath with legs and pectus yellow ochreous; forelegs greenish fuscous, with paler joints.

Expanse of wings: 40 mm.

8 ♂♂.

66. *Pingasa meeki* spec. nov.

Forewing: very pale delicate green, with faintly deeper green striations; costa with minute dark strigae; lines finely black, edged by pinkish scales; first angled above and below median, the lower angle acute; outer at two-thirds, oblique outwards to 6 and there angled, vertical to 3, then oblique inwards, marked on the veins by black dashes; submarginal line preceded by a brown and pinkish shade, darkest on costa and broadest on the folds, where it contains some whitish scales, and is followed by brownish pink; black marginal dots between veins; fringe pale green; cell-spot pink.

Hindwing: without inner line; some pinkish scales at base and along inner margin.

Underside greenish white : forewing with some broad fuscous striae in and below cell ; cell-spot fuscous ; both wings with broad black submarginal band.

Palpi pink above, white below ; face pale green above a black bar, pink below it ; vertex and abdomen pale green ; thorax deeper green ; dorsal tufts pink ; abdomen below, pectus, and legs greenish white ; forelegs fuscous, spotted with black.

Expanse of wings : ♂ 48 mm. ; ♀ 52 mm.

5 ♂♂, 1 ♀.

The ♀ is more strongly marked ; the lines are red-brown, and the shade before submarginal line reddish brown and well marked, the line itself pale and clear.

SUBFAMILY GEOMETRINAE.

67. *Anisogamia bijugata* spec. nov.

Forewing : dark green, slightly transparent ; costal edge finely and interruptedly fuscous ; a white spot at base of costa and another just beyond ; several double white striae at middle and some small streaks towards apex ; a large curved white spot at end of cell ; a postmedian and two submarginal rows of large white spots between the veins, those between 3 and 4 angled inwards, interrupted below 3 ; between 2 and 3 represented by a single spot of the middle series, on submedian fold by three single spots, the two inner series ending in a single large square spot at three-fourths of inner margin ; the basal and antemedian lines represented only by the two white costal spots and two on inner margin ; the green intervals marked by slight whitish flecks and small dots on the veins ; marginal line dark green ; fringe fuscous-green, with white spots at base between the veins and at tips beyond them.

Hindwing : with the series of spots less interrupted ; the other spots larger and along inner margin more numerous ; the green without pale flecks ; a red spot before apex.

Underside pale green, with the white spots showing through : costa of forewing yellowish in basal half with dark dots ; the subcostal vein and discocellular blackish, marked beneath towards apex by blackish lunulate marks ; black marginal lunules between veins above vein 2 : hindwing with a small black spot before apex between veins 7 and 8, and black marginal dots above vein 2.

Face and palpi green above, white below ; vertex and shoulders white with centre green ; thorax green ; patagia with basal half green, apical white ; abdomen green, with a row of white dorsal spots and interrupted white lateral lines ; abdomen underneath and legs white ; tarsi spotted with black.

Expanse of wings : 35 mm.

12 examples, all ♂♂.

68. *Anisogamia desolata* spec. nov.

Forewing : semitransparent deep green, with minute whitish scales scattered over it ; costa rather broadly ochreous, with strong fuscous striae : the base greener before a whitish spot, from which a very fine curved inner line runs to a brown spot at one-third of inner margin ; outer line fine, lunulate-dentate, whiter below costa and there toothed along the veins ; submarginal also lunulate-dentate, but only distinct below costa ; cell-spot white, vertical ; fringe brown, with rather large white spots in the teeth at ends of veins.

Hindwing: the same, without inner line; the apex marked by a large red-brown blotch beyond outer line reaching vein 5, speckled with black and inwardly crossed by a blackish line.

Underside whitish green, the lines showing through; costa of forewing yellow, speckled with brown; a brown subcostal spot before outer line, and two before the submarginal, with a whiter space between them: hindwing with a black blotch at apex edged with paler green and smaller than on upperside.

Palpi fuscous externally; face dark green, white below; basal segment of antennae and spot behind each eye white; vertex, thorax, and abdomen green; metathorax green, traversed by a pale line and edged with a ring of fuscous and whitish scales; dorsum with white spots, fifth and sixth segments with patches of fuscous and pale scales; anal tuft white, marked above with pink; abdomen below and legs whitish-green; foretibiae dark fuscous, with the joints white.

Expanse of wings: 35 mm.

1 ♂.

69. *Anisogamia fragmentata* spec. nov.

Forewing: semitransparent dark green; the costa broadly and diffusely white, with fine fuscous strigae; base powdered with white; discocellular fuscous, in an oval whitish ring; lines fine, whitish, edged with fuscous, denticulate outwards on veins; first oblique from one-sixth of costa to two-fifths of inner margin, the teeth blunt; outer from two-thirds of costa to three-fourths of inner margin, outcurved between 6 and 2, ending in a square white blotch on inner margin, across which it becomes fuscous; the outer and two submarginal lines, otherwise marked only by white dots, form a large white triple blotch from below 5 to 3; marginal line purple fuscous above 3, green below it, interrupted by white dots at the vein-ends; fringe greenish below, purplish grey above middle, with slightly paler flecks beyond veins, white beyond 3 and 4.

Hindwing: with base and inner margin powdered with white; a triple white blotch at apex as well as between 3 and 4.

Underside pale green, the white markings showing through; costa of forewing yellow, with some dark marks towards apex.

Palpi purplish red above, white below; face green above, white in lower half; vertex white; collar purplish; shoulders, patagia, and basal half of dorsum green; thorax fuscous; metathorax fuscous in a white ring; anal half of dorsum, abdomen beneath, pectus, and legs white; foretibiae reddish; the tarsi black and white.

Expanse of wings: 28 mm.

2 ♂♂.

This species is evidently allied to *aphrius* Meyr., and is a small likeness of *A. insperata* Wlk.

70. *Anisogamia gracililinea* spec. nov.

Forewing: deep green, slightly transparent, with faint and fine pale freckling; costa chocolate-brown speckled with yellow; the same tint extending along base of wing and inner margin, except between the two lines; these are white and very slender; first from one-fifth of costa to two-fifths of inner margin, waved, and excurved below middle; outer line from three-fourths of costa to three-fourths of inner margin, angled inwards on the cell-fold, then outcurved to submedian fold; at costa it is followed by a large loaf-shaped blotch of pinkish white containing

red-brown and green scales; two rows of pale submarginal dots before the dark green marginal line, the inner yellow, the outer white; veins before margin pale, and ending in a yellowish spot; fringe dark grey; cell-spot whitish, linear.

Hindwing: with outer line only, followed at apex by a large black and pale-speckled blotch.

Underside pale green, the lines showing through; a black blotch at apex of both wings and at anal angle of forewing.

Palpi purplish fuscous above, pale below and at ends of segments; face green above, white below; vertex green edged with purplish and ochreous scales; collar and basal segment of antennae purplish; shoulders and patagia deep green; thorax pale green; metathorax with two dark green spots and a double pinkish brown tuft; dorsum green speckled with paler, the segments ringed with purple and pink; anal tuft ochreous; abdomen beneath, pectus, and legs whitish; foretibiae black, with pale joints.

Expanse of wings: 40 mm.

1 ♂.

71. *Anisogamia hilaris* spec. nov.

Forewing: bright green; costa white, thickly flecked with brown; basal and subcostal areas with a few white scales; lines white: first from one-sixth of costa to one-third of inner margin, curved outwards above and below median; outer line lunulate-dentate, at three-fourths, the lunules below costa, between 3 and 4, and below 2 more strongly marked; two submarginal rows of pale spots between veins, the inner complete, the outer interrupted; marginal line deep green, interrupted by white spots at the veins; fringe with basal half green, apical half grey; marginal spots at 3 and 4 produced into fringe; upper half of discocellular finely white.

Hindwing: without inner line; the inner margin dappled with white; outer lines with the lunules and spots more developed at costa and between 3 and 4; upper half of discocellular green.

Underside of wings whitish green; costal half of forewing bright green; costal edge yellow.

Thorax and dorsum deep green, the latter with white spots; the metathorax also marked with white; vertex and antennal shaft white, the pectinations fuscous; face green above, white below; palpi olive-green above, white below; abdomen beneath and legs white; foretibiae and tarsi olive fuscous, forefemora bright yellow.

Expanse of wings: 30 mm.

3 ♂♂.

72. *Anisogamia innuba* spec. nov.

Forewing: semitransparent sea-green; costa brownish pink with fuscous markings; the veins rather darker, slightly speckled; a broad diffuse obscurely marked pale band at two-fifths, preceded on inner margin by a red-brown white-edged spot; marginal border pinkish brown, its inner edge starting at five-sixths of costa, projecting inwards in middle and approaching margin below vein 3; this edge is darker and more speckled, the outer area being smooth, with the veins deeper; marginal line dark red, with paler spots at the vein ends; fringe greenish grey.

Hindwing: green, with outer border as in forewing.

Underside iridescent green; marginal border pale pinkish grey, its inner edge broadly purple, stopping short in the hindwing at vein 3; marginal line purple.

Palpi greenish, the terminal segment externally red-brown; face greenish, white below; vertex pinkish speckled with brown; antennae annulated with green; shoulders and patagia, a spot on metathorax, and the dorsal spots green; thorax and dorsum pinkish brown; abdomen beneath, pectus, and legs whitish; foretarsi black with pale joints.

Expanse of wings: 30 mm.

3 ♀♀.

Outer margin strongly dentate.

73. *Anisogamia orbimaculata* spec. nov.

Forewing: dark green, semitransparent, with a few white speckles, especially on the veins; costa dark fuscous, dotted with white; an interrupted white basal line at one-fourth, running to a small brown spot on inner margin at one-third; three rows of white spots between veins before margin, between 2 and 4 developing into thicker white bracket-shaped marks, with some fuscous scaling between them, and below 2 obsolete; large white marginal dots at the vein ends; fringe green.

Hindwing: similar, with the white dots on the veins plainer; at apex above vein 6 a large round pinkish blotch edged with deep red; more rarely the blotch is wholly brown-black.

Underside pale iridescent green, without markings except the apical blotch of hindwing, which is black-brown.

Palpi and bottom of face red and white; face green with a white spot on each side; vertex green, with the basal segment of antennae white; a white spot behind each eye; thorax and abdomen green, the latter dusted with white scales; anal tuft and underside white.

Expanse of wings: 30 mm.

9 ♂♂.

74. *Anisogamia stellata* spec. nov.

Forewing: dark translucent green; costal edge dark fuscous with a few small white dots; veins darker dotted with pale; the intervals with obscure translucent greyish flecks and spots; a round white spot on upper half of discocellular; three rows of white spots towards apex above vein 4; those of the inner row confluent into a streak from 8 to 5; those of the middle row small; those of the marginal row lunulate, the upper two large, those beyond cell smaller and wedge-shaped, that between 3 and 4 large and double; the spots below 2 and along inner margin small and irregular; large white spots at end of veins before the dark green marginal line; fringe grey-green, with white flecks at base between the veins and at tips beyond them.

Hindwing: with curved rows of large spots throughout, and a curved greener band at one-third and two-thirds; a postmedian lunulate-dentate whitish line with spots before and behind, followed below vein 4 by three angled marks; between costa and vein 6 this line is followed by pink-edged fuscous spots between the veins; marginal marks and fringe as in forewing.

Underside iridescent green, with the spots all showing through, especially the cell-spot of forewing; costa of forewing yellow with fuscous brown dashes; marginal and submarginal green lunules below costa; hindwing with large purplish subapical spot; the costa at base broadly whitish.

Face and palpi green above, white below; vertex green; fillet white; thorax and abdomen green speckled with white; middle segments of dorsum brownish; abdomen beneath, pectus, and legs white; foretarsi black, with the joints white.

The female has the apical spots confluent to form a yellowish white apical triangle, with the centre on costa green, reaching to vein 3, below it marked by green pale-edged lunules, at anal angle containing some brown and white scales, the corresponding spaces in the hindwing being greener; the inner line of forewing is also traceable.

Expanse of wings: 30 mm.

7 ♂♂, 1 ♀.

75. *Anisogamia subnigrata* spec. nov.

Forewing: semitransparent, dark green, dappled with whitish scales and freckling; costal streak above subcostal vein paler green, with a few fine white scales at base only; the costal edge white, with regular fuscous dots; first line obliquely curved outwards, from subcostal vein at one-fourth to one-third of inner margin, white, acutely angled outwards in lower half of cell, and rounded in submedian interval; outer line lunulate-dentate, parallel to outer margin, at three-fourths, the lunules white, filled up externally with whitish scales, insinuate on submedian fold and in lower half of cell; submarginal line similar but more regular; both interrupted above vein 7; the inner line is followed and the two outer preceded by a deeper green shade; marginal line crenulate, deep green; fringe green, with white basal spots between the veins; a deep green blotch on discocellular.

Hindwing: with base and inner margin densely white-dappled, the white spots becoming confluent along submedian interval; outer and submarginal lines not filled up with white scales, and followed by a row of whitish marginal lunules; a double fuscous mark at apex and single streak below it between 6 and 7.

Underside iridescent whitish green; forewing with three black marks from costa, one over discocellular, simple, the others zigzag on outer and submarginal lines, stopping short at vein 4; hindwing with black apical blotch; both wings with black marginal dots.

Palpi red above, white below; head, thorax, and abdomen green; lower part of face and basal segment of antennae snow-white, the pectinations fuscous; dorsum powdered with white and with a fuscous spot on antepenultimate segment; anal tufts white, the lateral ones ochreous.

Expanse of wings: 40 mm.

8 ♂♂.

76. *Anisogamia veniplaga* spec. nov.

Forewing: semitransparent sea-green; costa pinkish ochreous with fine brown speckling; first line from one-fifth of costa to one-third of inner margin, obscurely marked, but ending in a white spot; a large white tooth from costal streak extends over the upper half of discocellular; veins 6 and 7 bone-colour with a pink tinge beyond the outer line, the space between 6 and 7 filled up with the same in the inner half, that above 7 more slightly towards apex; outer line marked by minute dots on veins; a pinkish blotch at anal angle reaching vein 2; white marginal dots at end of veins; fringe grey-green.

Hindwing: with a large pink blotch at apex reaching vein 4, internally edged by the whitish lunulate outer line, which below the blotch is marked only by pale dashes on the veins.

Underside pale green, with the pale blotches showing through; a small black blotch at anal angle of forewing and a large apical blotch on hindwing; costa of forewing yellow.

Palpi pink above, pale below; face dark green, white below; vertex whitish green; collar pinkish white; shoulders, patagia, and basal half of dorsum deep green; thorax and metathorax reddish edged with white; anal half of dorsum white speckled with reddish fuscous and laterally blotched with green; anal segment pale ochreous; abdomen beneath, pectus, and legs whitish; foretibiae fuscous with pale joints.

Expanse of wings: 37 mm.

1 ♂.

77. *Chlorochroma bicolor* spec. nov.

Forewing: blue-green, a shade greener than *C. latistriga*; costal edge buff; the two lines dark brown, edged with buff, the inner towards base, the outer towards margin; the inner from one-fourth of costa straight to one-third of inner margin; the outer from close before apex to two-thirds, and so not parallel to outer margin as in *latistriga*; cell-spot black, small; fringe buff; marginal spots black.

Hindwing: with the line central; else like forewing.

Underside whitish blue-green; costa of forewing buff with obscurely marked dark striae; marginal spots black.

Palpi buff, with brown tips; vertex, antennae, and shoulders buff; face dark blue-green; thorax and abdomen like wings; in *latistriga* the antennae are white.

Expanse of wings: 40 mm.

1 ♂.

78. *Chlorochroma fraterna* spec. nov.

Forewing: semitransparent sea-green, excessively finely pale-dusted, so that the whole wing appears powdery; costa yellow ochreous; lines shown by difference of green tint; first from one-fifth of costa to one-third of inner margin, slightly curved above and below median; outer from two-thirds of costa to three-fourths of inner margin, dentate-lunulate; interval between the lines rather darker than the rest of wing and distinctly so along the course of the lines; cell-spot dark green; fringe concolorous.

Hindwing: similar; the inner line very faint.

Underside paler, whitish green, without markings.

Face and palpi above deep green; thorax and abdomen like wings; vertex and shaft of antennae white; anal tufts of ♂, abdomen beneath and at sides, legs, pectus, and underside of palpi white; forelegs in front red-brown.

Expanse of wings: 44 mm.

2 ♂♂, 1 ♀.

Distinguished from *C. sororcula* by the dentate outer line.

79. *Chlorochroma intermedia* spec. nov.

Forewing: green with a blue tinge; in markings the species is intermediate between *gigas*, *minor*, and *flavilimes* Warr. on the one hand and *latistriga* and *rufistriga* on the other; it differs from the former group in the greater breadth of the lines, herein resembling the latter; the costa of forewing is like that of *gigas*; the inner line is straight, not curved or angled, in its obliquity resembling *rufistriga*; and the outer line in hindwing is not bent, but simply curved as in

flavilines. The cell-spots are large, as in *latistriga*. Of the two examples one is bluer green than the other, with the lines less yellow; marginal dots distinct in both.

Expanse of wings: 34—35 mm.

2 ♂♂.

80. *Chlorochroma sororcula* spec. nov.

Very much like *C. fraterna*, but slightly smaller and bluer green; the lines paler than the ground-colour, and straighter, not marked by a darker shade of green; the outer line nearly vertical, not dentate, from two-thirds of costa to three-fourths of inner margin; cell-spot dark green, plainer than in *fraterna*; fringe concolorous.

Hindwing: with the outer line creculate; minute dark dots at the vein ends.

All the parts of the body as in *fraterna*, except that the palpi above are pale brown instead of green.

Expanse of wings: 40 mm.

2 ♂♂, 1 ♀.

81. *Comostolodes ruficincta* spec. nov.

Forewing: deep grass-green, slightly transparent; costa deep pink, speckled with fuscous; a fine pink marginal line, swollen into larger dots between the veins than at their ends, especially between 3 and 4, and on each side of anal angle; lines marked only by minute white points on the veins, those on 3 and 4 of the outer line being much nearer margin than the others; cell-spot a similar point: fringe grey-green.

Hindwing: similar, without first line.

Underside whitish green; costa of forewing pink; base of forewing reddish.

Palpi, forelegs, fillet, and antennae red; face, vertex, and thorax green; metathorax and abdomen reddish, green at the sides.

Expanse of wings: 25 mm.

1 ♂.

Dioscore gen. nov.

Forewing: triangular, the apex prominent; outer margin obliquely curved, as long as inner margin.

Hindwing: with outer margin rounded, slightly bent at vein 4; the anal angle well marked.

Antennae bipectinate for less than one-half, the outer half filiform; palpi upturned, short and stout, terminal segment minute; tongue present; frenulum short, with club-shaped apex; hindtibiae with four spurs.

Nervation as in *Thalassodes*.

Type: *Dioscore melanomma* spec. nov.

The species I described as *Loxochila meeki* in *Nov. Zool.* x. p. 359 must be transferred to this genus.

82. *Dioscore melanomma* spec. nov.

Forewing: blue-green; costal edge white, with numerous black-brown striae; a large, obliquely placed, irregularly shaped, chocolate-brown cell-spot, with a smaller spot touching it above, edged with pale; lines waved, obsolete towards costa; first from below one-fourth of costa to one-third of inner margin, outcurved

above and below median vein, whitish; outer at three-fourths, parallel to outer margin, serpentine, broader and whiter; fringe deep purple, paler at base at the vein ends, and at the tips between them.

Hindwing: without inner line, the outer curved and more sharply zigzag; cell-spot and fringe as in forewing.

Underside silvery whitish green, deeper green towards costa of forewing; the brown cell-spots edged with deep green.

Head, palpi, and thorax deep green; abdomen paler green, whitish towards anus, with white dorsal spots; abdomen beneath and legs pale greenish white; pectus and forelegs dark green; foretarsi fuscous, with pale joints; antennae green.

Expanse of wings: 52 mm.

2 ♂♂.

Galactochlora gen. nov.

Forewing: costa arched; apex square; outer margin straight, nearly vertical; anal angle square.

Hindwing: broad, both angles well marked; outer margin with a blunt angle in middle, straight on each side.

Antennae of ♂ flattened, with short tuberculate fascicles of cilia; palpi short, upturned, terminal segment small; tongue present; frenulum invisible; hindtibiae with terminal spurs only; anal segment of abdomen squared and loosely haired.

Nervation normal; cell less than half of wing; 3, 4, and 6, 7 of hindwing stalked.

Type: *Galactochlora nivestrota* spec. nov.

S3. Galactochlora nivestrota spec. nov.

Forewing: green, thickly powdered with white, except close before the two lines; costa white, thickly speckled with fuscous; the lines fuscous at costa, then green; first close to base, interrupted, marked by an oblique short costal streak and a blackish green spot on submedian fold; outer line from two-thirds of costa to near middle of inner margin, irregularly zigzag, acutely angled inwards on vein 5, followed by a white diffuse cloud; submarginal line white, oblique from costa to vein 7, then straight to anal angle, where it joins a dead white marginal line; a broad oblique white streak from below apex to outer line above vein 6; a row of blackish green submarginal dots between veins; fringe white.

Hindwing: whitish-green at base, edged at one-fourth by a straight green band with well-defined outer edge, followed by a white band which becomes diffuse outwardly; submarginal line slightly curved from apex to anal angle; before it the wing is green; marginal line white, with dark green dots between veins.

Underside white; costa of forewing brown-speckled; some green marks in cell and at apex above the oblique white line; blackish green marginal spots on both wings.

Palpi fuscous externally; face deep green, below white; vertex and antennal shaft white; front of shoulders and patagia green, the rest and thorax white; metathorax with a green bar; abdomen greased, probably white; foretibiae fuscous and white.

Expanse of wings: 30 mm.

1 ♂.

84. *Gelasma caudipunctata* spec. nov.

Forewing: grass-green; costa with white dots; lines white: first from near base to beyond one-third of inner margin, outcurved above and below median vein; outer line from three-fourths of costa to nearly three-fourths of inner margin, lunulate-dentate, oblique outwards to vein 6; white marginal dots at the ends of veins; fringe grey-green.

Hindwing: with outer line curved, the lunule below vein 5 more broadly white; tooth at vein 4 with the spot large and running into fringe.

Underside of forewing bright pale green, whiter towards inner margin; of hindwing whitish green throughout.

Face, palpi above, forelegs, and pectinations of antennae olive-green; fillet and shaft of antennae white; vertex, thorax, and abdomen green, like wings; dorsum with white spots; abdomen beneath, legs, and pectus white.

Expanse of wings: 32 mm.

3 ♂♂.

85. *Melochlora papuensis* spec. nov.

Forewing: deep apple-green; costa ochreous with very fine oblique red striae; lines very fine; first near base, purplish, outcurved on both sides of the median, and with dark dots on the veins, closely followed by a black cell-spot with a minute speck above it; outer line from four-fifths of costa to two-thirds of inner margin, finely lunulate-dentate, the teeth marked by dark dots on veins; fringe glossy white with greenish base; a red-brown spot at apex.

Hindwing: with the two dots on discocellular plain; the outer line curved and slightly postmedian; fringe greenish white, with a minute red dot at the tail on vein 4.

Underside whitish green, flushed with deep rosy at base of forewing, and faintly in hindwing; costa of forewing yellow; a red spot at apex of forewing and tail of hindwing.

Palpi and collar deep red; face and vertex and shaft of antennae snow-white; thorax and basal half of dorsum green; anal half white, with some bright red scales at middle; legs, pectus, and abdomen beneath whitish; foretibia deep red.

Expanse of wings: 30 mm.

1 ♂.

86. *Phorodesma sexmaculata* spec. nov.

Forewing: deep green; costa purplish grey speckled with dark; a broad white tooth from it to below middle of discocellular edged with purplish; three round white blotches, tinged with pinkish and speckled with dark, broadly edged with purple; one at base, a smaller one at anal angle, and a much larger one at apex; this last with four purple marginal spots between the veins; marginal line between the blotches purple; fringe grey.

Hindwing: with large oval apical and small round anal blotch; inner margin narrowly purple, with the fringe white.

Underside pale green, with the blotches showing whitish; an elongate purple subapical and oval anal blotch on forewing and very large apical blotch on hindwing.

Palpi whitish, purple above; face green above, pale below; vertex and basal segment of antennae white; shoulders and patagia green; thorax and abdomen

white ; basal segment of dorsum green, edged behind with purple ; the other segments with pairs of purple dots ; abdomen beneath and legs whitish ; foretarsi purple with pale joints.

Expanse of wings : 46 mm.

1 ♀.

87. *Poecilostigma florediscata* spec. nov.

Forewing : pale grey-green ; the costa white underlined with buff in basal two-thirds, the base itself brown ; lines dark green ; first from one-fifth of costa, oblique and forming three curves to middle of inner margin ; outer regularly lunulate-dentate, from five-sixths of costa to two-thirds of inner margin, the teeth deeper green ; discocellular marked with blackish, placed in the middle of a grey central fascia, outwardly dentate, reaching from subcostal vein to vein 2 ; black marginal spots ; fringe pale yellow.

Hindwing : like forewing, but the discocellular marked with deep red in the midst of a flower-shaped red patch, edged with grey and speckled with ochreous.

Underside whitish-green, rather deeper below costa of forewing, which is white.

Face above, palpi, vertex, and thorax deep green ; abdomen paler green like wings ; the dorsal segments with pairs of deep green spots ; abdomen beneath and legs whitish ; fillet broadly white ; face below paler.

Expanse of wings : 35 mm.

2 ♂♂.

88. *Pyrrhaspis glauca* spec. nov.

Forewing : blue-green, slightly transparent ; costal edge yellow ; lines formed of white spots on veins ; first oblique outwards from one-fourth of costa to one-third of inner margin, the subcostal spot faint, that on submedian large ; outer line slightly curved at two-thirds, the first spot on vein 6, that on submedian very large ; cell-spot deeper blue-green ; minute dark dots at the ends of veins ; fringe whitish.

Hindwing : the same, but the outer line strongly curved.

Underside whitish green, the spots showing through.

Face, palpi, thorax, and dorsum deep blue-green ; vertex and antennal shaft white ; anal segment of abdomen, the underside, pectus, and legs whitish.

Expanse of wings : 40 mm.

1 ♂.

89. *Pyrrhaspis marina* spec. nov.

Forewing : semitransparent grey-green ; costa narrowly white ; lines as in *glauca*, and formed by white spots on the veins ; the spot on vein 5 in outer line narrow and elongate and nearer base ; below vein 3 the line is more deeply indented, and the white spot on submedian vein is large and extended to margin ; cell-spot deep green ; fringe green, with white spots at the vein ends.

Hindwing : like forewing.

Underside whitish green, the spots showing through ; costa of forewing pale.

Head, thorax, and abdomen dark green ; palpi externally green ; fillet white ; anal tuft whitish.

Expanse of wings : 40 mm.

2 ♀♀.

Strepsichlora gen. nov.

Forewing: costa enrvd throughout; outer margin straight, nearly vertical.

Hindwing: with anal angle produced; outer margin bent at vein 4, more strongly in ♀.

Antennae of ♂ bipectinate, the apex simple; palpi slender, porrect; terminal segment longer in ♀; tongue present; frenulum slight; hindlegs of ♂ with tibiae three times the length of tarsi, thickened with a sheath, with four short spurs.

Neuration: as in *Thalassodes*.

Type: *Strepsichlora acutilunata* spec. nov.

The species described as *Rhomborista inquinata* in *Nor. Zool.* x. p. 363 (1903) should be referred here, though it differs from the type in being more thickly scaled, in the pectinated portion of the antennae of ♂ being shorter and the hind-tibia less swollen.

90. Strepsichlora acutilunata spec. nov.

♂. *Forewing*: grass-green, towards costa with irregular brown dusting; lines very deeply lunulate-dentate; first whitish, edged with brown scales on each side, forming two elongated lunules above and two below median, and half a lunule below vein 1, the lunule above vein 1 generally obsolete, the black dots marking the inward teeth on costal and submedian veins displaced far basewards; outer line still more deeply lunulate-dentate, the outward teeth purplish preceded by white dashes, the purple inward lunules much nearer base and often interrupted, the lines connecting them deep green; cell-spot purplish; fringe green.

Hindwing: with the lines both present but very indistinct; cell-spot small.

Underside shining whitish green; costal third of forewing deep sea-green, the costal edge fuscous.

Face, vertex, thorax, and dorsum green; palpi purple above, ochreous below; fillet narrowly purplish; a purple spot on metathorax, and a row of white spots on dorsum; antennal shaft brown with paler annulations; pectinations grey; abdomen at sides and beneath, and the legs white.

♀ yellow-green; costal edge in middle white, with clear brown striations; the lunules edged with darker brown, the two above median in inner line projected so as nearly to touch the cell-spot, which is large, red-brown, preceded by a white spot, the upper lunule with a brown spot on costa above it; the double lunule of the outer line in submedian interval is similarly intensified and inwardly marked by a white spot; fringes pinkish, with slight dark spots beyond the veins; antennae speckled brown and whitish; palpi whiter.

Expanse of wings: ♂, 35 mm.; ♀, 45 mm.

7 ♂♂, 1 ♀.

91. Tachyphyle convergens spec. nov.

Forewing: pale green, with an olive-green straight line from middle of inner margin towards apex, before which it is recurved to costa; on the basal side of the line the wing is washed with bluish white, becoming greener again below costa; costal edge finely red; basal line fine, purplish, angled above and below median, and dotted on the veins and folds; discocellular marked by minute purplish dots at upper end and middle; the veins white beyond the middle; an obscure bluish white submarginal shade; fringe whitish, marked with deep red at apex and anal angle.

Hindwing : whitish at base, the olive line crossing at one-fourth and marked with red scales, the dark green beyond it paling again before a straight postmedian line marked by dark vein-dots.

Underside whitish green ; costa of forewing reddish at base ; apex bright red, that of hindwing with a fuscous spot ; a reddish tinge before anal angle of forewing.

Palpi deep red ; face and vertex silvery white ; thorax and abdomen green, the latter whiter towards anus and darker green at middle, with minute red dorsal points ; underside and legs whitish green ; foretibiae red.

Expanse of wings : 30 mm.

2 ♂♂.

92. *Thalassodes balteata* spec. nov.

Forewing : greenish white ; with two broad deep green bands before and beyond the middle ; the base narrowly deep green with a silvery white spot at base of median vein ; fringe worn, probably deep green.

Hindwing : the same.

Underside whitish green, with the dark green bands showing through.

Face green above, white below ; fillet white ; thorax and dorsum dark green ; abdomen beneath and legs whitish ; antennae green.

Expanse of wings : 26 mm.

1 ♂.

93. *Thalerura subangulata* spec. nov.

Forewing : bright green ; costa narrowly red-brown, more broadly at base ; basal line marked by rusty brown spots, on the folds as well as on the veins, sometimes faintly connected ; two similar spots on the discocellular represent the cell-spot ; outer line regularly dentate-lunulate, from four-fifths of costa to three-fourths of inner margin, parallel to outer margin, reddish, the teeth often more strongly marked ; marginal line coppery red, darker at the base of fringe, which is white, with slight brown flecks beyond veins.

Hindwing : without basal line ; the outer line ending in a large red blotch at middle of inner margin.

Underside whitish green ; costa of forewing and marginal lines on both wings reddish ; base of forewing also obscurely reddish tinged.

Palpi red, with terminal segment white ; face, vertex, and basal segment of antennae white ; thorax and basal half of dorsum green ; collar, a spot on meta-thorax, and two large blotches on the praeanal segments of dorsum red-brown ; abdomen beneath and at sides and the legs white ; forelegs red in front.

Expanse of wings : ♀ 30—32 mm.

5 ♀♀.

The forewing has a slight angle in outer margin at vein 4.

SUBFAMILY STERRIINAE.

Argyroscelia gen. nov.

A development of *Ptychopoda*, distinguished by the armature of the hindlegs of the ♂ ; these have a very large and dense tuft of hair from the femoro-tibial joint as long as the tibia itself ; the tarsus and tibia are externally fringed with

hairs and internally clothed with smooth very glossy silvery scaling, the end of the tibia bearing a flap-like process, which is capable of lateral extension.

Type : *Argyroscelia gracipes* spec. nov.

94. *Argyroscelia gravipes* spec. nov.

Forewing : brownish grey, slightly dusted with dark ; lines very obscure, rather darker on costa and at inner margin, antemedian, postmedian, and two submarginal ; cell-spot black, distinct ; fringe concolorous, with dark dots along its base.

Hindwing : similar ; outer line marked by a black spot on inner margin.

Underside pale brownish ochreous, with the cell-spots clear.

Head, thorax, and abdomen like wings ; face and palpi dark brown ; legs ochreous ; tibial tuft ochreous, that on femur dark pink.

Expanse of wings : 16 mm.

3 ♂♂, 1 ♀.

95. *Chrysocraspeda analiplaga* spec. nov.

Forewing : purplish red, without distinct markings ; outer margin yellow, very narrowly from vein 4 to 2 and interrupted at 3 where the red touches the margin, and forming a large triangular blotch at anal angle ; the edge of the red ground-colour is bright blood-red, a streak of this running inwards along vein 2 ; cell-spot black ; minute red dots at end of veins ; fringe yellow.

Hindwing : with the yellow margin fairly broad to vein 3, quite narrow from 3 to anal angle ; cell-spot shining white ; fringe yellow.

Underside rosy pink, with the yellow margin and fringe as above ; cell-spot of hindwing dull-white.

Vertex, thorax, and dorsum purple-red ; face and antennae yellowish varied with red ; abdomen at sides and beneath and the legs yellowish ; forelegs rosy.

Expanse of wings : 26 mm.

1 ♀.

Outer margins of both wings rounded.

96. *Chrysocraspeda fasciata* spec. nov.

Forewing : blood-red ; the costa with red and yellow striae ; a slightly darker central fascia with darker edges, the inner preceded and the outer followed by a faintly paler line, each marked by a yellowish spot on submedian fold ; the red ground runs to margin at apex, and between veins 3 and 4 ; on each side of this space the margin and fringe are yellow. The ♀ has some grey scaling in middle with darker striae and no yellowish edging to the lines.

Hindwing : brighter red ; the yellow outer margin broader and not interrupted ; fringe of inner margin yellow ; edges of fascia very indistinct ; in the ♀ with a yellow band close to base.

Underside dark grey, with the outer margins and fringes yellow, the yellow lines visible in the ♂.

Head, thorax, and abdomen reddish, in the ♀ grey-tinged.

Expanse of wings : 22 mm.

1 ♂, 1 ♀.

Outer margins rounded in both wings. Veins 10 and 11 coincidentally anastomose with 12, 10 afterwards anastomosing with 8, 9, forming a double areole.

97. *Chrysocraspeda ignita* spec. nov.

Forewing : brownish slate-colour ; the costa diffusely red beyond middle, and quite narrowly at base, with a cloudy red triangle before middle at the apex of which is a yellowish cell-spot ; the dark ground-colour is broadly edged with vivid red, forming teeth at veins 2 and 3 touching the margin, which is narrowly yellow above, and forms a yellow triangle at anal angle ; fringe yellow, touched with red at vein 3.

Hindwing : similar, without costal triangle ; cell-spot small, white.

Underside of forewing deep blood-red, the inner margin slaty black ; of hindwing wholly black with the margin only blood-red ; yellow fringes and margin as above.

Vertex, thorax, and abdomen like wings ; face reddish yellow ; abdomen beneath whitish ; legs reddish.

Expanse of wings : 25 mm.

1 ♀.

Outer margin slightly elbowed in both wings.

98. *Chrysocraspeda praegriseata* spec. nov.

Forewing : dull greyish rosy ; the costa and apex pale ashy grey ; the edge of the rosy area deeper red, especially before apex, where it is irregularly waved ; a red oblique streak from costa near base to the black cell-spot, where it is angled and runs obliquely inwards to base of inner margin ; a slighter streak from middle of costa running in to the deeper edge : fringe yellowish grey ; marginal line pink below middle.

Hindwing : with darker red striae in places, a red line close to base and an obscure submarginal one ; a diffuse deep red marginal shade, before which the ground-colour is paler ; fringe yellow ; cell-spot white surrounded with deep red.

Underside slaty grey ; the costa of forewing broadly and of hindwing narrowly dull red ; fringes yellow.

Head, shoulders, and abdomen deep red ; patagia and thorax greyish red.

Expanse of wings : 25 mm.

1 ♂.

99. *Chrysocraspeda purpurissa* spec. nov.

Forewing : dull purplish ; lines dull red-brown, basal, antemedian, and submarginal ; the first two excurved in middle and recurved to inner margin, the outer running near and parallel to outer margin ; all marked with brighter red below middle ; marginal area very slenderly yellow, the dark ground-colour limited by a deep red crenulate line, running into fringe at apex ; fringe yellow, with a red blotch beyond vein 3 ; costa narrowly red with dark dots.

Hindwing : bright brick-red, covered with short dark transverse striae ; a black cell-spot and blackish submarginal line, the margin beyond it suffused with darker ; fringe and hindmargin narrowly yellow.

Underside dark slate-colour, the narrow margin and fringe yellow ; some obscure submarginal yellow spots.

Head and thorax purple mixed with red ; abdomen brick-red spotted with black.

Expanse of wings : 25 mm.

1 ♀.

Both wings with outer margin rounded. Veins 10 and 11 coincidentally anastomose with 12, 10 afterwards anastomosing with 8 and 9.

100. *Chrysocraspeda uncimargo* spec. nov.

Forewing : grey-brown, striated with chocolate-brown and with a chocolate-brown cloud at base and before the yellow margin above median vein ; a broad chocolate mark across cell before the oblique black discal mark ; veins yellow, finely dotted with black and brown ; costa broadly dull yellow, becoming buff before apex and along outer margin to below middle, separated from the dark ground by a pale yellow bracket-shaped mark ; the margin below middle yellow ; fringe yellow, brownish between veins 3 and 4.

Hindwing : base deep brown, followed by a curved buff fascia ; cell-mark linear, silvery white, touching a red-brown streak and shade, the rest of the wing being olive-brown, with a dull yellow submarginal patch above middle ; fringe yellowish.

Underside of forewing dull black, the outer margin and fringe yellow, the costa red ; hindwing with cell and costal area black, the rest yellow flushed with reddish ; the linear cell-spot black.

Head, thorax, and abdomen buff ; sides of abdomen deep brown from base, meeting across third segment ; abdomen beneath and legs yellowish white.

Expanse of wings : 24 mm.

2 ♂♂.

Forewing strongly elbowed at middle, the lower half of outer margin nearly parallel to costa ; hindwing strongly but bluntly angled in middle.

101. *Emmiltis delospila* spec. nov. and ab. *griseella* nov.

Forewing : bone-colour, slightly grey-speckled, more thickly along costa ; lines grey ; the first curved, near base, marked by three distinct black spots on the veins ; the outer at four-fifths, with all the teeth well marked on the veins, that on vein 6 displaced outwards ; cell-spot, and marginal spots black ; median shade lunulate-dentate, from costa shortly before outer line, strongly incurved below middle to middle of inner margin ; two faint grey submarginal shades ; fringe concolorous ; a black dot at base of vein 1.

Hindwing : without basal line ; the antemedian inarched before the black cell-spot ; the inner submarginal shade distinct and broad.

Underside clear whitish, with the outer row of dots distinct ; forewing suffused with grey towards base and costa ; cell-spots black.

Lower half of face and palpi beneath bone-colour, above dark brown ; vertex white ; thorax and abdomen bone-colour dusted with grey.

Expanse of wings : ♂ 25 mm. ; ♀ 24—27 mm.

1 ♂, 5 ♀♀.

Hindtibiae much thickened ; hindtarsi short, about one-third of the length of tibiae ; ciliations of antennae of ♂ long.

In the aberration *griseella* the grey dusting is much denser, and all the grey lines thicker ; the face is more broadly brown, and the wings expand only 22 mm.

1 ♂, 2 ♀♀, from the same locality as the type.

102. *Eremocentra glareosa* spec. nov. and ab. *fuscisecta* nov.

Forewing : greyish yellow, dusted with pinkish grey; the lines grey, marked by deep purple or black spots on veins; the median shade distinct, and the teeth of outer line prominent; cell-spot small, cloudy, blackish; marginal spots between the veins; fringe like wings.

Hindwing : the same; a few red scales close to base; cell-spot whitish, oval, sometimes within a thick black ring.

Underside paler, with the markings red, especially the cell-spots; forewing deep rosy at base.

Palpi red above, yellowish below; face red above, white below: vertex, thorax, and abdomen like wings; dorsum with small red dots: forelegs in front, and tuft of hindtibiae deep rosy.

Expanse of wings : 32 mm.

11 ♂♂.

One of these, rather smaller than the average, is without grey dusting, and has the lines obsolete except the inner and outer, which are marked by black vein-dots only; but instead shows a thick fuscous dentate median shade crossing middle of both wings, while the anal angle of forewing and apical angle of hindwing are both fuscous; for this the name *fuscisecta* is proposed.

103. *Eremocentra stramineata* spec. nov.

Forewing : yellow straw-colour, dusted with red atoms; the lines grey; first at one-fourth, outcurved above and below median vein, marked by darker vein-dots and one on subcostal nearer base; median shade distinctly dentate-lunulate, projecting on veins 3 and 4; outer line lunulate-dentate, the teeth marked black on the veins; praesubmarginal shade interrupted between 6 and 7, and between 3 and 4; black marginal spots between veins and dots at their ends: fringe straw-colour; cell-spot oval, marked with a black dot towards costa.

Hindwing : the same, the cell-spot round, black-edged.

Underside paler; the markings rosy, plainer in forewing than hindwing; the cell-spots ringed with rosy.

Palpi deep red above, ochreous below; face white, dull red above; vertex and thorax straw-colour dusted with reddish; abdomen pure straw-colour, with a deep rosy saddle on fourth segment; abdomen beneath and legs pale straw: foretibiae in front and the tufts on hindtibiae and femora rosy.

Expanse of wings : 32 mm.

1 ♂.

Euthysana gen. nov.

Distinguished by the very long and dense curved cilia of the antennae of the ♂; in the hindwing 6, 7 are not stalked, but from upper end of cell, as in *Emmittis* Hüb.; but the ♀ has only terminal spurs as in *Ptychopoda* Stph., with which the hindlegs of the ♂ agree. The scaling of the discocellular spot of the hindwing also is peculiar.

Type : *E. inconspicua* Warr. (*Symmacra*).

104. *Euthysana inconspicua*.

Symmactra inconspicua Warr., *Nor. Zool.* vi. p. 338, ♀ (1899).

I described the species in 1899 from a single ♀, placing it temporarily in *Symmactra*. The insect has not reappeared in the various consignments from New Guinea until lately, when 4 ♂♂ and 1 ♀ have come from Biagi.

It cannot be left in *Symmactra*, as the hindlegs of the ♂ are aborted, as in *Ptychopoda*, and without spurs. The ♂♂ are slightly smaller than the ♀♀ (22 mm.), and all alike are tinged with reddish, which was not observable in the type specimen. The darker lines are accompanied by a pale line, following the outer and preceding the inner.

105. *Organopoda orbata* spec. nov.

Forewing: very dark red-brown, the markings dark fuscous and obscure, the whole with an olive tinge; costal edge deep red; base, inner, median, outer, and two submarginal shades thick and dark; the median and outer incurved below middle; minute pale marginal dots at the vein ends; fringe reddish, dark brown in basal half; cell-spot large, round, white, edged with dark and with some dark scales at middle.

Hindwing: similar; with the basal line absent; cell-spot four times as large as on forewing, with a black ring at centre.

Underside of forewing dull rosy, with the lines deeper; of hindwing dull yellow, flushed with rosy towards costa; cell-spot reddish.

Face, palpi, collar, and forelegs deep red; vertex and antennae white; thorax and abdomen like wings; tufts of hindtibiae deep rosy; fringe of tarsi rosy ochreous.

Expanse of wings: 35 mm.

1 ♂.

106. *Organopoda sublucens* spec. nov.

Forewing: deep red-brown, powdered with dark scales, the tips of which in certain lights take a lilac reflection; the markings blackish, obscure; inner, median, outer, and two submarginal shades; the median thick; the outer thin; both vertical, and outcurved from fold to fold; costal edge and a marginal line deep red, without dark or light scales; cell-spot large, blackish; fringe reddish.

Hindwing: similar; the basal line wanting.

Underside dull vinous; cell-spot of hindwing deep red; inner margin of forewing whitish.

Face, palpi, and collar deep red; thorax and abdomen red-brown mixed with dark scales; vertex and antennae white.

Expanse of wings: 44 mm.

1 ♀.

107. *Perixera bisecta* Warr.

This species was described from 2 ♀♀ from the Angabunga River and doubtfully referred to *Perixera*. I have now seen a pair from Biagi, the ♂ of which is a true *Perixera*, belonging to the section with tufted hindtibiae. The species described at the same time, also from 2 ♀♀, as *P. ? indigena*, must, I think, be referred to *bisecta* as an aberration, without the cross-line at middle.

108. *Perixera exaucta* spec. nov.

Like *P. subalbescens* Warr., but larger and with a very pronounced ochreous tinge, with the lines and shades all more strongly marked than in that species, but otherwise exactly corresponding; in the hindwing, however, the cell-spot is decidedly larger, round and yellow, with some orange scales before the dark ring, which is very slight. Underneath the ochreous tinge is more evident: the base of costa is dull red, and the cell-spot of hindwing reddish.

2 ♂♂.

These ♂♂ expand 35 mm., and are as large as the ♀♀ of *subalbescens*.

109. *Perixera?* *flavissima* spec. nov.

Forewing: deep dull yellow, covered with olive-grey and reddish striae; lines slightly darker, reddish grey, obscure: first at one-fourth, rather thick, outcurved above and below median vein; cell-spot formed of a few white scales; median shade thick and dentate, projecting on veins 3 and 4; outer line lunulate-dentate, the teeth marked dark grey on the veins; submarginal line pale in the midst of a deeper band; marginal spots purple between the veins; fringe yellow.

Hindwing: similar: the cell-spot white and larger.

Underside like upper.

Face and palpi reddish; vertex, thorax, and abdomen deep yellow; forelegs and some lateral patches on abdomen reddish.

Expanse of wings: 35 mm.

1 ♀.

110. *Perixera?* *indecisa* spec. nov.

Forewing: pale luteous, thickly sprinkled with greyish purple atoms, darkest along costa; inner and outer lines marked only by slight dark dashes on veins, sometimes united by a faint grey line; cell-spot linear, dark, followed by a faint sinuous median shade which is slightly dentate externally on the veins; marginal purplish dots between veins and minute ones at their ends; fringe concolorous.

Hindwing: the same, but the cell-spot whitish and oval.

Underside pale rosy, deeper in forewing; marginal dots reddish; the others showing through.

Palpi and forelegs deep red; face brownish red, pale below; vertex and antennae white; thorax and abdomen like wings.

Expanse of wings: 27 mm.

3 ♀♀.

111. *Perixera subalbescens* Warr.

In the description of this species in *Nor. Zool.* x. p. 368 (1903) the cell-spot of the hindwing is stated to have a small pale centre: this is true as far as it goes, but the scales are really yellow in the middle; of 4 ♂♂ from Biagi, lately received, one agrees exactly with the type, the other three have the black rings of the cell-spot in the hindwing reduced, and the central yellow scales correspondingly developed into a plain round yellow spot. In 2 ♀♀, however, from the same locality, which are probably the other sex of *subalbescens*, the cell-spot of hindwing has the black ring larger and more oval and the centre composed of pale pinkish scales; these ♀♀ have a more decided brownish middle shade than the ♂♂, and expand 35 mm. to the 39 mm. of the ♂.

112. *Pisoraca festiva* Warr.

Pericera(?) festiva Warr., *Nov. Zool.* xiii. p. 90. ♀ (1906).

A series of 10 ♂♂ and 1 ♀ from Biagi shows that this insect is a *Pisoraca*; the disco-cellular spots of hindwing vary much in colour and size.

113. *Pisoraca rufiplaga* ab. *fasciata* nov. and ab. *nigriversa* nov.

The insect described by me in *Nov. Zool.* x. p. 367 (1903) as *Mesotrophe? rufiplaga*, and that in *Nov. Zool.* xiii. p. 91 (1906) as *Pericera? stabilata*, both ♀♀, prove to belong to one and the same species, of which the hindtibia of the ♂ has the three spurs of *Pisoraca*. Taking *P. rufiplaga* as the type, *stabilata* must be considered an aberration; to which I now add two more.

The aberration *fasciata* has no dark markings (except sometimes the cell-spot of hindwing), but the space between median and outer lines and the marginal space beyond submarginal line both stand out as greyer fasciae. In the aberration *nigriversa* the reddish blotches of the type are changed to black, but the blotch beyond the cell is not represented.

A long series, including 1 ♂ of the type form and 1 ♀ of aberration *nigriversa*, 3 ♂♂, 3 ♀♀ of aberration *fasciata*, and 5 ♂♂, 3 ♀♀ of *stabilata*.

114. *Pisoraca tenuis* spec. nov.

Forewing: fawn-colour, sometimes brownish- or reddish-tinged, very finely dusted with darker; the veins sometimes showing darker; lines obscure, marked only by small dark dots on veins, the inner near base and the outer near margin; cell-spot small, linear, on upper half of disco-cellular; fringe rather paler, with minute dark dots at margin between the veins; a faintly darker sinuous median shade.

Hindwing: more thinly scaled; and without inner row of dots.

Underside pale flesh-colour, redder in forewing, with the marginal dots plainer; the others showing through.

Face, palpi, and forelegs above dull reddish, pale below; vertex, thorax, and abdomen like wings.

Expanse of wings: 28—30 mm.

6 ♂♂.

115. *Ptychopoda biagita* spec. nov.

Forewing: dull brick-red, the bands and dusting olive-ochreous; costal streak ochreous; basal band curved from one-fourth of costa to one-third of inner margin, the area within it mainly ochreous; outer band at three-fourths, vertical, outcurved from 4 to submedian fold; submarginal, more waved, to anal angle; a pale band along outer margin; fringe ochreous, with dark dots on base at the vein ends; cell-spot blackish, distinct.

Hindwing: similar; the inner margin with ochreous scales.

Underside ochreous; the dark areas slightly marked in reddish; cell-spots large and plain.

Face and palpi externally dark purple-brown; thorax and abdomen ochreous, the latter belted with reddish; vertex and antennae ochreous; middle tibiae with

an expansible pencil of ochreous hairs; hindfemora with a dense tuft of dark grey and ochreous hairs.

Expanse of wings: 17 mm.

1 ♂.

116. *Zeugma albidisca* spec. nov.

Forewing: ochreous grey, slightly dark-speckled: lines shown by dark vein-spots, but very indistinct, except those below middle of outer line, which runs to near middle of inner margin; minute dark dots at the ends of the veins and on the margin between them; fringe concolorous.

Hindwing: similar, but the cell-spot large, oblong, silvery white.

Underside pale ochreous, flushed in forewing with dull pink, with outer and submarginal pinkish bands; hindwing with three pink bands, and the cell-spot whitish in a pink suffusion.

Head, thorax, and abdomen grey; lower half of face, fillet, and antennal shaft white.

In the ♀ the ground-colour is yellowish ochreous, showing especially along the course of the outer and submarginal lines; the cell-spot of hindwing reduced to a small white mark.

Expanse of wings: 28 mm.

1 ♂, 1 ♀.

SUBFAMILY HYDRIOMENINAE.

117. *Chaetolopha semiradiata* spec. nov.

Forewing: sandy brown, dusted with dark brown; markings dark brown, thick: costa at base brown; first line from one-third of costa oblique inwards to one-fifth of inner margin, thickened below cell, diffuse outwards; second from middle of costa to middle of inner margin, somewhat excurved from cell and thickened below it, diffuse inwardly; first edged by a slightly paler space inwardly and second outwardly; two brown streaks before outer margin, one, horizontal, along vein 7, the other, somewhat oblique, along vein 2; a fine dark brown marginal line; fringe pale with dark mottling beyond veins: along lower half of cell and beyond to submarginal line a blurred grey streak from base.

Hindwing: pale brownish grey: a broad pale band just beyond middle bent on median vein, diffuse outwardly, edged inwardly by a slight dark line; cell-spot grey, obscure.

Underside paler; forewing blurred, without markings; basal half dull grey, edged with paler; hindwing with clear dark brown speckling; cell-spot and outer line distinct, dark brown; the line pale-edged outwardly.

Head, thorax, and abdomen sandy brown: palpi externally and edge of patagia dark brown; dorsum with a pale line down the middle.

Expanse of wings: 22 mm.

1 ♂.

118. *Coenocalpe caliginosa* spec. nov.

Forewing: dark brown, with the markings blackish; a dark brown basal patch, followed by a paler brown curved band; central fascia dark brown with blackish bands at its edges and crossed by wavy dark lines; its outer edge is indented below costa, insinuate beyond cell, and forms two blunt teeth projecting below

middle; followed by a pale band and dark praesubmarginal shade traversed by two dentate lines; submarginal line pale, zigzag, obscured by a blackish cloud beyond cell, and below vein 4 becoming a more or less conspicuous pale streak; marginal line fine, black, interrupted by pale dots on the veins; fringe dark brown.

Hindwing: similar.

Underside pale grey, with all the bands slightly darker.

Head, thorax, and abdomen black-brown.

Expanse of wings: 29 mm.

2 ♂♂, 2 ♀♀.

Superficially much like *Eucymatoga subradiata* from the same place, but the undersides are quite different.

119. *Coenocalpe hirtivena* ab. *carneata* nov.

Differs from the type of *hirtivena* Warr. in having the ground-colour of basal and marginal areas of both wings and the whole of the body deep flesh-colour.

1 ♂ and 1 ♀ worn, along with several of the type form.

120. *Collix suffusca* spec. nov.

Forewing: olive grey-brown, with a purplish sheen in certain lights; the lines darker brown, double, and acutely angled outwards on subcostal vein; basal, ante-medial, and postmedial, the last widely outcurved beyond the cell-spot, which is kidney-shaped finely edged with yellowish, the centre of velvety black erect scales; band beyond postmedial outwardly edged by a regularly lunulate-dentate dark line, the teeth of which touch black lines running to outer margin, across which the submarginal line cuts, forming bright white spots; pale marginal dots at the end of veins: fringe concolorous.

Hindwing: similar, but the cell-spot smaller, and the submarginal white dots larger.

Underside uniform silky olive-brown; cell-spots black; two curved series of elongate dark brown marks, postmedial and submarginal, the former on, the latter between, the veins.

Head, thorax, and abdomen brown; palpi and a lateral stripe on basal half of abdomen ruddy.

Expanse of wings: ♂ 30 mm.; ♀ 34 mm.

3 ♂♂, 2 ♀♀.

Differs from the other species by the dark underside.

121. *Crasilogia flavipennis* spec. nov.

♂. Identical with *C. dispar* in forewing except that the inner edge of central fascia is not so oblique, starting more vertically, from costa: consequently the pale band between basal patch and central fascia is wider at costa than in *dispar*; and as the inner edge becomes oblique only from submedian fold to inner margin, the central fascia itself is wider on inner margin than in *dispar*: in the hindwing instead of the white of *dispar*, the costal area is yellowish white, while the rough-haired portion of the wing below vein 7 is greyish fulvous instead of pale grey, and the curved fringes of the cleft are olive-brown instead of black. Moreover the shape of the hindwing is different: instead of the wing being shouldered at

apex and the outer margin running nearly straight to the cleft, the apex and outer margin are well-rounded and the bend at vein 4 not so prominent.

In the ♀ the hindwing is wholly deep yellow, without grey shading and bands.
1 ♂, 1 ♀, the same size as *C. dispar*.

122. *Crasilogia fumipennis* Warr.

The species was referred to *Crasilogia* in the absence of the ♂: cf. *Nor. Zool.* xiii, p. 99 (1906); and the examination of that sex confirms the position.

The forewing of the ♂ does not differ from that of the ♀, except in being somewhat darker: the hindwing is trowel-shaped, with the obtuse angle of apex and anal angle opposite each other; the wing above is wholly covered with a mat of raised furry scales, olive fuscous at base, the apical third, with the fringe, being glossy ochreous.

Underneath the wing is crossed by the same wavy lines and grey shades as in the ♀. The anal segment of abdomen is thickened, fuscous varied with yellowish; the anal tufts pale ochreous.

2 ♂♂, accompanied by 4 ♀♀.

The ♂ is the same size as that given for the ♀ in the original description, but some of the ♀♀ from the Mambaré River are 42 mm.

123. *Crasilogia subflava* spec. nov.

This species, of which only a ♀ has arrived, closely resembles *fumipennis*: the ground-colour of the intervals is paler, being without the dark shades of *fumipennis*, consisting of an equal admixture of olive-yellow and fuscous scales; the outer edge of the central fascia is less strongly crenulate, and not followed by a distinct yellow line: the hindwing is a much paler olive-brown.

The underside, however, differs altogether: the base of the forewing and costal area to submarginal line are dull deep yellow, the rest of the wing olive fuscous; the fringe yellow with fuscous mottling: hindwing dull yellow, with two curved waved thick lines and a broad marginal border fuscous; the yellow intervals dusted with fuscous, hardly forming lines.

Head, thorax, and abdomen fuscous and ochreous mixed.

Expanse of wings: 38 mm.

1 ♀.

Lasiœdma gen. nov.

Forewing: triangular; costa straight, with a slight curve at base and before apex; outer margin curved, as long as inner margin.

Hindwing: in ♂ narrowed: underside with a deep narrow furrow along the submedian fold, the space between it and inner margin swollen on both surfaces, folded over beneath and containing a large bed of down within; a fringe of hair along median vein and vein 2 above.

Palpi nearly as in *Eschrostoma* Warr.; the second segment bearded, the third short, drooping. Antennae bipectinate.

Areole of forewing single; 10 and 11 being stalked, 10 anastomosing with 7, 8, 9.

Basal half of venter with a mat of rough scaling, a lateral curl of hairs on each segment.

Type: *Lasiœdma floccosa* spec. nov.

124. *Lasiœdma floccosa* spec. nov.

Forewing: dark brick-red; costa dotted black and white, with outwardly oblique whitish streaks from it; lines wavy, black and white, basal and antemedian and four postmedian: the outermost insinuate on each fold, the sinns filled with whitish scales; submarginal line of white wedge-shaped marks, filled up with deep black below costa, beyond cell, and on submedian fold and edged outwardly with black; cell-spot large and black; a blackish shade along outer half of each fold; space from 5 to 7 between outer and submarginal lines purer red; apex black; marginal line fine, concisely black; fringe reddish, with blackish mottling.

Hindwing: similar in ♀; in the ♂ the lines are less expressed, but the veins are dotted black and white; the swollen fold on inner margin is clothed with black and white scales, the furrow being smooth and ochreous; the fringe of hair on median vein reddish.

Underside duller, with all the markings blacker and plainer, especially in ♂; the hindwing and inner half of forewing whiter; the fold and furrow in ♂ glossy ochreous.

Head, thorax, and abdomen reddish speckled with grey; anal tuft of ♂ ochreous; præanal segments of dorsum blackish.

Expanse of wings: 30 mm.

10 ♂♂, 2 ♀♀.

125. *Ochyria auratisquama* spec. nov.

Forewing: brownish fuscous; all the lines silvery bluish, but apt to be interrupted; basal patch rather darker, crossed by two and edged by a third bluish line; central fascia dark brown, edged on each side by a silvery blue line, and with a single line across its middle; the two pale bands on each side formed of gilded yellow scales with two very fine deutate dark lines through each; submarginal line wavy, lustrous, preceded and followed by brown shades, the marginal shade mixed with golden, especially below vein 4; fringe brown, its basal half blotched with blue between the veins, the outer half mottled brown and whitish.

Hindwing: pale grey, rather bronzy; the fringe rufous.

Underside olive-grey; some bluish white scales along outer margin and fringes; the hindwing with the curved cross-lines accompanied by whitish scales.

Head, thorax, and abdomen a mixture of brown, yellow, and lustrous blue scales.

Expanse of wings: 17 mm.

4 ♂♂, 4 ♀♀.

126. *Ochyria prodiga* spec. nov.

Very close to *O. fulvistriga* Warr., of which eight examples, quite typical, have been received from the same locality as the present species. It differs in having all the markings more wavy and sinuate instead of straight and exact; the lustrous tints stronger, especially in the outer half of wing; the hindwing dark slaty grey, like the underside of both wings. Superficially it might be mistaken for *Acnorhystia unipuncta*, but the different antennae will distinguish it.

Expanse of wings: 20 mm.

1 ♂.

127. *Onagroides recurva* spec. nov.

Forewing: snuff-brown; towards base and along costa and outer margin broken up by brownish buff scales; along costa there are visible oblique streaks of brown with broader pale intervals; at one-fourth and two-thirds there are traces of darker dentate lines, the first obscurely curved to two-fifths of inner margin, the outer oblique to vein 6, then incurved to two-thirds of inner margin; submarginal pale and waved; cell-spot brown.

Hindwing: with outer margin broadly and inner margin more narrowly snuff-brown; the area within smooth dull blarred grey, containing an oval patch of mealy ochreous scales.

Underside of forewing pale brown in costal half, with the lines obscurely darker; dark brown below middle, with an oval patch of ochreous scales between veins 1 and 2; hindwing brown, crossed by some pale lines, and with indications of the pale patch of upperside.

Head, thorax, and abdomen all snuff-brown.

Expanse of wings: 22 mm.

1 ♂.

All the wings have a tendency to curve upwards along the outer margins, so that the short fringes are at right angles to the plane of the wing.

128. *Spectrobasis differens* spec. nov.

Forewing: olive-fuscous, not so dark as in *maligna*; the costa, as in that species, green for one-third from base, then pink with dark streaks; submarginal line not visible, but on the other hand the two lines edging the central fascia traceable; fringe whitish, pink only along base, mottled with black.

Hindwing: uniform fuscous, with the bands of underside hardly showing; fringe fuscous.

Underside of forewing like *maligna*, but paler; the costa in ♂ tinged with yellowish-ochreous as well as red; hindwing in ♂ with the antemedian band narrower and better defined; the base of postmedian white to middle; the submarginal formed of separate white wedge-shaped marks; costa yellowish ochreous; in ♀ more or less overrun with red; the bands less marked, with a reddish central line, the outer one yellowish.

Face, vertex, and patagia green, and the thorax also greenish, not velvety black; abdomen paler, ochreous with black dusting; antennae fuscous.

Expanse of wings: 26 mm.

2 ♂♂, 1 ♀.

The larger ♀ mentioned in the description of *S. viridis*, *Nor. Zool.* xiii. p. 103, belongs to this species.

129. *Spectrobasis maligna* spec. nov.

Forewing: dull greenish fuscous on a pinkish ground, the pink only showing along costa and towards apex; costal edge with black streaks, the beginning of the lines, separated by pinkish intervals; the costal space above subcostal vein reddish at base, then green to one-third; lines hardly traceable across wing below subcostal vein, except the submarginal, which is waved and pinkish below costa; in one specimen the veins towards margin and the extreme margin itself are reddish; fringe pink, with distinct black mottling.

Hindwing: fuscous, with obscurely paler antemedian and postmedian bands

-showing through, the latter sometimes forming a pinkish blotch at costa; fringe pinkish, mottled with brown-red or fuscous.

Underside of forewing blurred grey, the costal area and outer margin red-brown with pale speckling; the submarginal line pale and wavy; costa marked with dark and light; hindwing red-brown marked with black-brown in places; a white straight antemedian band, and indistinct curved and narrower postmedian double line, tinged with brown below costa; submarginal white, wavy, distinct.

Face, vertex, and patagia moss-green; palpi fuscous with pale dots; shoulders and thorax velvety black with a red tinge, sides of thorax grey; abdomen black-brown, ochreous towards base and marked with red on sides; legs mottled fuscous and pink; antennae red.

Expanse of wings: 28 mm.

2 ♀♀.

130. *Spectrobasis plumosa* spec. nov.

Differs from the other species of the genus by the absence of all pink or reddish tints, except on the legs and shoulders, and by the longer pectinations of the antennae of the ♂.

Forewing: black-grey; costal area greenish nearly to middle, then ochreous with black pale-edged streaks at the lines, which are all traceable across wing, rather darker than the ground-colour; fringe ochreous, mottled with black.

Hindwing: dull blackish; the pale bands slightly showing through.

Underside of forewing dull grey; the costa greenish, with pale and dark dusting, and the chief lines marked along it; outer margin blackish; a black marginal line interrupted by the pale vein ends; hindwing dull brown, blotched with black; costa broadly greenish; antemedian band white, with a ragged streak outwards below costa; submarginal line shown by three white subapical blotches; outer line obscured.

Face, vertex, and patagia green; thorax deep olive-green; shoulders reddish fuscous; abdomen ochreous dusted and belted with blackish; forelegs reddish.

Expanse of wings: 24 mm.

3 ♂♂, 2 ♀♀.

The longer pectinations of the antennae are characteristic.

131. *Xanthorhœ vinosa* spec. nov.

Forewing: whitish, overlaid with vinous scales; the lines and shading darker vinous; basal patch small; central fascia broad at costa, below vein 2 half as wide; the outer edge insinuate beyond cell and forming a bilobed projection below middle, then running obliquely inwards; the edges deep vinous, the centre paler, and traversed by three or four wavy lines; the fascia is edged on each side by a narrow pale band with dark line through it, the inner separated from basal patch by a dark reddish shade; the outer followed by a dull reddish præ-submarginal band, darkest at costa and beyond cell; submarginal line wavy, obscurely pale; marginal area vinous; marginal lunules deeper; fringe vinous.

Hindwing: similar, but paler, especially along costa.

Underside dull reddish grey, the markings of upperside showing through.

Head and thorax dark reddish; abdomen paler, with dark bands at base.

Expanse of wings: 36 mm.

1 ♂.

SUBFAMILY TEPHIROCLYSTIINAE.

132. *Adeta viridis* spec. nov.

Forewing: yellowish olive-green, with all the lines, which are strongly waved, dark grey; cell-spot blackish, on the inner edge of central fascia, of which the outer edge is well curved and dentate between veins; marginal line black, interrupted by green dots at the veins; fringe greenish, with a paler basal line.

Hindwing: paler, the markings being only darker green, not grey.

Underside pale green (in the more faded example yellow-green), with all the markings distinct and blackish.

Head, thorax, and abdomen all green; the dorsum, especially laterally, with blackish dusting; abdomen beneath, pectus, and legs yellow-green.

Expanse of wings: 25 mm.

2 ♀♀.

133. *Aniserpetes longispinata* spec. nov.

Forewing: grey, with a vinous tinge, especially at base; edges of central fascia formed by brown-black bands, the outer band oblique outwards to below vein 4, and there ending, the inner edge curved and waved, preceded by a fine white line and pale band, as the outer edge is followed; centre of fascia above median blotched with white; submarginal line obscurely paler; marginal line black, interrupted by large white spots at the vein ends; fringe grey flecked with white.

Hindwing: with the lines less marked, visible only below median, the costal half being pale and blurred.

Underside dull greyish rufous.

Head, thorax, and abdomen reddish grey.

Expanse of wings: 16 mm.

1 ♀.

Recognisable by the long oblique upper half of outer band of the white central blotch, as well as by the long slender spurs.

134. *Aniserpetes pallidipunctata* spec. nov.

Forewing: greenish brown; costa with two black spots at one-third and three-fifths; the lines from them inwardly curved, and black on the veins; outer irregularly erenulate, slightly bilobed and projecting below 4, followed by a fine white line, forming part of a grey band; submarginal line waved, pale, followed between 3 and 4 by a small square whitish spot; fringe pale grey, beyond a fine marginal line.

Hindwing: less marked; outer edge of central fascia angled outwards in middle.

Underside brownish grey; both wings with a dark outer line followed by a slight pale band.

Head, thorax, and abdomen like wings, the abdomen reddish-tinged.

Expanse of wings: 18 mm.

2 ♂♂.

135. *Aniserpetes variotincta* spec. nov.

Forewing: ochreous, tinged with pale green and pale brick-red; the lines blackish; the inner margin from base to outer line, the central fascia above vein 2, and the paler spaces of the praesubmarginal band pale brick-red; the submedian interval and lower half of praesubmarginal band pale green; space at base before fascia filled with curved blackish lines; central fascia with two dark traversing lines, and edged on each side by a pearly grey line, which externally forms part of a pale band; submarginal line preceded by blackish blotches at costa and beyond cell, and by a dark shade below 3, beyond which the marginal area is also dark, except the apex, which is greenish; marginal line blackish; fringe grey, flecked with paler.

Hindwing: wholly brick-red, with the lines concisely dark; central fascia with its outer edge lunulate and the teeth marked dark along veins.

Underside of forewing dark grey, of hindwing rufous with the lines grey.

Head and thorax greenish, speckled with red; the dorsum brick-red, like hindwings; palpi dark fuscous; forelegs fuscous, with pale joints.

Expanse of wings: 16 mm.

1 ♀.

136. *Brabira ruficarpus* spec. nov.

Forewing: cream-white, glossy; costa marked with six brown spots, three antemedian and three postmedian, the outer two smaller; cell-spot black; the wing is crossed by numerous waved grey lines, generally very obscure, except towards inner margin: submarginal line pale and waved, traversing a somewhat darker grey area, the lunules in the broad submedian interspace bright red; fringe grey.

Hindwing: crossed by three broader and more evident grey lines, the inner margin along vein 1 and the fringe at middle red.

Underside with the grey bands plainer, the forewing tinged with grey.

Head, thorax, and base of abdomen white; terminal half red-brown; dorsum with two reddish lines filled in with brown; underside and legs white; forelegs mottled fuscous and white.

Expanse of wings: 34 mm.

3 ♂♂, 1 ♀.

The hindwing is small, rounded and waved, but not produced to an angle.

137. *Chloroclystis biangulata* spec. nov.

Forewing: very pale greenish; costa at base reddish; lines darker green with pale edges, mostly indistinct, except the outer line, which is blackish green, with some reddish scales intermixed, forming two prominent angulations, one on vein 6 and the other below 4, with an equally prominent inward angulation between; submarginal line dentate, with some of the teeth inwardly black-sealed towards costa; marginal line and fringe green.

Hindwing: with all the lines more distinct.

Underside pale dull green, the forewing rather greyer.

Head, thorax, and abdomen all pale green.

Expanse of wings: 17 mm.

1 ♀.

138. *Chloroclystis continuata* spec. nov.

Forewing : pale greenish white ; costa dark at base and with dark spots at the lines ; first line inwardly oblique, thick and blotched ; outer rounded, the edge lunulate ; the central space, except close to inner line, filled in with reddish grey ; the area beyond, except above vein 6 and a small patch on outer margin between 3 and 4, also reddish.

Hindwing : paler ; basal line thick and black, continuing that of forewing ; outer line black, concise, outcurved in middle ; submarginal preceded by dark clouds ; a small cell-spot ; fringes worn, probably greenish.

Underside pale greenish, greyer in forewing ; outer line well marked.

Head, thorax, and abdomen pale green ; a broad belt of red and black scales on second segment of dorsum, corresponding to the basal line of wings.

Expanse of wings : 17 mm.

1 ♂.

139. *Chloroclystis exangulata* spec. nov.

Forewing : dull grey-green, greyer than in *C. invisibilis*, covered with coarse fuscous grey lines, which are all oblique outwards from costa, angled in cell, then oblique and straight inwards ; the outer line is thicker, angled on vein 6 ; a pale band with grey centre and dentate grey edge follows the fascia, and is itself closely followed by the obscure wavy submarginal line ; marginal line black ; fringe grey-green.

Hindwing : similar ; the outer line thick and angled at vein 6, the paler band following it widening much to inner margin.

Underside greenish cinereous, with the outer line dark grey in both wings.

Head, thorax, and abdomen greenish dusted with blackish.

Expanse of wings : 16 mm.

1 ♀.

Very much like *C. invisibilis*, but the course of the outer line totally different. Whether really a *Chloroclystis* is doubtful, as both hindlegs are absent.

140. *Chloroclystis exsanguis* spec. nov.

Forewing : very pale green, with very obscure cross-lines, which are only slightly darker edged with paler ; costa with blackish spots ; outer line rather stronger than the rest, marked with whitish on veins ; submarginal line preceded by slight grey clouds at costa, beyond cell, and above anal angle ; a faint rufous grey shade from end of cell to outer margin ; marginal lunules dark ; fringe green with faint mottling.

Hindwing : similar, but the basal and outer lines marked distinctly with black on veins.

Underside pale greenish grey in forewing, pale ochreous in hindwing, with the lines grey and faint.

Head, thorax, and abdomen pale green like wings ; dorsum ochreous-tinged ; palpi and a ring on third segment of dorsum deep black ; abdomen laterally with black scales.

Expanse of wings : 18 mm.

1 ♀.

141. *Chloroclystis invisibilis* spec. nov.

Forewing: olive grey-green, with slightly darker shades and a reddish tinge; lines black; first at one-third, outcurved in middle, below median forming black teeth outwards on veins; outer line at three-fifths, oblique outwards, and strongly projecting in middle from 6 to 4, then waved inwards, with a faintly paler outer edge; submarginal line indistinct, preceded in places by dark clouds; an interrupted black marginal line; fringe concolorous; both lines start from black costal spots.

Hindwing: similar; marginal line thicker.

Underside greenish cinereous, with outer line dark in both wings.

Head, thorax, and abdomen olive-green, slightly speckled; the dorsum tinged with red; palpi externally black, with extreme tip whitish.

Expanse of wings: 18 mm.

1 ♀.

142. *Chloroclystis miantosoma* spec. nov.

Forewing: dull olive-green; the edges of central fascia and the shade before submarginal line olive fuscous, the other lines only darker green; costa green spotted with dark, not pinkish as in *cuncilinea* Warr.; edges of the central fascia more inwardly curved below, the fascia itself filled up, except along costa, with reddish; submarginal line finely waved, pale green; marginal area red-tinged; a fine dark marginal line; fringe pale greenish with brown chequering.

Hindwing: paler green, without red scaling, except in outer half of central fascia, the veins with black scaling, especially at edge of central fascia.

Underside greenish grey in forewing, pale greyish green in hindwing, with traces of the lines.

Head, thorax, and basal segments of abdomen pale green; rest of abdomen buff; third segment of dorsum with red and fuscous scaling.

Expanse of wings: 15 mm.

1 ♂.

Allied to *C. cuncilinea* Warr., but much darker, and with a different distribution of the red tints.

143. *Chloroclystis primivernalis* spec. nov.

Forewing: greenish white, with suffused bands of grey; the lines blackish; costa and a patch on outer margin between 3 and 4 clearer green; the lines waved and all obliquely curved inwards, more or less parallel to outer margin; the two edges of the central fascia thicker and darker, the outer oblique outwards to 6, and slightly angled on 6 and 4, dentate inwards, the teeth black on the veins; band between basal line and inner edge of fascia, and between its outer edge and the submarginal line suffused with dark grey; the margin also grey; submarginal line finely wavy, pale; marginal line deep black, interrupted at the veins; fringe dark grey, flecked with pale green; in the inner band of central fascia the median vein bears a black dash.

Hindwing: with the outer half of fascia grey, the rest and the base pale; praesubmarginal shade entire and separated from central fascia by a pale band.

Underside of forewing greenish grey, of hindwing whitish, grey-tinged; the markings dark grey; outer line of hindwing prominently dark.

Head, thorax, and abdomen black-speckled green; dorsum olive-tinged, with black lateral scales; underside whitish; forelegs black with pale joints.

Expanse of wings: 16—18 mm.

2 ♂♂.

Dissolophodes gen. nov.

Agrees with *Tephroclystia* in venation; the forewing normal; hindwing truncate at vein 2, the anal portion below this vein shortened, slightly contorted but smoothly scaled above, below with dense ridges of hairs along submedian fold and vein 1; the abdomen with a similar large lateral tuft on segment 5; cell of hindwing above clothed with very long, sparse hairs.

Type: *Dissolophodes curvimacula* Warr. (*Tephroclystia*).

144. Dissolophodes curvimacula.

Tephroclystia curvimacula Warr., *Nor Zool.* xiii. p. 129, ♀ (1905).

A single ♂ of this species lately received shows the necessity of this correction. The hindwing of the ♂ is purplish blue, the long hairs of the cell yellowish at base. Underside of both wings deep purple; the fringe of forewing green with purple flecks; tufts of the hindwing and abdomen deep purple; in other respects like the ♀.

Emmesocoma gen. nov.

An offshoot of *Tephroclystia*; characterised by the cell-spot of forewing being composed of a large tuft of raised scales; in the hindwing the upper surface is more or less blurred, the scaling and pattern being restricted to the inner margin below cell and vein 2. Antennae of ♂ thickly and shortly ciliated. Abdomen of ♂ ending in a point.

Type: *Emmesocoma deviridata* spec. nov.

Ochyria? unitaeniata Warr., *Nor. Zool.* xiii. p. 101 (1906) must be placed in this genus; the type, being worn, failed to show the cell-tuft.

145. Emmesocoma deviridata spec. nov.

Very near to *E. unitaeniata* Warr. (*Ochyria*), but without any green tint; outer line not oblique outwards from costa, but vertical, then outcurved to inner margin, with no pale green band following it, but a pale brown space before submarginal line, with the veins across it ochreous, and an ochreous patch on costa; the pale blotch above anal angle with two thick white streaks through it.

Hindwing: with the lines and shades continued across wing, the apex with a large grey cloud.

Underside of both wings brown, with the lines whitish, and all well marked.

Head, thorax, and abdomen red-brown, dusted with dark and light; underside and legs ochreous, with reddish dusting; forelegs fuscous, with pale joints.

Expanse of wings: 21 mm.

1 ♂.

146. Emmesocoma tenuiscripta spec. nov.

Forewing: brownish fuscous tinged with greenish; basal patch and central area paler than the intervening band and marginal area; basal patch limited by an exceedingly fine whitish line oblique from one-sixth of costa to one-fourth of

inner margin; second line equally fine, bent in cell, then parallel to basal, the enclosed band darker fuscous, traversed by two darker lines; outer line from three-fourths of costa to four-fifths of inner margin slenderly whitish, outcurved, and followed by a narrow pale-edged band; the central space is crossed by two dark brown dentate lines oblique from costa and more vertical below; submarginal line undulating, whitish; marginal spots dark; fringe fuscous; cell-spot marked by a tuft of greenish black-tipped scales.

Hindwing: pale grey, with traces of darker grey curved lines.

Underside pale greenish ochreous grey, with the lines all darker grey and waved.

Head, thorax, and abdomen greenish fuscous; patagia with black centres edged with greenish; dorsum with traces of greenish tufts.

Expanse of wings: 19 mm.

1 ♀.

147. *Eucymatoge contaminata* ab. *completa* nov.

This differs from the type form of *contaminata* Warr. in having the whole of the usually pale central fascia filled up with dark fuscous, showing the dark waved lines of the edges throughout and with the centre slightly paler; but the underside remains the same. The aberration bears a great resemblance to a small *Cosmorhoë galiata*.

2 ♂♂.

148. *Eucymatoge subradiata* spec. nov.

Forewing: dark red-brown on an ochreous ground-colour: the lines blackish, somewhat obscure; four waved and slightly angled lines before middle, the fourth forming the inner edge of central fascia, followed by a dark shade; outer edge at three-fifths, bent outwards above middle, then incurved, preceded by a dark band and followed by a pale band with dark central line, which is only plain below costa; submarginal line formed of white spots at the end of long black blotches between veins, the spot between 3 and 4 more conspicuous than the rest; marginal area redder; a fine dark marginal line; fringe grey, blackish at apex and anal angle, with a fine reddish line at base; cell-spot cloudy, blackish.

Hindwing: like forewing, but with two lines at base, both straight.

Underside whitish, tinged with grey-brown in forewing; all the veins thickly blackish, crossed by two curved blackish lines, postmedian and submarginal; cell-spots black; fringe reddish.

Head, thorax, and abdomen reddish black; abdomen pale grey beneath; legs pale, the tarsi fuscous; the abdomen is short and stout, swollen at extremity.

Expanse of wings: 26 mm.

1 ♀.

Cell much shorter than half of wing; vein 11 far back towards base.

149. *Micromia defulvata* spec. nov.

Differs from *M. fulcipuncta* in the absence of the fulvous patches beyond outer line; the olive-yellow tinge of *fulcipuncta* is replaced by a lustrous blue-green, and the hindwing is more slaty grey.

Underneath the forewing is without the yellow costa of the type species, the

underside being pale ochreous in the ♂ and dark grey in the ♀, with the shades in each case deeper.

The abdomen of the ♂ is less strongly fulvous-marked.

2 ♂♂, 1 ♀.

Otucha gen. nov.

♂. *Forewing* : costa shouldered at base and rough-haired, then straight ; apex blunt ; outer margin curved.

Hindwing : with smoothly rounded outer margin ; apical angle rounded ; anal square.

Antennae lamellate, simple ; palpi porrect, rough-scaled, the terminal segment small ; tongue and frenulum present ; hindtibia with four spurs ; abdomen with a pair of long lateral pencils of hair from third segment, reaching base of anal segment.

Neuration : as in *Tephroclystia* in forewing, but in the hindwing the discocellular is faintly biangulate, the radial rising from the lower angulation ; veins 6, 7 are scarcely stalked.

Type : *Otucha adminiculata* spec. nov.

150. **Otucha adminiculata** spec. nov.

Forewing : wood-brown with a red tinge and some green scales intermixed ; the cross-lines rather darker ; basal patch and inner margin as far as outer line velvety black-brown ; basal patch followed by a broad paler band traversed by two fine lines ; inner edge of central fascia before one-third, oblique from costa and bent in cell to about middle of inner margin, followed by an oblique brown linear cell-spot ; outer edge of fascia blackish from two-thirds of costa, oblique outwards, indented below subcostal vein and widely outcurved, running inwards to 2, then vertical, below the middle marked only by black dashes on the veins ; it is preceded from costa by three cloudy oblique brown lines, which below middle become waved and compressed ; beyond it a narrow band with dark centre, green above middle, reddish and obscure below ; submarginal line shown by a row of white dots ; marginal area dark brown, except between 3 and 4, where the paler ground-colour runs through to the fringe ; marginal line fine, interrupted at the veins ; fringe pale reddish, mottled with dark.

Hindwing : pale grey with a rufous flush, and the fringe rufous ; traces of two dark grey curved lines before outer margin.

Underside dull rufous ochreous, with all the lines thick and dark grey ; cell-spots black.

Head, thorax, and abdomen reddish brown ; patagia, metathoracic tufts and a dorsal ridge of scales dull green ; abdomen redder, with the lateral pencils dark brown.

Expanse of wings : 24 mm.

1 ♂.

151. **Prosthetopteryx? fulgurans** spec. nov.

Forewing : pale green, with the shading purplish violet ; the subcostal vein green to outer line ; the edge of basal patch, the centre of the pale green band following, and the limiting bands of central fascia purplish, all plainer on costa, where the green lines are plainer, and inner margin which they reach vertically at regular intervals ; the outer edge of the fascia runs obliquely outward to below

vein 4, where it is angled and oblique to vein 2, then vertical; it is followed by a pale green band; submarginal line finely green, curved from costa to anal angle, joined above middle to outer line by zigzag green lines; marginal area purplish, with a pale green patch below apex, and a larger one below middle; some dark marginal lunules; fringe worn.

Hindwing: greenish white, with bare traces of grey curved lines.

Underside pale greenish, with the dark shadings showing through.

Head and thorax pale green; tips of patagia and the dorsum purplish; abdomen beneath pale green.

Expanse of wings: 22 mm.

1 ♀.

152. *Prosthetopteryx infantilis* spec. nov.

Forewing: green; basal area and central fascia reddish fuscous; basal area small, edged by a darker curved line; central fascia narrow, inner edge curved parallel to basal area, outer notched at vein 6, angled at 4 and incurved; followed by an olive blotch from inner margin, contiguous as far as 4 and thence curved to outer margin at 6; upper half of fascia followed by a pale green band, beyond which the costa is marked with fuscous, containing the pale beginning of a submarginal line; small black marginal lunules; fringe green, chequered with darker, at apex whitish.

Hindwing: pale dirty ochreous; the tips of the lobes and their fringes brownish.

Underside of forewing dull grey-green, with the lines dull purplish on costa, all becoming lost in a purplish cloud below cell; hindwing ochreous, with traces on costa of two dark lines.

Head and thorax greenish; abdomen ochreous.

Expanse of wings: 17 mm.

4 ♂♂.

153. *Prosthetopteryx? transsecta* spec. nov.

Forewing: dull green, with leaden fuscous markings; costa at base, costal edge, and subcostal vein for three-fourths fulvous; basal patch leaden fuscous, edged by a sinuous darker line and crossed close to base by a vertical white line; central fascia broad on costa and quite narrow at inner margin, its inner edge deeply waved, dull olive-brown edged with darker, limited externally by a greenish ochreous line, which is slightly incurved below middle, and traversed in middle by an ochreous line, which is slightly outcurved below cell, the two lines thus approximating below; spaces on each side of fascia dull green; marginal area dark fuscous green, interrupted between 3 and 4 by the paler green ground and some fulvous scales, and traversed by a submarginal series of white dots; marginal lunules black; fringe rufous fuscous, the basal half darker and dark-mottled beyond veins.

Hindwing: dull cinereous, with darker marginal border; marginal dark lunules separated by pale dots; fringe pale rufous with distinct black mottling.

Underside dark cinereous, with the dark and pale lines all shown; hindwing with two pairs of pale lines; the pale submarginal dashes all distinct.

Head and collar pale green; tips of palpi whitish; shoulders green and fulvous; patagia fulvous at base, then green with two deep black bands; thorax

and anal half of abdomen pale green, basal half black-brown with two tufts ; abdomen beneath ochreous ; legs broken, but forelegs fuscous with pale joints.

Expanse of wings : 26 mm.

1 ♀.

The ♂ will almost certainly show this to be a *Prosthetopteryx*.

154. *Prosthetopteryx? vinosa* spec. nov.

Forewing : olive green, the shadings rich vinous mixed with fulvous ; base crossed by three or four vertical vinous lines with grey scaling between them ; central fascia traversed by two or three fine vinous lines, its outer edge formed by a broad vinous band, nearly straight, at two-thirds, followed by a dull green band with grey centre, which below vein 2 becomes fulvous ; marginal area blurred purplish and fulvous, with a pale green waved submarginal line close to margin, preceded by fulvous patches ; marginal line dark purple ; fringe mottled green and purple ; central fascia at middle with a fulvous patch.

Hindwing : shining whitish, with traces of grey lines ; the fringe dark grey.

Underside glossy pale green with the markings grey.

Head and thorax green ; abdomen wanting.

Expanse of wings : 22 mm.

1 ♀.

Pseudosauris gen. nov.

♂. *Forewing* : costa shouldered at base, then straight ; outer margin obliquely rounded.

Hindwing : narrow ; the anal angle formed at the end of vein 3, whence the inner margin, fringed as normally, runs up for two-thirds to the end of vein 2, which is quite short, having below it a short spatulate lobe, also fringed, reaching about one-third of the wing.

Antennae thickly lamellate ; palpi long, thickly scaled ; tongue and frenulum present ; hindtibiae with terminal spurs ; hindfemora greatly swollen ; abdomen with slight lateral crests beneath and long anal tufts.

Neuration of *Tephroclystia*.

Type : *Pseudosauris miranda* Warr.

The ♀ of this species was described by me as *Tephroclystia miranda*, in *Nor. Zool.* x. p. 381 (1903). Its affinities are with the *Tephroclystiinae* rather than with the *Trichopteryginae*.

The ♂, from which the above generic description was made, comes from Biagi.

Sillophora gen. nov.

Forewing : costa in ♂ strongly shouldered at one-third ; apex prominent ; outer margin obliquely curved ; in ♀ normal.

Hindwing : slightly indented beyond cell.

Forewing in ♂ with a slender furrow through cell to outer margin marked below by a corresponding ridge, and slightly visible also in hindwing ; vein 1 strongly sinuate ; the median nervules and submedian fold slightly upcurved at extremity ; in hindwing the costal and subcostal veins during anastomosis are raised and swollen, the costal arching abruptly away and the subcostal depressed at end of cell, 7 rising before 6 and not stalked with it ; vein 5 more or less obscured by the furrow, otherwise the neuration agrees with that of *Chloroclystis*.

Antennae with basal segment long and erect, ending in a tuft, below which the shaft leaves it at right angles and is depressed; the same occurs, in a modified degree, in the ♀; forehead with pointed scale-tuft below; palpi porrect, the terminal segment depressed, much longer in ♀ than ♂; hindtibiae of ♂ long, with two spurs, of which the inner is three times as long as the outer; of ♀ with three spurs as in *Adeta* and *Aniserpetes*.

Type: *Sillophora albiviridis* spec. nov.

This genus partakes somewhat of the characters of *Pycnoloma* and *Ptychotheca*, this latter exhibiting the development of the cell furrow in an extreme degree while the former shows a similar unusual development in the base of costa of hindwing.

155. *Sillophora albiviridis* spec. nov. and ab. **completa** nov.

Forewing: whitish green; crossed by numerous wavy dentate greenish lines; the central fascia and praesubmarginal shade always darker and mixed with fuscous; the fascia is subobsolete below middle, and less marked in the hindwing; marginal lines finer, interrupted; fringes mottled.

Head, thorax, and abdomen whitish; the patagia and metathorax mixed with green and grey; the second dorsal segment with a grey belt, the rest of abdomen pale.

In the aberration *completa* the interruption of central fascia of forewing below middle is more entire, at the same time the upper part of fascia is much darker; while in the hindwing the fascia is interrupted at costa and complete and blackish in inner-marginal half; and the middle segments, sometimes the whole, of dorsum are blackish.

Expanse of wings: 16—17 mm.

3 ♂♂, 8 ♀♀, including 1 ♂, 2 ♀♀, of the aberration.

Stenista gen. nov.

Forewing: triangular; costa straight, curved shortly at base and apex; outer margin as long as inner, more oblique below vein 3.

Hindwing: of ♂ small and narrow; outer margin curved from apex to 4, which is slightly prominent, crenulate from 4 to 3 and again from 3 to 2, this last crenulation being almost in line with the shortened inner margin, which immediately follows vein 2, the submedian fold and vein 1 being absent; vein 2 from near base of cell.

On the underside the costal half of hindwing is clothed with rough semi-erect scales, the costa itself being well curved; hindwing of ♀ normal.

The rest as in *Tephroclystia*.

Type: *Stenista commixtilinea* spec. nov.

156. *Stenista commixtilinea* spec. nov.

The description given in *Nor. Zool.* xiii. p. 132 of the supposed ♀ of *Tripteridia albimixta* really refers to the ♀ of this species; the ♂ agrees with it in the forewing, but the pale lines are greener, and the blurred space to margin between veins 3 and 4 is greenish ochreous and not buff.

Hindwing: cream-colour, with patches of lilac-grey scales at outer margin below middle.

Underside of hindwing ochreous, with the hairs in costal area yellow.

Head, thorax, and abdomen all ochreous; patagia and base of abdomen with some black scales; the anal tuft brownish; forelegs black, with pale joints.

Expanse of wings: ♂, 17 mm.; ♀, 22 mm.—not 17 mm. as stated in the original description.

1 ♂.

157. *Tephroclystia mundiscripta* spec. nov.

Forewing: whitish, crossed by two basal, two median, and two submarginal bands, the first four marked on costa by black blotches, separated by small white spaces; the basal bands hardly marked across wing; the median plainer and grey, but the inner often interrupted, containing between them the black cell-spot; the two outer grey, separated by the whitish waved submarginal line, which swells into a large white spot on submedian fold; marginal dashes fine and black; fringe grey with a bright white basal line; veins towards outer margin fulvous and the grey of apical half slightly fulvous-tinged.

Hindwing: white, with a black linear cell-spot and the veins grey; a basal, a double median, and double waved submarginal line.

Underside of forewing dark grey, of hindwing whitish, with the cell-spots black, and the dark bands clearest on hindwing.

Head, thorax, and abdomen whitish, the dorsum tinged with fulvous; face and palpi black.

Expanse of wings: 16 mm.

2 ♂♂.

158. *Tripteridia albimixta*.

The insect which I described as the ♀ of this species, *Nov. Zool.* xiii. p. 132 (1906), does not belong here. The real ♀ more closely resembles the ♂, differing as follows: the central fascia is complete, slightly curved, and of uniform width, the outer edge of the pale band preceding it whitish and curved at costa, not, as in the ♂, sharply white and angled outwards in the fascia; the band beyond fascia is broadly white throughout, traversed by a pale yellowish green waved line.

Hindwing: greenish yellow, with three straight dark grey bands and broad marginal border; the fringe greenish with pale base.

Underside wholly greenish yellow, with the lines all grey.

Head, thorax, and abdomen pale olive-green instead of dark.

Expanse of wings: 24 mm.

1 ♀, accompanied by a ♂ quite typical.

The expanse given for the ♀ (17 mm.) should have been 22 mm.

159. *Tripteridia subcomosa* spec. nov.

♂. *Forewing*: olive-green, the markings reddish brown, interrupted to outer edge of central fascia by the green subcostal vein; basal patch angled below subcostal and crossed in middle by a broad green band; central fascia broad; the inner edge angled below subcostal, its outer irregularly rounded outwardly, angled below $\frac{1}{2}$ and incurved to the base of cleft, crossed by three or four dark lines and slight greenish shades, becoming wholly green on inner margin; edged on each side by a narrow green band with dark central thread; marginal area brown, traversed

by a pale submarginal line, and interrupted above by a broad oblique green streak from apex; a fine dark marginal line connecting the black dots; fringe green and brown.

Hindwing: shining pale ochreous, almost without scales, except towards outer margin, where there are some rufous hairs and a bed of deep black hairs along the cleft between upper and middle lobes; all the lobes well fringed with ochreous.

Underside of forewing greenish grey, with the cell and all the lines purplish; a streak from base to cleft deep purple, the inner margin again pale green; hindwing greenish ochreous, with a large bed of erect ochreous hairs at base; outer margin of upper lobe mixed with grey; anal lobe pale, with two strong black lines edging the pale traversing vein.

Head and thorax pale green, the thorax dark-speckled; abdomen brownish ochreous; underneath ochreous, the praeanal segment with a broad dark belt.

Expanse of wings: 22 mm.

3 ♂♂.

160. *Xenoclystia hirticosta* spec. nov.

In *Nor. Zool.* xiii. p. 133 I described two species of *Xenoclystia*, *unipuncta* and *hamerata*, which were superficially alike, but distinguished in the ♂♂ by the enlarged shoulder in hindwing of *hamerata*; both these species have now come from Biagi, and along with them a third, which also, at first sight, might easily be mistaken for them, and agreeing with *unipuncta* in having the hindwing normal in the ♂; but it is characterised in the ♂ by the costa of forewing being fringed with rough scales throughout, the subcostal area below it on the underside being clothed with rough scales. The forewing above in the costal half is more varied with red and brown scales, and the edges of the markings bright with lustrous scales, as in *unipuncta*.

Expanse of wings: 22 mm.

6 ♂♂.

SUBFAMILY ASTHENINAE.

161. *Hastina flavidula* spec. nov.

Forewing: semihyaline yellow, crossed by wavy, interrupted, scarlet and purple lines accompanied by lustrous blue scales; a small basal patch entire; a double basal line, bent on subcostal vein, interrupted between median and submedian; a partially triple median fascia, a little before middle, interrupted between veins 4 and 2, then widened out into three distinct bracket-shaped marks; two scarlet wavy and dentate submarginal lines, the inner broadly margined and partly hidden by a purple blotch from below costa to vein 3, the outer with the purple blotch reaching apex and extending only to vein 6, but reappearing on margin between 3 and 4; red marginal spots, partly confluent; fringe yellow; the inner edge of the marginal area bears a deep sinus outwards between 4 and 2.

Hindwing: without inner lines; median band interrupted in middle and forming a square blotch before middle of inner margin; submarginal lines wider apart, the purple markings thinner.

Underside pale yellow, with the brown only showing through.

Face red; vertex white with a red spot behind; thorax purple and red mixed; dorsum red, with yellow spots and lustrous scales on each segment; basal segments with a large lustrous blotch; abdomen beneath and legs yellow.

In the ♀ all the red tints are replaced by dark purple, except the face and spot on vertex, which remain as in the ♂; the lustrous scales more conspicuous.

Expanse of wings: ♂, 22 mm.; ♀, 20 mm.

A good series of both sexes.

The antennae of the ♂ are beset with long thin fascicles of cilia. In forewing the outer margin is vertical to below vein 4, then inbent.

SUBFAMILY TRICHOPTERYGINAE.

162. *Sauris? bigriseata* spec. nov.

Forewing: pale green, with deeper green cross-lines; four in basal area, broad, the outermost dentate, the second marked with blackish; the narrow bands preceding and following central fascia pale green with an angulated darker green line through them; fascia formed of two interior and four exterior irregularly dentate lines somewhat involved; the oblique cell-spot pale green, obscure; two thickly crenulate submarginal darker bands; submarginal line regularly lunulate-dentate, the lunules dark green before the margin; marginal black spots large, followed by pale spots in the fringe, which is pale green in the yellower green example, and grey in the other. Along the two folds, beyond middle of wing, the lines are marked with black and the intervals partially filled in with grey scales; several of the lines are also marked with black along the subcostal vein.

Hindwing: dingy pale grey, darker at base and along outer margin.

Underside of forewing pale olive-green with indistinct streaks of brown-red between the veins and tinged with the same along outer margin; hindwing pale grey finely dusted.

Head, palpi, and thorax pale green; a pale spot behind each eye, and a black spot at base of patagia and side of shoulders; abdomen ochreous; legs and pectus pale ochreous; forelegs fuscous; antennae olive, becoming blackish at the tips.

Expanse of wings: 35—40 mm.

2 ♀♀.

The description is made from the larger, yellower specimen with pale green fringe, which has the markings clearer than the smaller one.

163. *Sauris nigrifrons* spec. nov.

Forewing: white, with slight greyish suffusion; a black dash at base of median vein; basal third crossed by three double sinuate lines, the third reaching inner margin beyond middle; at two-fifths of costa an outwardly oblique brownish triangle with dark margins ending in the oblique linear cell-mark; beyond middle a band of four dark lines, forming the outer band of central fascia, irregularly twisted and angled, the outermost acutely below veins 6 and 4; above the middle this band is darkened with grey; the pale band beyond with a grey thread in the costal half only; submarginal line double, dark, irregularly crenulate; a nearly marginal black line, thickened above between veins and paling below; fringe white, with distinct square black spots beyond veins in the basal half, connected at base above middle of wing by a fine dark line; on each side of vein 5 the submarginal line is traversed by a black dash, and above vein 6 the marginal area is pale brownish.

In the ♀ the centre of the outer band and the submarginal line are brown-

tinged ; there are additional black dashes across submarginal line above vein 7 and below 3, and the lines are marked by horizontal black dashes on inner margin.

Hindwing : greyish white.

Underside dull cinereous, the lines of forewing showing through.

Face and palpi externally black ; upper edge of face, vertex, thorax, and abdomen white ; patagia dusted with brown ; sides of thorax and metathorax black-brown ; basal segment of abdomen darker, and base of anal segment with a black spot.

Expanse of wings : 28 mm.

1 ♂. 2 ♀ ♀.

164. *Sauris viridata* spec. nov.

Forewing : white ; the basal two-thirds overspread with olive-green, through which the white ground reappears in places ; a waved dark grey line at one-third, edged on each side with pale, limits the basal area, which is green and white, and crossed by a dark line near base ; outer line at two-thirds, oblique outwards to 5, where it is rounded and runs inwardly oblique to a little before anal angle ; the outer half of this central fascia is more or less white ; cell-spot blackish ; a praesubmarginal shade, obsolete above 6, marked by two black lunules beyond cell, and by a black line above anal angle, green between ; marginal shade blackish and broad from apex to vein 4, then faint and greenish ; a row of large marginal black spots ; fringe white.

Hindwing : pale grey.

Underside greenish grey.

Palpi pale green, the tips white ; face white at top, green in middle, and brown below ; vertex and thorax green ; a white spot behind each eye ; metathorax white ; abdomen green with pale rings, and a brown belt at base ; antennae greenish, with an indentation near base.

Expanse of wings : 24 mm.

1 ♀.

SUBFAMILY DEILINIINAE.

165. *Chrostobapta deludens* spec. nov.

Forewing : pearl-grey, suffused with red-brown, except along a broad costal space expanding at apex ; lines deep red-brown ; one close to base, angled in cell ; the usual basal line oblique outwards from one-sixth of costa, angled in cell, and oblique inwards to one-sixth of inner margin ; antemedian line at two-fifths, dentate outwards on 6 and 4, concave between and thickened ; outer line at three-fifths, similarly angled on veins 6 and 3 ; submarginal line from three-fourths of costa, oblique outwards to vein 5, thence vertically sinuous to inner margin before anal angle, edged outwardly with white ; the outer line in a grey shade ; marginal area below vein 6 reddish grey ; the grey costal space speckled with red, the costal edge pink ; fringe grey, beyond a thick deep red-brown marginal line.

Hindwing : wholly suffused with deep red-brown, with waved antemedian, postmedian, and submarginal lines ; the postmedian lying in a grey space ; the margin beyond submarginal line whitish ; marginal line and fringe as in forewing.

Underside dull pinkish white, with the markings showing through.

Head and thorax grey speckled with red ; abdomen reddish speckled with grey ; vertex whitish.

Expanse of wings : 26 mm.

1 ♀.

This species is a wonderful mimic of some South American species of *Lipomelia*.

166. *Eugnesia decolorata* ab. *incepta* nov. and ab. *cumulata* nov.

The ♂ to which I give the name *incepta* differs from typical *decolorata* Warr. in that the olive of the two cross-lines has become dark grey and the black teeth have developed into a black dentate line; between 3 and 4 of each wing there is a blackish bar from outer line to outer margin; the specimen thus imitates *E. lineata* in appearance, but the absence of the black costa distinguishes it, as well as the large black cell-spot. This ♂ came from Biagi, along with a ♂ and 3 ♀♀ of the typical form, and also 3 ♀♀ belonging to the aberration for which I propose the name *cumulata*. They differ in being rather deeper ochreous, with the lines more olive-green and the speckling denser and more olive; but especially in having a large blotch of red-brown and blackish scales overlaid with olive on inner margin of forewing before the outer line, beyond which they also stretch in two cases to the patches of the submarginal line; in the third example the blotch is limited by the outer line and is simply red-brown, without black or olive scales.

167. *Eugnesia sordidata* spec. nov. and ab. *solidata* nov.

Forewing: bone-colour, without any yellow admixture, as in *decolorata* and *varians*, but with a powdering of rufous, and the speckling blackish, not rufous or olive; the veins faintly brownish; costa faintly rufous with black strigae; lines olive-grey as in *decolorata*, the inner more oblique outwards and the outer straighter and more oblique inwards; the base of the dark teeth on the veins being reddish; cell-spot blackish, small; the black speckling more dense in the marginal area between 3 and 4 and towards margin below costa; black dots on margin at the vein ends; fringe ochreous.

Hindwing: similar, thickly speckled: the outer line curved and thin.

Underside the same, but the speckling and lines all duller; veins not reddish.

Head, thorax, and abdomen like wings; shoulders darker, like costal streak.

Expanse of wings : 32 mm.

1 ♀.

The apex of forewing and the crenulation of hindwing are more acute than in the other species.

The ab. *solidata* has the lines resembling those of *E. lineata*, the basal line being bounded inwardly with black and the outer outwardly, to the exclusion of the teeth; in the interval between veins 3 and 4 the black speckling is denser and forms a black cloud, but hardly a well-formed line, and is not shown at all in the hindwing.

The specimen, like the type, a ♀, expands 36 mm., and was taken at the same time and place.

168. *Eugnesia varians* ab. *commaculata* nov. and *melanospila* nov.

The ab. *commaculata* differs from the type form in being paler with less speckling; the costa and lines all dark grey; the outer and submarginal being united below vein 4 in a large dull grey blotch, and the interrupted blotches

the submarginal line being also dark grey and attached to the outer line; in the hindwing the large blotch contains a pale space on inner margin.

2 ♂♂, 3 ♀♀, along with 1 ♂, 5 ♀♀ of typical *varians*.

The ab. *melanospila* has the lines darker than in the type, though not so dark as in ab. *commaculata*, and a square blackish blotch between veins 3 and 4 between the median and submarginal lines of each wing, and another on margin below apex; while the second and third segments of dorsum are marked with a blacker blotch.

Of this form only a single ♀ was obtained.

169. *Ingena lomographata* spec. nov.

Forewing: shining white, dusted with grey scales, which are densest along the course of the lines; the first curved, at one-third; the outer at two-thirds, sinuate, dentate-lunulate; cell-spot black; costal edge deep yellow; submarginal shade thick and straight, the margin beyond it grey; a slightly darker marginal line interrupted by pale spots at the vein ends; fringe dark grey, sometimes with dark spots beyond veins.

Hindwing: paler, less thickly speckled; the inner line absent; spots in fringe plainer.

Underside glossy whitish, grey along costa of forewing; fringe dark grey, with black spots beyond veins.

Head, palpi, and antennae dull brown; collar, thorax, and abdomen white, slightly grey-speckled.

Expanse of wings: 32 mm.

3 ♂♂.

170. *Ninodes flavimedia* spec. nov.

Forewing: basal and marginal areas dark purplish fuscous; the central area pale yellow, with a deeper yellow band down its middle; edge of basal area from just before middle of costa curved to one-third of inner margin; edge of marginal area from three-fourths of costa oblique outwards to 4, then angled and recurved to two-thirds of inner margin; a darker submarginal waved shade is visible within the dark area; fringe purplish fuscous.

Hindwing: with basal patch quite small; edge of marginal area straight from two-thirds of costa to three-fourths of inner margin, the pale median area much wider; inner margin dark-speckled.

Underside the same; but the whole middle area deep yellow.

Head, thorax, and abdomen dark fuscous.

Expanse of wings: 26 mm.

1 ♀.

SUBFAMILY PLUTODINAE.

171. *Plutodes connexa* Warr. ab. *concinna* nov.

Along with seven examples of *P. connexa* just received from Biagi came 2 ♀♀ and 3 ♂♂ of another form very closely allied. From a comparison of the two it is plain that the ♀ which I attributed to *connexa* belongs really to the present form ab. *concinna*, in which the brown colouring of the ♂♂ is deeper and the grey of the ♀♀ less pink than in *connexa*, while the ferruginous edging with pale lustrous scales of *connexa* gives place to a well-defined black-brown edging

with steely-blue scales; the face, thorax, and abdomen of ab. *concinna* are all darker brown.

Expanse of wings: ♂ 28 mm.; ♀ 30 mm.; the examples of *connexa* from the same locality expand, ♂ 30 mm.; ♀ 32 mm.; while the type ♂ from the Angabunga River was 34 mm. The ♀ from this last locality, wrongly referred to *connexa*, measures 36 mm., and so does one of the lately received ♀ ♀ from Biagi.

In the description of *connexa* the smaller yellow costal blotch near base was stated to reach the median vein, like the outer; this is true, as a rule, of the ♀ ♀ only; in the ♂ ♂ of both forms the smaller blotch is usually prolonged, but more narrowly, to the submedian vein.

172. *Plutodes separata* spec. nov. and ab. *pallidior* nov.

♂. *Forewing*: pale yellow; a small rounded blotch at base of inner margin dark red-brown edged with black, and a large oval blotch in outer half of wing, irregularly edged externally, and traversed by a dark curved line with paler red beyond it; fringe yellow.

Hindwing: with the basal blotch extended linearly along vein 1 nearly to anal angle; the larger blotch roughly semicircular, and much smaller than that in forewing.

In the ♀ the blotches are all somewhat larger, especially that along inner margin of hindwing, and grey-brown; in both sexes the dark edging lines bear lustrous steely scales.

Underside paler, the brown blotches showing through.

Face and dorsum red-brown; thorax dark brown in the ♂, grey-brown in the ♀; shoulders and vertex yellow; abdomen in ♂ ringed with blackish, with the anal tuft yellow.

Expanse of wings: ♂ 26—28 mm.; ♀ 30 mm.

2 ♂ ♂, 3 ♀ ♀.

4 ♂ ♂ differ from the type exactly as *P. connexa* differs from its darker form *concinna*, having the markings paler red-brown, edged with ferruginous only and with paler lustrous scales, for which I propose the name *pallidior*.

SUBFAMILY ABRAXINAE.

173. *Abraxas omissa* spec. nov.

Forewing: white; the costal and outer margins broadly and evenly black, united by an angled bar crossing the discocellular, angled on the median vein and limited below by vein 2; fringe black.

Hindwing: white, with a narrower uniformly curved black border from before apex to anal angle; base narrowly black.

Underside like upper.

Head and antennae black; collar, shoulders, patagia, and thorax black edged with orange; abdomen orange with a row of large saddle-shaped black marks on dorsum, close together in ♂ and actually confluent in the ♀, so that the whole dorsum is black except at anal segment; beneath orange with two lateral and two ventral series of large black spots; legs black; femora and pectus orange.

Expanse of wings: 46 mm.

1 ♂, 1 ♀.

Very near to *A. expectata* from N. Queensland.

SUBFAMILY BRACCHINAE.

174. *Arycanda brunneotacta* spec. nov.

Forewing: dull purplish grey, finely black-speckled; the lines blackish, double; the basal bent in cell, the outer on vein 6, both thicker and more blotched towards costa; submarginal also double, but more macular and interrupted, always between 3 and 4; marginal lunules black; fringe concolorous; both folds more or less distinctly streaked with brown; cell-spot curved and slender, yellow with black edges; some yellow scales between the blotches of the submarginal line, most distinct in the ♀.

Hindwing: similar; the yellow dot in submarginal line always plain beyond cell.

Underside dull dark slate-colour, without markings.

Head, thorax, and abdomen dull slate-colour.

Expanse of wings: ♂ 40 mm.; ♀ 45 mm.

1 ♂, 1 ♀.

Allied to *fulviradiata*, but much smaller and more obscurely marked.

175. *Arycanda discipuncta* spec. nov.

Forewing: bluish slate-colour, with no markings but a small round cell-spot; fringe concolorous.

Hindwing: the same.

Underside darker slate.

Head, thorax, and abdomen all concolorous.

Expanse of wings: 42 mm.

1 ♀.

176. *Arycanda infans* spec. nov.

Forewing: dull dark slate-colour, speckled with darker; lines dull blackish; inner line at one-fourth, outer at three-fifths, both curved, the latter lunulate-dentate; median line less clear, touching the dark-edged ocelloid cell-spot, sometimes touching basal line below middle; beyond the outer line a diffuse curved brown shade, followed by two submarginal lines, of which the inner is plainer and darker, consisting of spots between veins; marginal spots blackish; fringe concolorous.

Hindwing: like forewing, but without the basal line.

Underside uniform bluish slate-colour.

Head, thorax and abdomen slate-colour spotted with blackish.

Expanse of wings: ♂ 30 mm.; ♀ 32 mm.

1 ♂, 5 ♀♀.

177. *Arycanda mixtilinea* spec. nov.

Forewing: dark slaty purplish, crossed by curved series of black spots and lines, often much mixed; two spots close to base, followed by four in an angled series; three lines of coalescent spots, antemedian, median, and postmedian, oblique outwards above cell and inwards below it; between the first and second one or two spots on each side of the discocellular; the spots and lines in the cell are often irregularly mixed; a series of large confluent elongate blotches between the veins, followed by

two submarginal series, the outermost narrow ; in the inner of these series the spot between 3 and 4 is always absent ; a row of black marginal lunules ; fringe blackish, with a paler line at base.

Hindwing : crossed by six black lines, one basal, two antemedian, straight and complete, and three postmedian more curved and broken up into spots.

Underside dark slaty purple, without markings.

Head, thorax, and abdomen purplish spotted with black ; the abdomen with black rings.

Expanse of wings : ♂ 36—40 mm. ; ♀ 44 mm.

6 ♂♂, 1 ♀.

178. *Arycanda umbrilinea* spec. nov.

Forewing : dark purplish slate-colour ; from subcostal vein just beyond middle of costa a narrow white line runs to vein t before anal angle, followed by a bluish line slightly curved from costa to vein 1, the space between them dark ; fringe concolorous.

Hindwing : uniform dark purplish.

Underside with the line of forewing bluish.

Head, thorax, and abdomen concolorous.

Expanse of wings : 44 mm.

1 ♂.

179. *Arycanda unicolor* spec. nov.

Fore- and hindwing and all the parts of the body and undersurface purplish slate-colour.

Expanse of wings : 42 mm.

1 ♂.

180. *Bordeta inflammata* spec. nov.

Like *B. longimacula* Warr., but in the hindwing the yellow interior space does not intrude into the black outer margin ; the yellow tint at base is much brighter and paler, and towards the margin is suffused with rich fulvous.

In the forewing the pale spots are yellower than in *longimacula* but much smaller, and in 5 out of the 6 ♂♂ the smaller outer spot is altogether absent.

The same remarks apply to the underside.

Expanse of wings : ♂ 48 mm. ; ♀ 56 mm.

6 ♂♂, 5 ♀♀.

181. *Bursada detecta* spec. nov.

Forewing : black, with a narrow yellow streak from subcostal vein beyond middle towards the end of vein 2, but stopping short just below 3 ; fringe black.

Hindwing : black with yellow centre ; the yellow starts from base, with the lower edge straight and the upper curved.

Underside with the yellow areas ample ; the blotch of the hindwing reaching costa and inner margin at base ; forewing with a yellow patch at base of cell.

Head, thorax, and abdomen black.

Expanse of wings : 32 mm.

1 ♂, 5 ♀♀.

182. *Craspedosis amaura* spec. nov.

Forewing: black, with traces of a dull slate-coloured transverse space beyond middle, diffuse and undefined; fringe black.

Hindwing: black, with a round hyaline white patch occupying the basal half, the base and inner margin being smoky blackish.

Underside duller.

Head, thorax, and abdomen blackish slate-colour; anal tuft yellowish.

Expanse of wings: 48 mm.

1 ♂.

183. *Craspedosis miranda* spec. nov.

Forewing: black with a deep purplish gloss in certain lights; crossed from costal vein beyond middle to vein 1 above anal angle by a broad snow-white band, the inner edge of which is straight and the outer curved; fringe black.

Hindwing: black with purplish gloss.

Underside the same; the white band broader.

Head, thorax, and abdomen like wings.

Expanse of wings: 42 mm.

4 ♂♂, 1 ♀.

Resembles *C. semiplaga* Warr., but rather smaller; the white blotch much broader, and the fringe purplish instead of slate-colour.

184. *Craspedosis purpurea* spec. nov. and ab. *extincta* nov.

Forewing: deep purple; a snow-white tapering streak from subcostal vein at middle towards anal angle; in the ♀ the fine end of the streak sometimes touches vein 1, but more often, as in the ♂, stops short at 2; in some of the ♂♂ the streak is still further reduced and narrowed, in one instance represented by a single white spot below the subcostal vein; fringe concolorous.

Hindwing: wholly deep purple.

Underside the same; the white streak broader and shorter, with rounded lower end.

Head, thorax, and abdomen concolorous.

Expanse of wings: 40—50 mm.

8 ♂♂, 3 ♀♀.

Three out of the 8 ♂♂ have the white streak reduced, which I call ab. *extincta*.

185. *Alcis ocellata* Warr.

Alcis papuensis ab. *ocellata* Warr., *Nor. Zool.* x, p. 388 (1903).

Among the insects received lately from Biagi are good series of *Alcis papuensis* and its aberrations *decolor* and *ocellata*, and 4 ♂♂ of ab. *maculata*.

Among the *ocellata* are 2 ♀♀, entirely different from the ♀ of *papuensis* type, so that this at all events must be considered a distinct species; and though I have not seen their ♀♀ I am strongly disposed to consider the other two aberrations as specifically distinct also; the ♂♂ are all true to their own type, without intergrades of any kind.

The ♀ of *ocellata* is dull pinkish grey instead of olive-tinged, as in the ♂, paler and less dusted with dark atoms, and therefore showing the lines and shading

clearer; before the inner line and beyond the outer are patches of greyish white, these in the latter case filling up the lunules of submarginal line at costa, beyond cell, and below vein 3; this last patch is also slightly visible in the ♂; the pale submarginal blotch between veins 3 and 4, so prominent in the ♂, is not represented in the ♀.

Expanse of wings: 44 mm.

186. *Apophyga griseiplaga* spec. nov.

Forewing: pale ochreous, washed and dappled with brown; costa brown with darker blotches representing the beginning of the lines, which are, however, all interrupted till below cell; on the inner margin can be seen before the middle the antemedian and median lines, and beyond it the two arms of a double outer line; these lines are all brown, irregularly waved, and oblique parallel to outer margin; marginal area deep brown, especially in middle, traversed by a darker submarginal line edged with pale grey, and followed by brown-black blotches meeting with the black marginal lunules; from vein 3 to above 4 the dark brown tints are interrupted by a violet grey blotch; fringe brown.

Hindwing: with a black-brown antemedian fascia between basal and antemedian lines: the cell-spot round and black, conspicuous; the postmedian line and its succeeding band fine, pale brown; margin of uniform width, pale brown.

Underside uniform ochreous, with the lines slightly shown; the dark band of hindwing showing through.

Thorax and abdomen pale ochreous; the basal segments of dorsum black-brown; face and palpi dark brown.

Expanse of wings: 56 mm.

4 ♂♂.

Forewing with small fovea: antennae with pectinations stiff and nearly vertical to shaft.

187. *Carecomotis perfumosa* ab. *nigrata* nov.

Forewing: suffused all over with slaty blackish, except a loaf-shaped white blotch from costa between median and outer lines, a small blotch on outer margin and fringe between veins 3 and 4, and some spots at anal angle.

Hindwing: black, except inner margin narrowly, outer margin below vein 4, and a small blotch on inner margin beyond postmedian line.

Underside of hindwing with basal two-thirds whitish, of forewing suffused with grey.

Head and thorax grey or whitish grey, abdomen smoky black or dark reddish grey, with white belt at base and whitish dorsal points.

Expanse of wings: 40 mm.

1 ♂, 1 ♀.

The type from Queensland was described by me in *Nor. Zool.* iii. p. 402 (1896).

188. *Chogada illustraria* Wlk. and ab. *flavipars*, *flavilauta*, and *brunneofusa* nov.

A long series of this species, originally described by Walker from Australia, received from Biagi, shows that the ♂ is subject to great colour variation, like its Indian representative *alienaria* Wlk., while the ♀ in both species remains comparatively constant to itself. In the form I call *flavipars* the lower half of forewing

below vein 2 is suffused with yellow: in the form *flavilauta*, the whole ground-colour of both wings is washed with pale yellowish; while in *brunneofusa* both wings are suffused with reddish fawn-colour.

The markings and underside remain unchanged; the abdomen of this species is marked by a broad black or brown belt on third segment of dorsum.

Expanse of wings: 44--48 mm.

189. *Cleora semidiscata* Warr. and ab. *nigrilinea* nov. and ab. *fumosa* nov.

Chagata semidiscata Warr., *Nor. Zool.* xiii. p. 141, ♂ (1906).

This species was described from a single ♂ from the Angabunga River. A longer series of 8 ♂♂ and 1 ♀ shows it to be, like so many New Guinea insects, very variable.

The ♀ is more lilac or olive-grey, being thickly sprinkled with scales of that tint. Of the ♂♂, four are typical; one, ab. *nigrilinea*, is much whiter, especially in the median area between the two lines, which are deeply and concisely black; the other three vary in the opposite direction, having the median area filled by a smoky brownish grey diffuse fascia across both wings: this aberration I have called *fumosa*.

The ♀ expands 48 mm., and is noticeable for its very long ovipositor.

190. *Elphos exalbata*.

Elphos exalbata Warr., *Nor. Zool.* x. p. 390 (1903).

The ♀ of this species is a peculiarly handsome insect. The pale spaces of the ♂ are in it amplified, and the fuscous parts lightened with yellow. All the lines of the hindwing are accompanied by a yellow shade, which reappears in the inner-marginal half of forewing, where the space on inner margin between the inner and outer lines is filled in with yellow, and a yellow nearly vertical band rises from it to join the black costal portion in cell. Underneath the white is much more extended and the marginal band velvety black.

Expanse of wings: ♀, 104 mm.

The specimen came with 4 ♂♂, all in perfect condition.

191. *Gasterocomes subdivisa*, ab. *albimaculata* nov. and ab. *purpurea* nov.

In a very long series of this insect lately received from Biagi, nearly all typical and all ♂♂ but two, there are two specimens, both ♂♂, which require naming as distinct aberrations.

In the first, *albimaculata*, the broad horizontal pale streak from base is lost in the general brown-black coloration of the wing, which is marked by ten white blotches—viz. the pale streak at base, two antemedian, representing the upper and lower parts of the antemedian pale band, one beyond the cell, three submarginal, and three marginal, the middle one of these between 3 and 4 being bilobed and representing the end of the horizontal streak. This blotch is also present on the hindwing, which shows three elongate pale streaks on inner margin below vein 3, and two blotches above, one in and one beyond cell.

Underside the same, but duller.

The other aberration, *purpurea*, has the dark coloration more amply developed

than in the type, but purple violet instead of dark brown ; all the pale lines of the type are present, but much narrower, very pale yellow, with the veins deeper yellow ; the underside like upper, but more blurred.

192. *Myrioblephara apicata* spec. nov.

Forewing : whitish, thickly grey-speckled ; lines black, marked more strongly on the veins ; first curved at one-fourth, preceded by a red-brown cloud ; outer from three-fifths of costa oblique outwards to between veins 3 and 4, there angled and oblique inwards, but almost at once becoming obsolete ; apical area above vein 3 fuscous, tinged with reddish ; submarginal line zigzag, preceded by blacker shading ; fringe grey in upper half, whitish below, slightly chequered ; marginal spots slight ; a faint dark median line from costa to cell, preceding an obscure cell-spot.

Hindwing : greyer ; outer line acutely angled below 4 and marked by black dashes on veins ; submarginal limited by grey shades.

Underside dingy whitish, greyer towards outer margin.

Head and thorax grey ; abdomen paler grey, with a rufous tinge.

Expanse of wings : 28 mm.

1 ♀.

Doubtfully referred to *Myrioblephara*.

193. *Myrioblephara inquinata* Warr.

The species was described from a ♀ only, *Noe. Zool.* xiii. p. 143 (1906). I find that the ♂ attributed to *M. flavilinea* as ab. *fasciata*, *ibid.* x. p. 392, is really the ♂ of *inquinata*.

194. *Myrioblephara lacteata* spec. nov.

Forewing : milk-white, speckled with grey ; costa with fine dark striae ; lines blackish in costal half, becoming grey or obsolete towards inner margin ; median line nearer inner than outer, which is elbowed on vein 6 and prominently black ; the inner preceded and outer followed by a grey shade, which is often tinged with dull brown or chocolate ; space between median and inner lines often darkened into a fascia ; submarginal line waved, white, plainest in costal half, where it is preceded by blackish lunules at costa, and followed as well as preceded by blackish scales beyond cell ; cell-spot blackish ; marginal spots black ; fringe white, grey, dotted beyond veins.

Hindwing : with the markings distinct on inner margin, becoming obsolete in the white costal area, except at apex.

Underside dull whitish, tinged with grey in forewing, all the markings grey.

Head, thorax, and abdomen white, speckled with grey.

Expanse of wings : 28 mm.

4 ♂♂, 10 ♀♀.

Allied to *M. flavilinea* and *subtrita*, but whiter than either.

195. *Myrioblephara miscellanea* spec. nov.

Forewing : ochreous, densely sprinkled with dark atoms ; markings much as in *fulvivena* and *proximata*, but without any conspicuous blackish blotches ; lines fulvous, the inner and outer double, the interval between them lilac grey, both marked by black spots on veins ; all the lines starting from black costal blotches ;

submarginal waved, preceded by blackish-edged lunules at costa and beyond cell, and followed by a series of fulvous spots : cell-spot small, dark grey and fulvous ; black marginal spots between veins and slight brown spots at their ends in the ochreous fringe.

Hindwing : with the markings, except at costa, as strong as in forewing ; the antemedian line prominently blackish.

Underside ochreous, with the lines well marked in hindwing only.

Head, thorax, and abdomen ochreous mixed with fulvous.

Expanse of wings : 28—30 mm.

2 ♂♂, 7 ♀♀.

Distinguished at once by the speckled upperside.

196. *Myrioblephara mollis* spec. nov.

Forewing : pale grey, the scales in certain lights scintillating, varied with very fine hairlike dark scales ; lines darker grey, marked with blackish on veins and starting from black costal spots ; first line double, the inner arm thicker, both with black dashes on median and submedian veins ; median lunulate-dentate, the teeth pointing backwards, followed by another similar line, each arm connected by a black dash along submedian vein with the inner and outer lines respectively ; cell-spot linear, black ; outer line outcurved above, incurved below middle, black, lunulate-dentate, the teeth, as in median lines, pointing inwards, followed closely by a diffuse grey shade ; submarginal pale, zigzag, between two blackish shades, the outer of which is interrupted by a white blotch between 3 and 4 ; the two outer lines below vein 2 are dull rufous ; fringe pale ; marginal spots black.

Hindwing : with the lines paler, all double ; the inner lines absent.

Underside pale luteous, darker towards outer margin : the lines obscurely marked.

Head, thorax, and abdomen dark grey ; segmental rings of abdomen pale.

Expanse of wings : 30 mm.

3 ♂♂.

197. *Myrioblephara proximata* spec. nov.

Closely allied to *M. fulvirena* Warr., and differing in the subjoined points :—the fulvous markings much less prominent ; fringe of inner margin of forewing grey, not fulvous ; fovea much more prominent and scaleless ; no narrow black line close to base, but the black band beyond much more solid from median vein to inner margin ; cell-spot linear, indistinct ; in *fulvirena* this is large and round ; outer edge of central area swollen into a conspicuous blackish bilobed blotch on veins 3 and 4, and followed by a sinuous pale space, not marked with fulvous ; markings on inner margin of hindwing darker and stronger ; underside yellower ochreous.

4 ♂♂ ; the same size as *fulvirena*.

The differences in cell-spot and fovea will serve to separate the species.

198. *Paradromulia ambigua* ab. *bimaculata* nov.

This is a development of the ab. *uniformis* ; both wings have the same dull blurred appearance as in that form, with only the white submarginal line shown, but the forewing has a large double buff blotch on inner margin beyond outer line reaching vein 3, and a smaller duller patch on outer margin between 3 and 4 ; in the

hindwing the course of the outer line below vein 3 is narrowly buff-margined; and the buff patches are reproduced on underside.

2 ♂♂.

199. *Paralcidia albistrigula* spec. nov.

Forewing: olive-brown, with darker, somewhat confluent, striations; costa with white striae; veins pale brown; lines pure white, edged with deep black; first from one-third of costa to one-fourth of inner margin, far outcurved above median towards the cloudy black cell-spot, less below, edged on both sides with blackish; outer line from two-thirds of costa to three-fourths of inner margin, waved and running out obliquely to vein 4, there bluntly angled and incurved, vertical below vein 2, inwardly edged by a deep black line, and outwardly by dark olive-brown; submarginal line white, nearly straight, touching angle of outer line; marginal lunules black, broadly edged inwardly with white; inner margin mottled and striated with white; a dark median shade sometimes prominent; fringe in basal half olive-buff, in apical whitish, with olive-brown mottling.

Hindwing: olive-brown, greyer towards base and paler along costa; a wavy dark postmedian line, not reaching above vein 6; fringe olive-brown.

Underside of forewing pale olive, with slight grey striations along costa, and the beginning of a black outer line; hindwing black-speckled and with white scaling along the two folds; diffuse waved antemedian and postmedian lines, the latter edged with white; cell-spot black; fringes of both wings as above.

Head and thorax dark olive-brown; abdomen paler brown, marked with dark along the sides; underside and legs pale olive-brown, the legs dark-speckled.

Expanse of wings: 26 mm.

3 ♂♂.

200. *Paralcidia rufitincta* spec. nov.

Forewing: olive brownish, with no white markings except the three lines; only veins 3 and 4 clearly yellow; costa olive with blackish striae; inner line marked only by the two white crescents at the end of each curve; outer line more finely white than in *albistrigula*, not so prominently angled at 4, but toothed at 6, 4, and 3; submarginal line thinner and interrupted above middle; black marginal lunules without white edging; fringe olive mottled with darker; a thick median shade below middle.

Hindwing: pinkish grey, darker in basal two-thirds; a dark cell-spot; fringe rufous grey.

Underside of forewing dull pinkish white; costal and marginal areas olive-brown, blacker along margin and fringe; a black mark on costa at two-thirds; hindwing with basal two-thirds black, including blacker antemedian and postmedian lines and cell-spot; marginal third greyish flesh-colour; inner margin below submedian fold and fringe pale.

Head and thorax dark and light olive-brown; abdomen dark brown with blackish segmental rings; underneath dull fulvous brown, with the sides and venter blackish in basal half.

Expanse of wings: 26 mm.

1 ♂.

Possibly a form of *albistrigula*, but the abdomen is thinner and darker.

201. *Paralcis auropurpurea* spec. nov.

Forewing: grey-brown; costa with black striae and black spots at the beginning of the lines, and one close to base, and three in the middle; the two basal lines bent in cell, then vertical; the median and outer, which latter is partly double, oblique outwards, and bent at vein 4, both absorbed below middle of wing in a large blackish cloud, of which the inner and outer margins are densely black; submarginal line vertical, but inbent at vein 4, and preceded by black blotches between veins; the marginal area darker, except a paler brown patch between veins 3 and 4; black marginal lunules; fringe blackish, with paler base, and pale brown between 3 and 4.

In the ♀ the black cloud is much more extensive and all the black markings intensified, the submarginal line and basal area paler.

Hindwing: bluish purple, paler along costa, and browner towards inner margin, especially in ♂, where the commencement of the lines is more conspicuous; inner margin and fringe bright yellow for two-thirds.

Underside uniform dark slate-colour; inner margin of hindwing and fringe yellow.

Head and thorax brown-black; abdomen yellow, with the dorsum broadly black at base, the spots on segments diminishing in size to the fifth, where they cease; anal tuft and the whole ventral surface dark; legs blackish, with yellow joints.

Expanse of wings: 35 mm.

1 ♂, 1 ♀.

Allied to *P. coeruleescens* Warr.

202. *Paralcis cellulata* spec. nov.

Forewing: white; costa and veins pale olive-brown; the space between 3 and 4 of the same colour except at margin; the lines velvety black, double, and by confluence forming bands; base narrowly black; a curved band of two lines at one-fourth; a second before middle from costa to vein 4, followed by a single line, and a third beyond middle, also stopping short rather before 4; below 3 the two bands seem to unite to form a triple band about the middle; beyond the outer band a black costal blotch is produced narrowly and often interruptedly to inner margin as a praesubmarginal band; the white submarginal line is uninterrupted and runs obliquely to apex; marginal dark area interrupted at apex and between 3 and 4 by white ground-colour; marginal lunules black; fringe white, chequered with blackish.

Hindwing: cream-white, with a faint ochreous tinge, and a cloudy grey cell-spot; a postmedian and two submarginal grey lines; black marginal lunules; fringe paler.

Underside pale ochreous, with the markings blurred brown or black-brown.

Face and palpi black-brown in ♂, pale brown like vertex and shoulders in ♀; thorax and abdomen ochreous, the dorsum with grey spots; sides of shoulders and patagia black-brown; abdomen beneath and legs mottled black and ochreous.

Expanse of wings: ♂ 36 mm.; ♀ 40 mm.

4 ♂♂, 1 ♀.

203. *Paralcis coeruleescens* ab. *columnata* nov.

Differs from typical *coeruleescens* Warr. in having in the forewing an upright pale fulvous bar from inner margin to vein 6, immediately following the outer line and partially obliterating the submarginal line, of which only the tips of the lunules appear beyond its outer edge. In the hindwing the bar is restricted to a short fulvous yellow blotch on inner margin separating the outer and submarginal lines.

1 ♂, 1 ♀.

204. *Paralcis ocellata* ab. *obliquifascia* nov.

This species is subject to an intensification of markings which altogether alters its appearance; from inner margin of forewing between median and outer lines a black fascia rises, curving outwards above vein 4, crossing submarginal line, to outer margin below apex, continued across hindwing as a broad antemedian fascia; in the two ♀♀ seen the ground-colour on the inner side of the fascia is changed to whitish, and to a less degree on the outer side; in one of the two ♂♂ the whole of the rest of the ground-colour in both wings becomes pinkish fawn, without striae, and the other lines marked in black, while in the second ♂ the ground on both sides of the fascia becomes broadly and brightly whitish. I distinguish the form as ab. *obliquifascia*.

2 ♂♂ and 2 ♀♀, together with a pair agreeing with type.

205. *Paralcis pallidistriga* ab. *obducta* nov.

Differs from the type in having the bright yellow band of both wings replaced by a blurred whitish band tinged with violet and pink, and ending in a whitish blotch at apex of forewing; the basal half of wing is paler and greyer, and in consequence the black lines with their pale grey edging are more visible, and the large velvety black cell-spot and a blotch below it on inner margin before outer line are conspicuous.

1 ♂.

SUBFAMILY SELIDOSEMINAE.

206. *Tolmera lineata* spec. nov.

Forewing: pale brown, with thick black speckling; costal streak paler, with short black striae on the edge; all the veins pale yellowish ochreous; the lines whitish ochreous, placed exactly as in *T. murrescens* ♂, the outer line being nearer the middle of the wing, and the central space narrower; submarginal line, with its preceding shades, less marked; marginal lunules black; fringe ochreous, with dark brown mottling.

Hindwing: pale greyish ochreous; markings as in *sordida*.

Underside greyish fawn-colour, strongly speckled, with the outer lines well marked in both wings.

Head and thorax pale brown, the face paler; abdomen like hindwing.

Expanse of wings: 42 mm.

3 ♂♂.

207. *Tolmera regulata* spec. nov.

Forewing: olive-brown with a tinge of rufous and sparsely black-speckled; costal streak clear olive-brown, only the costal edge black-dotted; lines white; first from one-fifth of costa, oblique outwards, and sharply angled on subcostal

vein, then oblique inwards, edged on both sides with velvety black; the basal area more or less blackish; outer line at two-thirds, starting from subcostal vein and running slightly oblique inwards and outcurved from vein 2, white, edged on both sides by a broad band of blackish olive curving with the line, this outer band separated by a straight narrower band of ground-colour from an exterior band of velvety blackish filling up the lunules of submarginal line, which is finely white; veins all thickly olive rufous; marginal lunules black; fringe brown; the brown inner half of central area is sprinkled with pearly scales, especially in the ♀.

Hindwing: dull whitish at base, becoming dark grey beyond an outer curved dark line; cell-spot dark.

Underside brownish grey, darker in forewing; cell-spots and outer lines blackish; the ♀ is darker, more fuscous brown.

Head and thorax rufous olive like wings; patagia mixed with blackish in the ♀; metathoracic tuft double; abdomen glossy, ochreous grey; legs mottled fuscous and ochreous.

Expanse of wings: ♂ 44 mm.; ♀ 48 mm.

2 ♂♂, 1 ♀.

There is a small white spot at base of forewing below median, as in *T. marcescens*; the antennae of the ♀ are pectinated.

208. *Tolmera sordida* spec. nov.

Forewing: fuscous with darker fuscous brown markings; resembling the type species *T. albibasis*; but the basal line is not rounded, but angled as in *marcescens* and *regulata*, and the outer line is not outcurved in its upper course.

Hindwing: paler than in *albibasis*, with the outer line not so near the outer margin.

Underside dull greyish brown, with the markings very indistinct.

Head, thorax, and abdomen paler than in *albibasis*.

Expanse of wings: 44 mm.

3 ♂♂.

209. *Trochistis periculosa* spec. nov. and ab. *inconspicua* nov.

Forewing: grey-brown, as in *T. fulviplaga*, and like it speckled with fine black and white scales; with three darker cross-lines, basal, inner, and outer, but all curved from costa, not straight; a bright round pinkish yellow, red-speckled spot on inner margin before basal line, followed by a small white dot on the submedian fold; smaller, more irregular, spots of same colour, indicating a submarginal line, on vein 6 and between veins 3 and 4; cell-spot white; fringe concolorous.

Hindwing: similar, without basal markings; with two lines and the red submarginal spots.

Underside pale ochreous, with grey speckling and a brown marginal band; black marginal spots as above.

Head, thorax, and abdomen rufous brown; anal segment ochreous with a black spot above; abdomen beneath and legs pale ochreous.

In two examples the bright pink spots are absent, replaced by a rufous tinge only, but the white subbasal dot is always present; these are ab. *inconspicua*.

Expanse of wings: 34 mm.

8 ♂♂.

SUBFAMILY FIDONINAE.

210. *Chiasmia papuensis* spec. nov.

♂. Forewing: cream-colour, sprinkled with dark brown scales; lines finely black-brown, black-dotted on veins, accompanied by greyish olive shades; costa and veins greyish olive: first line at one-fifth, curved in cell, preceded by an olive cloud; median a little before middle, parallel throughout to basal line, starting from a dark brown costal spot and enclosing a brown-edged ocelloid cell-spot; outer line at two-thirds, outcurved somewhat across cell, with distinct black spots on veins, followed by a broad greyish olive shade: submarginal line formed of pale lunules, outwardly black-edged, inwardly containing velvety-black crescents, except that between 6 and 7, that between 3 and 4, and the two in submedian interval; marginal area olive-grey: marginal lunules black; fringe olive, paler in apical half and mottled with darker beyond veins.

Hindwing: without inner line; the postmedian forming a blackish band in lower half; cell-spot round and black.

♀ with the lines continuous, concise and brown, the olive shades reduced to linear clouds, the veins fulvous: the postmedian of hindwing without a black blotch.

Underside like upper, but paler and less glossy.

Head, thorax, and abdomen ochreous; dorsum black-spotted.

Expanse of wings: ♂ 24 mm.; ♀ 26 mm.

A good series of both sexes.

The hindwing is slightly protuberant beyond veins 3 and 4, distinctly crenulate throughout.

211. *Chiasmia?* *viridochrea* spec. nov.

Forewing: greenish ochreous; the costa black-dotted; lines thick and black, interrupted by the pale median vein and a pale streak between 3 and 4; a line close to base; inner line consisting of three black vertical streaks, that at costa nearer base; preceded by three much thicker black blotches; outer line double, obscurely lunulate, interrupted below middle; median line formed by a black spot on costa, a black blotch on discocellular, and a larger one on inner margin between the median and outer lines; submarginal line preceded by black blotches on costa, beyond cell, and towards inner margin, followed by larger blotches beyond cell and at anal angle; marginal black spots between veins; fringe ochreous mottled with black.

Hindwing: ochreous, without markings; those beneath showing through only: fringe yellower, with faint brown spots, those at veins 2 and 3 stronger.

Underside yellow ochreous; of the forewing with the markings of upperside showing through; of the hindwing striated with grey-brown and with grey-brown cell-spot and outer, submarginal, and marginal lines.

Head, thorax, and abdomen yellow ochreous, the head browner.

Expanse of wings: 26 mm.

1 ♂.

Forewing without fovea; outer margin of hindwing slightly projecting at 3 and 4.

SUBFAMILY SEMIOTHISINAE.

212. *Eutoea heteromorpha* spec. nov.

Forewing: pale ochreous, semitransparent, with fine brown transverse striae; costal streak pale brown with the edge white; traces of a faint curved line near base; cell-mark vertical, pale brown; just beyond it a short oblique brown streak from costa; at three-fourths a similar streak runs obliquely outwards, is angled on 6, and runs obliquely inwards to middle of inner margin, followed by a brownish flush; beyond the angle is a brown spot; margin and fringe dark brown.

Hindwing: with a straight dark brown line at one-third from vein 6 to inner margin, and an obscure series of brown vein-spots before margin.

Underside paler ochreous, slightly striated; the lines brown; forewing with a median line in addition; hindwing with central line entire, bent in middle, and a slight submarginal line.

Head and palpi dark brown; vertex and prothorax pale brown; patagia, metathorax, and abdomen pale ochreous; praeanal segments brown; segment 4 with a brown ring.

Expanse of wings: 40 mm.

1 ♂.

The forewing of this species has the costa well arched throughout, the apex produced and prominent, and the outer margin concave, the anal angle square and blunt; in the hindwing the outer margin is slightly curved, without any of the irregular crenulations and excisions of the type species, and the venation is the same, except that vein 4 of the hindwing is not bent down along outer margin.

213. *Nadagarodes simplex* spec. nov.

Forewing: pale fawn-colour, speckled with pale olive-brown; inner and median lines scarcely traceable; outer marked only by black dashes on veins, angled on vein 6; a row of dark marginal spots; fringe concolorous.

Hindwing: with the lines curved; median and submarginal rather clearer.

Underside very pale fulvous; costa of forewing with brown striations; costa of hindwing and cell of forewing slightly striated; outer and submarginal lines deeper fulvous, the former marked by black vein-spots, the latter waved; brown marginal spots connected by a brown marginal line; fringe pale ochreous; hindwing with three lines, the cell-spot brown and small.

Face and palpi red-brown; vertex dark grey; thorax and abdomen like wings; forelegs fuscous; antennae well pectinated.

Expanse of wings: 36 mm.

1 ♂.

214. *Nadagarodes? tumida* spec. nov.

Forewing: grey-brown, thickly sprinkled with bluish grey scales; the lines dark brown; inner from nearly one-third of costa oblique inwards to near base of inner margin; median from middle of costa, right-angled on vein 6, and oblique to middle of inner margin; outer line from four-fifths of costa, bluntly angled on 6, then lunulate-dentate to near median line on inner margin, ending in a large round coal-black blotch; the teeth also black-marked on veins; submarginal line lying between two uniformly zigzag brown lines; dark brown marginal lunules between veins; fringe brown; cell-spot linear, brown.

Hindwing: paler towards costa, ochreous striated with olive-grey; median line brown, straight, touching cell-spot; the rest as in forewing.

Underside dull pale fulvous, over the whole forewing and along costa of hindwing thickly dusted with fuscous; the lines fuscous, the outer only plain; middle line browner.

Face and palpi red-brown; vertex and collar blue-grey; thorax and abdomen brown mixed with blue-grey; shoulders darker; abdomen yellowish at sides, whitish beneath; legs and pectus yellowish; forelegs fulvous.

Expanse of wings: 48 mm.

1 ♀.

215. *Petrodava gibbosa* ab. *rectilinea* nov.

A large series of this insect was received, including 22 ♂♂ and 6 ♀♀. The latter all belong to the ab. *subradiata*, and are very dark. The ♂♂ include alike the type form and the two aberrations *rubra* and *intensa*, this latter in some fine forms. One ♂ differs remarkably from all previously recorded *Petrodava*, and may be distinguished as ab. *rectilinea*. It is intermediate between the type form and *rubra* in colour, being uniform brownish fawn-colour, with the lines dark brown; the inner and median lines agree with those of the type, but in front of the median is a nearly straight obscure line; then instead of the usual curved and waved outer line at four-fifths, a thick brown line starts from costa at six-sevenths, is slightly bent on vein 6, and descends straight to before anal angle, the outline of the submarginal being represented beyond it by black dashes between the veins; marginal line and fringe dark brown. In the hindwing this line is followed by a reduced black blotch between 6 and 7 and a slight brownish shade. The underside is deep yellow, with the lines all dark brown and distinct, especially the outer straight one.

SUBFAMILY ENNOMINAE.

216. *Capasa flexilinea* spec. nov.

Forewing: grey-green; costal edge yellow, with two black-green spots, one at one-third, large, the second at three-fourths, smaller; the first represents the origin of the first band, which below the subcostal is pale green with dark edges, obliquely bent inwards; its inner edge bluntly angled basewards on submedian fold and outwards sharply on submedian vein; the outer angled outwards on vein 4, then parallel to inner edge, except for another angle outwards on the fold; outer line olive-green, fine and oblique outwards to vein 6, then angled and flexuous inwards, below 2 vertical and pale green with dark edges, as the first line; an obscure blackish line runs from apex to the angle of outer line and then along its outer edge, forming a blotch between 3 and 4 and another on inner margin, throwing off a curved line from the middle blotch to another at anal angle; fringe pale grey-green, fuscous at apex and anal angle.

Hindwing: with costa and inner margin yellow; the bent green band central, the dark submarginal line incurved and interrupted at middle.

Underside of forewing yellow at base, suffused with fulvous brown beyond, the lines and inner margin dark olive-grey; hindwing deep yellow, with the lines and a cell-blotch olive-grey.

Palpi fulvous; face and tips of palpi black; vertex, collar, and antennae pale grey-green; thorax and dorsum dark grey-green, like wings; abdomen at sides and beneath and legs deep yellow; tarsi and front of tibiae blackish.

Expanse of wings: 49 mm.

7 ♂♂.

217. *Epitherapis nubilata* spec. nov.

Forew. wj. One-colour, suffused throughout with an olive-grey tinge, except on a triangular costal space from apex to middle, and striated with dark; lines as in *E. stramineata*, but brownish fuscous and distinct, the basal preceded by a pale line, and the outer followed by a grey one; a submarginal row of black lunules, through the middle of each of which the white submarginal line passes, the lunule between 3 and 4 being largely white; cell-spot black; the olive tinge is strongest towards apex.

Hindwing: blurred olive-grey, with the lines thickened and blackened, as in *stramineata*, the inner margin only pale, with clearer speckling.

Underside of forewing with basal two-thirds dark grey, all the lines showing; a small brownish cloud below apex; hindwing suffused with olive-green, with all the lines and the cell-spot thick and black.

Face olive ochreous; palpi externally fuscous; vertex white; shoulders brown; thorax ochreous; abdomen ochreous speckled all over with brown and olive scales.

Expanse of wings: 40 mm.

1 ♂.

Intermediate in size, markings, and coloration between *E. recticisa* described below and *stramineata* Warr., but scarcely to be referred to either.

218. *Epitherapis recticisa* spec. nov. and ab. *procellosa* nov.

♂. *Forewing:* greyish fawn-colour, irregularly black-speckled; the lines darker, and black-marked at the veins; the first from one-fourth of costa, the second from before middle, the outer from two-thirds; the first angled in cell, the second and third on vein 6, but the latter interrupted; the first is preceded and the outer followed by a pale line, succeeded by a dark shade which runs towards apex; below the middle the three lines are oblique and generally parallel, though sometimes the median approaches the inner; submarginal line waved; whitish near costa, generally preceded and followed by olive-green or olive-brown shading, above middle followed by black spots; from the angle in cell the brown upper arm of second line is continued straight along below vein 6 to outer margin underlined by a fine pale ochreous streak; fringe brownish, slightly darker at ends of veins.

Hindwing: paler and less speckled, except on extreme inner margin, where the speckles are black on a pale ochreous streak; a straight grey antemedian line, and a curved postmedian lunulate-dentate shade, and sometimes slight traces of a curved outer line.

The ♀♀ are more uniform in coloration, with less speckling and obscurely marked lines; without the sharply marked horizontal line to outer margin, but with a large brown triangular shade on outer margin from the angle of middle line; in the aberration *procellosa* this cloud is black and reaches inner margin, giving the insect an entirely different aspect.

Underside grey in the forewing, speckled only round the margins, ochreous in the hindwing, showing the lines and black speckles clearly; in the ♀ more uniformly grey or lilac-grey with the lines reproduced.

Head, thorax, and abdomen like wings; shoulders edged by a straight brown line; the metathorax with a pair of black spots; the dorsum with paired black or brown blotches.

Expanse of wings : 35 mm.

2 ♂♂, 3 ♀♀, 1 ? being the aberration *procellosa*.

The species described by me in *Nor. Zool.* vol. x. pp. 411, 412 as *Thorapis pallidilinea* and ab. *notata* (the latter being, I believe, a distinct species), are better placed in *Epithorapis*. The present species is distinguished from them by the more prominently rounded shoulder near base of costa of forewing.

219. *Gonophaga subpulchra* ab. *multiguttata* nov.

Of this species, originally described by me from Mackay, Queensland, and also occurring in Sudest Island, and received from the Upper Aroa River, New Guinea, a single ♂ example has come from Biagi, which represents a form quite distinct from any hitherto seen. Both wings above are dull mouse-colour, with a brown tinge and black-speckled; in the forewing the first line is followed by large black spots on veins and preceded by black blotches above and below the median; the outer line is marked throughout by black vein spots and ends, as in ab. *nigromaculata*, in a large black blotch above inner margin; it is followed from the angle downwards by large black blotches between the veins; the submarginal line is seen only as white dots in the centre of each of a row of black wedge-shaped spots; the marginal spots are large and black, and the cell-spot is a white dot thickly edged with black. The hindwing has only the outer lines, the submarginal being represented by a brown shade. The tips of the shoulders are black, and the dorsum is marked on each segment by black spots. On the underside the ground-colour and markings are all duller, and the forewing is washed with yellowish brown.

220. *Heterodisca flammea* spec. nov.

♂. *Forewing*: deep orange fulvous dappled with darker; the costal edge yellowish with fulvous striae; lines blackish, both followed outwardly by a diffusely darker shade, marked, the first inwardly, the second outwardly by bright white dashes on the veins; the first oblique outwards, slightly curved, from one-fourth of costa to one-third of inner margin; the second straight from costa a little before apex to two-thirds of inner margin; dark lines between the veins towards outer margin; cell-spot large, blackish; fringe dark brown; a black dot at base above a yellow patch on inner margin.

Hindwing: glossy, ochreous tinged with red, the red deepening towards outer margin; an indistinct reddish cell-spot and curved postmedian line; fringe dark red-brown.

♀. *Forewing*: deep yellow with red-brown dappling and shading; a yellow blotch beyond outer line on vein 4 (this blotch is also present in the ♂, but being red is less conspicuous); yellow spots along margin at end of the veins, the dark lines between them more prominent.

Underside dull yellow, with the markings and speckling dull red; cell-spots black; some white scaling at apex of forewing, and a black costal spot before outer line; the dark tints deeper in the ♀.

Head and thorax fiery orange, red-speckled; metathoracic tuft yellow; dorsum dull fulvous; abdomen beneath and pectus fulvous; fore and middle legs fuscous.

Expanse of wings : 40 mm.

A long series of both sexes.

221. *Hyposidra apicefulva* spec. nov.

Forewing: brownish fawn-colour, slightly dark-speckled and in places suffused with deeper brownish; lines dark brown, thick; first from one-third of costa vertical to submedian fold, then inbent, often preceded by a darker shade, the whole basal area sometimes darker; outer line at two-thirds, thickened and dark above middle, obscurely lunulate-dentate below, shortly preceded by an obscure median line, to which it is joined between veins 5 and 6 by a conspicuous horizontal black-brown blotch; submarginal line lunulate-dentate, indistinct, generally preceded by a browner suffusion; the apex beyond it above vein 8 always marked by a fulvous patch of varying intensity; fringe concolorous; cell-spot blackish; the lines are generally all darker at costa, which is in some cases darkened throughout.

Hindwing: with double antemedian line, and strongly marked lunulate-dentate postmedian; the margin browner, with a submarginal shade which becomes brighter, containing a white spot, on inner margin.

Underside paler, coarsely black-speckled; the lines black; inner margin of both wings pale ochreous; fringe brown.

Head, thorax, and abdomen concolorous; basal segments of abdomen paler, with pairs of black spots; metathorax with dark brown tuft.

The aberration *lignata*, somewhat smaller than the type, is wood-colour, suffused with brown above and below.

Both forms concur in the possession of the black or brown blotch between median and outer line, and of the fulvous apical blotch. I should have considered the species as only one of the many forms of *H. incomptaria* Wlk., but with them came a single ♀, with the outer margin simply curved between 4 and 6, not excised as is the case with ♀♀ of *incomptaria*. This ♀ is pale wood-colour, tinged with brown in the marginal areas and strongly dark-speckled, with all markings as in the ♂♂, except the strong black blotch, which is absent.

Expanse of wings: ♂ 50—55 mm.; ab. *lignata*; ♂ 46—48 mm.; ♀ 70 mm.

11 ♂♂, 1 ♀.

Of the ♂♂, 8 are referable to the type form, and the remaining 3 to ab. *lignata*, to which form the ♀ also appears to belong.

The ♂♂ of this species seem unusually liable to grease.

222. *Mimomiza bimaculata* spec. nov. and ab. *praeflava* nov.

Forewing: canary-yellow, with some scattered brown speckling; costal edge pink; lines olive-grey or brownish; basal very obscure, from one-sixth of costa, angled in cell, then vertical; inner line from one-fourth, bent outwards from subcostal vein and angled in cell, then vertical, marked by a brown blotch in submedian interval and another, rounder, on inner margin; outer line oblique and straight from apex to two-thirds of inner margin, preceded by a large oblong black-brown blotch reaching from vein 4 to inner margin, with a large round black-brown cell-spot; submarginal line indicated sometimes by dark spots on the folds; fringe yellow.

Hindwing: similar, with an inner biconcave line and a straight one just beyond middle; submarginal marked in some cases by an oblique streak from costa touching the outer line, as well as by the two dark brown spots.

Underside deeper yellow, with the lines and blotches purple-brown varied with some white scales; hindwing with an orange-red patch below apex and some orange speckling along costa.

Head, antennae, and palpi above deep black-brown; thorax and abdomen yellow; metathorax with a pair of brown spots; abdomen with the præanal segments washed with fulvous.

Expanse of wings: 44 mm.

7 ♂♂.

Of these 3 belong to the aberration *prae-flura*, in which all the brown-black spots are absent, the cell-spot being a large ring; but on the underside the lines and speckling are deep black-brown, and the oblique outer line on both wings above is broader and browner.

The species differs from typical *Mimomiza* in having the antennae broad and flattened, the segments triangular, capped by fascicles of cilia.

223. *Zomia semirubra* spec. nov.

Forewing: deep green; the lines formed of bluish scales edged on each side by thick blackish green shades; first line waved, at one-third; outer at three-fourths, lunulate-dentate, insinuate on each fold and projecting towards outer margin below middle, the outer dark edge less distinct; a blackish spot at base of costa with some bluish scales below it, above a pink patch on inner margin; some bluish scales before first line; down the central area, especially round the black cell-spot, patches of the same beyond the two sinuses of outer line and lunules along margin between the veins; fringe pale, darker at the veins.

Hindwing: deep dull rosy; a wedge-shaped streak of green sprinkled with bluish atoms and crossed by a blackish line lies at anal angle between vein 1 and the submedian fold; cell-spot black; fringe ochreous dotted with black.

Underside dull red; forewing with black cell-spot and two marks beyond; hindwing with black cell-spot and striae along costal and outer margins; fringes of both wings ochreous, dotted with black.

Palpi and forelegs deep red; face, vertex, thorax, and abdomen green, the last with rust-coloured patches on dorsum.

Expanse of wings: ♂ 30—35 mm.; ♀ 35 mm.

28 ♂♂, 1 ♀.

SUBFAMILY PROSOPOLOPHINAE.

Colpocraspeda gen. nov.

Forewing: costa arched at base and slightly inflexed at middle; apex rounded; outer margin with a deep sinus between veins 7 and 4 and a slighter one between veins 1 and 2, projecting roundly between 2 and 4; anal angle well marked; inner margin convex.

Hindwing: with rounded outer margin, containing a slight sinus beyond each fold.

Antennae (♀) simple, filiform; patagia spreading; thorax and metathorax with spreading tufts; palpi porrect, second segment well scaled, third short and pointed; tongue and frenulum present; legs broken.

Neuration: forewing, cell longer than half of wing; discocellular vertical; first median from just beyond middle, second close before end of cell; radials normal; 7, 8, 9, 10, stalked from the bend in subcostal; 11 free; hindwing, costal approximated to subcostal for half of cell; 7 and 3 before the angles; no radial.

Type: *Colpocraspeda elegans* spec. nov.

224. *Colpocraspeda elegans* spec. nov.

Forewing: lavender tinged with green; costa olive at base, white dotted with dark green beyond; at one-third a broad olive-green streak inwardly edged with white runs outwards to vein 2, where it is abruptly angled and turns inwards, ending at one-third of inner margin in an erect fulvous orange streak, inwardly edged with white; outer line at three-fourths, slightly green and outwardly edged with white, angled on vein 6 and slightly curved to a small fulvous spot at five-sixths of inner margin; an obscure dark median shade rises from costa midway between the other two lines and reaches inner margin at two-thirds; space on inner margin between inner and outer lines pale ochreous; the space between lines above rather deeper lavender than the rest of wing; fringe lavender.

Hindwing: very pale lavender, with the cell-spot and outer line showing through.

Underside uniform pale lavender; hindwing with fulvous cell-spot and faintly marked submarginal line.

Head, thorax, and abdomen lavender.

Expanse of wings: 25 mm.

1 ♀.

225. *Phrudophleps violata* spec. nov.

Forewing: pale green with cream-coloured striae, dense and short along costa; base below middle brown, emitting brown streaks along lower half of cell, along submedian fold, and along inner margin to outer line, which is followed by a broad brown and fuscous band to above middle; inner line, starting from a cream-white costal spot, projects strongly in cell and is marked by a snow-white spot before the dark cell-spot, then runs sharply basewards, again projects below median and reaches inner margin at one-fourth, finely white edged with black; the outer line at two-thirds is curved parallel to outer margin, lunulate-dentate, finely white with black edges, and forming a large white lunule on submedian fold; submarginal line marked by two white spots obliquely placed before apex, then forming an obscurely paler wavy line through the brown shade; white black-edged wedge-shaped marginal spots between the veins; fringe green, black-tipped beyond the veins.

Hindwing: greenish white, with broad olive-green margin with distinct inner edge; fringe and cell-spot green.

Underside bright green; lines of forewing shown only along costa, outer line of hindwing clear throughout; black cell-spots on both wings; on forewing a brownish ochreous submarginal spot beyond cell; inner margins white.

Palpi white, pale green above; face and vertex white; collar and thorax pale green; tips of patagia and the metathorax whitish, with brown scales; metathorax with an olive-brown tuft; abdomen pale green; abdomen beneath and legs bright green; antennae pale green, ochraceous beneath.

Expanse of wings: 23 mm.

3 ♂♂, 2 ♀♀.

Superficially greatly resembling the type species *viridis*, but distinguished by the brown streaks and smaller size; in the hindwing 6, 7, rise from the upper angle of cell, and are not stalked as in *viridis*.

The antennae of the ♂ are simply lamellate, somewhat thicker than in the ♀.

AMERICAN THYRIDIDÆ, URANTIDÆ, AND
GEOMETRIDÆ IN THE TRING MUSEUM.

By W. WARREN, M.A., F.E.S.

FAMILY THYRIDIDÆ.

1. *Belonoptera cancellata* spec. nov.

Forewing: brownish ochreous; a smoky brown-black subcostal streak from base, widening outwards and running into the projecting apex; the costal edge whitish grey, with dark strigæ and larger spots before apex; from the subcostal streak a series of vertical brown parallel and equidistant lines traverses the wing to inner margin, nine in number, of which the fifth alone is curved inwards and not so parallel as the rest; the intervals filled with irregular brown reticulation, and with a finer crinkled brown line down the centre of each; space immediately below subcostal streak at margin above vein 7 white; fringe dark brown.

Hindwing: with five parallel brown lines in basal half, followed by a line from three-fourths of costa, forking at vein 7 to anal angle and end of vein 3, with a middle line to end of vein 2, and an irregular crinkled line before apex; the intervals with contorted retentions as in forewing; fringe brown.

Underside paler, towards base whitish, white along inner margin of forewing; markings as above.

Head, thorax, and abdomen like wings; legs and palpi brown with whitish joints.

Expanse of wings: 56 mm.

1 ♀ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1904, wet season (Oekenden).

Allied to *B. frondicula* and *verrucata*, Guen.

Hepialopsis gen. nov.

Forewing: thrice as long as wide; costa straight, slightly convex towards apex, which is bluntly rounded; inner margin somewhat lobed near base; outer margin obliquely curved; anal angle obtuse and ill-marked.

Hindwing: much smaller, but of similar proportions; inner margin quite short, not more than one-fourth of the length of wing; the underside with a downwards-directed ridge of coarse scales running along costal vein from base to apex.

Abdomen (in ♀) reaching far beyond hindwings; antennae simple; forehead rounded; palpi porrect, quite short; tongue and frenulum present; legs short and stout.

Neuration: forewing, cell longer than half of wing, broad at extremity; discocellular incurved from upper end to middle, then vertical; all the veins straight and simple; vein 2 at five-sixths; 3, 4, 5 close together round lower end of cell; 6 from the upper curve of discocellular; 7, 8, 9 from round upper angle; 10 shortly before them; 11 from one-third, near base: hindwing, cell short; 6, 7 from upper angle; the rest as in forewing.

Type: *Hepialopsis sphingipennis* spec. nov.

2. *Hepialopsis sphingipennis* spec. nov.

Forewing: dull luteous grey, dusted with darker; these darker scales form lines of ill-defined spots between the veins; the spots larger and more prominent in and below cell; outer margin less dusted and more luteous; fringe luteous grey.

Hindwing: dark grey, with a slight rufous tinge; a thick black submarginal line from anal angle and two more above it and parallel; the markings in a slight degree recalling the hindwing of *Sphinx ligustri*; fringe grey, speckled with black. Underside like upper.

Head, palpi, shoulders, and patagia pale luteous grey; thorax and abdomen darker, with blackish scales; the abdomen with light and dark longitudinal streaks.

Expanse of wings: 60 mm.

1 ♀ from La Union, R. Huacamayo, Carabaya, Peru, 2000 ft., November 1904, wet season (Oeckenden).

3. *Iza colorifera* spec. nov.

Forewing: greenish ochreous, pink-tinged beyond middle, with faint reticulations and some black specks; basal area with two or three bands of grey-green, the intervals paler; a straight black bar from three-fifths of costa to three-fourths of inner margin, followed by two curved series of black specks; a dark blotch at anal angle; fringe double, the basal half pale rust-coloured, the outer ochreous, chequered with dark beyond veins below middle.

Hindwing: pink, with irregular lines of black dots; the apex with dark scaling, the black bar of forewing being continued across it; fringe ochreous, with black chequering.

Underside dull pinkish green, crossed by bands of dark striae.

Head, thorax, and abdomen greenish grey; palpi and forelegs rufous.

Expanse of wings: 22 mm.

1 ♀ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1905, wet season (Oeckenden).

Orneostoma gen. nov.

Forewing: with costa sinuous, straight in basal half, then protuberant, and truncate before apex, which is produced to a blunt point; outer margin sinuous, indented above anal angle, which is squarely lobed; inner margin strongly sinuous, broadly lobed at base, and concave between the lobes.

Hindwing: costa as in forewing, but shouldered at base; outer margin straight from below apex to anal angle, which is square.

Abdomen of ♀ reaching well beyond hindwings; antennae thick, lamellate; palpi long, porrect, slender; tongue very feeble; no frenulum visible.

In the forewing veins 9, 10 are stalked, 11 rising near base; 5 from lower angle of cell, 6 from the upper.

Type: *Orneostoma subpulchra* spec. nov.

4. *Orneostoma subpulchra* spec. nov.

Forewing: with a pale brown subcostal streak underlined with dark, running perfectly straight from base to apex; costal area above it brownish fuscous, with alternating darker streaks and paler interspaces; below the streak the wing is

whitish, with darker reticulations ; a dark somewhat funnel-shaped fascia at one-fourth ; a dark grey triangular cloud beyond cell, its apex joined by a thread-like line to a quadrate brown patch on middle of inner margin ; marginal area broadly greyish fuscous, inwardly limited by a whitish space curving into apex but broad on inner margin ; fringe with basal half brown, outer half paler, with the apices again brown ; the basal lobe dull grey.

Hindwing : wholly brownish fuscous, with darker transverse markings between the veins.

Underside pearly white, with the markings deep chocolate, except the hind-margin of forewing, which is glossy grey ; fringe of forewing grey, of hindwing chocolate.

Head, thorax, and abdomen brownish fuscous ; shoulders, vertex, and antennae paler.

Expanse of wings : 35 mm.

1 ♀ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1905, wet season (Ockenden).

5. *Siculodes ferrugata* spec. nov.

Forewing : cream-white, traversed by a quantity of irregularly contorted and ramifying dark brown streaks, alternating with pale rust-red reticulations ; costa dark brown at base and strigulated with brown throughout : from the middle of inner margin a straight dark brown line runs obliquely outwards parallel to outer margin to upper angle of cell, where it is inbent to middle of costa ; at the bend it is joined to another line from costa, which runs thickening to inner margin before anal angle ; in the basal half of wing three brown lines ramify from the costa, the third crossing the straight oblique line below middle : three finer brown lines run from costa before apex, one close before outer margin, all in places laterally connected ; fringe cream-colour.

Hindwing : with a broad central brown line and two or three beyond, faint towards costa, but broad and ramifying towards inner margin.

Underside with the lines all much finer ; forewing with an orange subcostal streak, and black metallic scaling at base and along upper margin of cell.

Head and thorax smoky brown-black ; abdomen cream-colour, with all the dorsal segments brown in front ; forelegs dark brown.

Expanse of wings : 30 mm.

1 ♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

6. *Zeuzerodes castanea* spec. nov.

Forewing : flesh-coloured ochreous, tinged with ferruginous ; costa broadly purplish, crossed by brown striae ; outer margin more narrowly purplish ; inner margin dark brown ; in middle of cell a dark brown blotch ; at and beyond its end a larger blotch of the same colour, from the inner end of which a long curved streak runs into apex below costa ; the lower outer part of the large blotch is connected with outer margin by a purplish shading between 3 and 4, while its inner edge is produced as a brown band to inner margin at three-fourths.

Hindwing : ferruginous ochreous, crossed by sparse brown curved reticulations ; a subbasal purplish diffuse band ; the apex and fringe purplish brown.

Underside similar; but the hindwing with a large purplish cell-spot and fiery coppery tinge along outer margin, and more narrowly along costa; forewing also tinged with the same colour.

Head, thorax, and abdomen dark brown; the dorsum with some purplish and deep red scaling; legs and palpi rufous ochreous.

Expanse of wings: 38 mm.

1 ♀ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1905, wet season (Ockenden).

7. *Zeuserodes maculata* spec. nov.

Forewing: black; along costa iron grey, mixed with dull red-brown scales; the paler intervals form white spots with grey centres in and beyond cell, and one large oblique white blotch in submedian interval before outer margin; towards the apex the grey scales form lines between the veins, and the costa before apex is dotted with grey and rufous; fringe blackish, with a row of irregular reddish scales along base.

Hindwing: with costal half black mixed with grey; the anal triangle cream-white, crossed by two waved pale fulvous lines, and the fringe along it fulvous.

Underside of forewing greyish black with traces of paler waved bands; apex with a dull flesh-coloured blotch, containing a velvety black spot with a white dash on it; costa before apex brownish flesh-colour; fringe dark with pale flesh-coloured scales at base; the white blotch before anal angle conspicuous; hindwing as above, but the dark basal area rippled with pale grey.

Head, thorax, and abdomen blackish, the last with deep red lateral lines, and the penultimate segment of dorsum ferruginous; palpi and tarsi rufous.

Expanse of wings: 42 mm.

1 ♀ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., October 1904, wet season (Ockenden).

FAMILY URANIIDAE.

SUBFAMILY EPIPLEMINAE.

Aphyodes gen. nov.

Forewing: ample; costa straight, slightly curved at base and apex, which is bluntly rounded; outer margin straight or slightly incurved from 6 to 3, which is bluntly bent and strongly oblique; inner margin convex.

Hindwing: quite small; pointed at apex and excised before anal angle; inner margin short, the inner-marginal area contorted and folded.

Antennae lamellate, subserrate beneath, rasped above; palpi short, porrect, and pointed; tongue slight; frenulum strong.

Neuration: forewing, cell less than half of wing; median nervure sharply bent upwards at end, vein 3 from the bend in a straight line with the median, vein 2 from close before it, 4 from the upturned end of cell; 5, the lower radial, from below the upper angle; 6, 7 stalked from the angle; 8, 9 stalked; 10, 11 free, and far back; hindwing, 8 into the apical point, 7 and 6 widely separated from 8, stalked from middle of wing, 5 being stalked with 6; the median and its branches obscured; upper surface of hindwing covered with thick furry hair. There appears to be a longitudinal furrow between 8 and 7.

Type: *Aphyodes pilosa* spec. nov.

8. *Aphyodes pilosa* spec. nov.

Forewing : pale fawn-colour, tinged with darker, and coarsely speckled with brown ; lines brown, thick and diffuse : first from about one-third, curved in cell and oblique to just before middle of inner margin ; second from three-fifths of costa, oblique outwards, sharply angled on vein 6, then oblique to inner margin close to inner line ; a thick brown line close before margin along the excision ; apical area darker ; fringe apparently darker.

Hindwing : covered with fuscous furry hair.

Underside of forewing paler, with dense brown striations ; hindwing fuscous, smooth.

Face and palpi black ; thorax and abdomen like forewings.

Expanse of wings : 22 mm.

♂ from R. Huacamayo, Carabaya, Peru, 3100 ft., June 1904, dry season (Ockenden).

9. *Dirades erebata* spec. nov.

Forewing : dull black ; an oblique thick black line on discocellular, generally preceded by a small whitish mark ; a pale outer line, inwardly darker shaded, from costa before apex, at first slightly oblique outwards, vertical from 6 to 4, then oblique to 2, and again vertical to inner margin a little before anal angle ; fringe black.

Hindwing : black with some deep brown scales along median vein from base ; an outer curved dark line followed by ferruginous scales and containing pale dots between the veins ; fold and inner margin white, the contained hair-tuft ochreous.

Underside blackish grey, paler in hindwing ; the fold whitish.

Head, thorax, and abdomen black : the fillet white.

Expanse of wings : 26 mm.

4 ♂♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

I leave this species in *Dirades*, with which it agrees in neuration. The outer margin of hindwing is straight from the subapical elbow at vein 7 to the rounded anal angle.

10. *Epiplema caesiogrisea* spec. nov.

Forewing : slate-colour, striated finely with darker ; the costa with larger and more distinct striae ; lines diffusely darker ; first out-curved from one-third of costa and thickened in cell, ending in a fine inwardly oblique mark at two-thirds of inner margin ; outer from three-fifths of costa, vertical to vein 4, then incurved, and ending indistinctly on inner margin a little beyond first line ; a broad dark shade from anal angle towards the bend in outer line ; marginal area deep purplish, edged inwardly by a fine black sinuous line from vein 7 to vein 2 ; fringe slate-colour, chequered with white between the veins.

Hindwing : with the two lines fine, and angled outwards on median and vein 4 ; the outer more conspicuous, preceded by a darker tint, and edged by a fine pale line outwardly ; a submarginal cloud from anal angle fading towards costa ; fringe dark with pale apices ; a pale dark-edged lengthened cell-spot.

Underside dull slaty grey in forewing, whitish grey in hindwing, with brown striae which are plainest in the latter.

Vertex, thorax, and abdomen slaty grey ; face and palpi black-brown.

Expanse of wings : 24 mm.

1 ♀ from Tucuman, Argentina, 1100 m. January—February 1905 (Steinbach).

Superficially this species much resembles *E. cecoria* Warr. from Mexico, but really the two are quite different.

11. *Epiplema columbicolor* spec. nov.

Forewing : pale dove-colour ; the costa spotted with black : the lines hardly visible : from a blackish spot at one-third a faint shade runs outwards to cell and then inwards to one-third of inner margin, with a dark dot on submedian fold ; from costa at two-thirds a dull grey shade rises, ending on inner margin beyond middle in a rounded dark blotch ; from the anal angle a blackish shade rises, reaching vein 4 ; at the excision a chestnut-brown shade edged inwardly by two small black lunules : fringe dove-coloured, mixed with brown above.

Hindwing : speckled with dark, and with a faint rufous tinge ; two rufous lines, the antemedian curved, the postmedian angled on vein 4 ; a rufous shade before margin from upper to lower tooth, below which there is a slight brown spot.

Underside of forewing clouded with grey and with coarse brown-black speckling ; the black shade from anal angle shown ; hindwing paler, black-speckled only along costa and outer margin.

Face and palpi black-brown : thorax and abdomen like wings, the latter much speckled with blackish.

Expanse of wings : 22 mm.

1 ♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

Forewing excised between 4 and 6, the apex depressed and bluntly rounded ; hindwing toothed at veins 4 and 7, and excised between anal angle and vein 2.

12. *Epiplema ignefumata* spec. nov.

Forewing : black-brown ; the lines black ; first from one-third of costa to near middle of inner margin, sharply angled outwards on each fold ; outer line from three-fourths of costa to three-fourths of inner margin, angled outwards on vein 4, concave on each side : the included space blackish ; both lines, where they diverge in submedian interval, marked with velvety black ; outer margin black, edged inwardly from vein 7 to 3 by a velvety black bracket-shaped mark ; the slightly paler browner spaces on each side of the central fascia show traces of dark striae.

Hindwing : with central fascia purplish black, both edges acutely angled outwards on vein 4, the outer followed, as it is also in the forewing, by a pale dark-edged line ; marginal area black along veins from before apex to lower tooth, and with black striations below it ; a black spot below each tooth and two smaller spots between ; the brown on each side of central fascia much paler than in forewing, tinged with blackish again at base.

Underside dull black, with a submarginal fascia in forewing and a marginal one in hindwing deep ferruginous speckled with dark.

Face and palpi black ; vertex, thorax, and abdomen black-brown.

Expanse of wings : 27 mm.

1 ♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Oekenden).

Both wings with apex truncate, veins 7, 6 and 4 toothed, the teeth of hindwing longer.

13 *Epiplema ignefusa* spec. nov.

Forewing : a mixture of ferruginous and olive-brown on a dull grey ground, covered with short dark striae, especially along the veins : costal area pale greyish ochreous, with dark striae ; lines very obscure, dark brown ; one or two irregularly curved near base ; the outer line angled outwards on vein 4 : a black curved mark before the excision, limiting a brown shade ; fringe dark grey.

Hindwing : with inner and outer lines plainer, dark brown, interrupted by the veins, and both angled in middle ; some blackish lunules before margin from tooth to tooth, and a black spot below lower tooth ; fringe with a dark line near base.

Underside fawn-colour tinged with ferruginous and striated with black ; forewing with a dark brown shade.

Face and palpi black-brown ; thorax and abdomen like wings ; vertex and shoulders pale greyish ochreous.

Expanse of wings : 22 mm.

1 ♀ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Oekenden).

Apex of forewing depressed and truncate ; outer margin excised from 6 to 4 : hindwing shouldered at apex, strongly toothed at 7 and 4, with a small blunt tooth at 6.

Near *E. scabra* Warr.

14. *Epiplema mixtilinea* spec. nov.

Forewing : dark grey, with a drab undertint ; costa black-dotted ; lines black, interrupted and obscure ; first from one-third of costa to near middle of inner margin, outcurved in midwing, where its course is obscured ; outer line from two-thirds of costa to three-fourths of inner margin, its middle course interrupted ; a fine black submarginal line, thickened into a black crescent before the excision ; marginal line dark ; fringe grey ; a darker grey shade at anal angle.

Hindwing : with an angulated inner line, interrupted across cell ; an outer line sharply angled on vein 4, followed by a dark submarginal shade ; some obscure dark lunules before the teeth.

Underside of forewing dull fuscous grey, of hindwing dull ochreous speckled with dark.

Face and palpi black-brown ; vertex, thorax, and abdomen above dark grey ; abdomen below and legs dull ochreous.

Expanse of wings : 22 mm.

1 ♂ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Oekenden).

Forewing excised between 6 and 4, the apex depressed ; hindwing with blunt tooth at 7 and acute tooth at 4 ; anal angle of forewing and apex of hindwing lobed ; inner margin of forewing and costa of hindwing insinuate in middle.

15. *Epiplema reversata* spec. nov.

Forewing: dull grey-brown, clouded with darker, and with oblique darker streaks from costa, but without any defined lines; a broad brown-black border from vein 7 to inner margin; the fringe brown; an obscure brown cell-spot.

Hindwing: traversed from costa to inner margin by five darker shades, of which two are antemedian: the other three, postmedian, form a dark band; a narrow, straight, black-brown band along margin from vein 7 to anal angle.

Underside dull greyish brown along costa of forewing, the rest of forewing dull black: hindwing wholly grey, with darker striae.

Head, thorax, and abdomen grey-brown; face and palpi blackish.

Expanse of wings: 24 mm.

1 ♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Oekenden).

Wings shaped as in *E. draco* and *vulpina* Warr.

16. *Epiplema straminea* spec. nov.

Forewing: straw-colour, washed with pale brown, and shaded with purplish fuscous along inner margin, especially at base and anal angle; lines fine, grey, edged on both sides with darker; first from one-third of costa to near middle of inner margin, angled outwards in cell and on submedian fold, inwards on vein 4, the shade before it fuscous, that beyond it chestnut brown; outer line from two-thirds of costa to three-fourths of inner margin, vertical but with a bend outwards on vein 4, the shade preceding it brown, that following it fuscous; a sinuous brown stripe along outer margin; an indistinct double submarginal brown shade, ending in a purplish and blackish blotch at anal angle; inner margin with thick brown striations; fringe (worn) ochreous.

Hindwing: paler, more or less brownish-tinged on costal half and below median vein: first line sharply, outer bluntly, angled on vein 4; a diffuse brown median cloud, obscuring a brown cell-spot; a brown submarginal shade towards costa; a brown marginal shade, edged by a concise dark brown curved streak from tooth at vein 7 to 5, and a brown spot above and below lower tooth.

Underside pale straw colour; forewing with a diffuse dark cloud from anal angle to vein 6.

Head, thorax, and abdomen straw colour; face and palpi brown; dorsum tinged with brown, and with a narrow pale central line.

Expanse of wings: 26 mm.

1 ♀ from La Oroya, R. Inambari, Carabaya, Peru, 3100 ft., March 1905, wet season (Oekenden).

17. *Epiplema turbinata* spec. nov.

Forewing: dove-colour, speckled with black: the costa minutely striated with dark; first line rounded, from one-fourth of costa to one-third of inner margin; second line from three-fifths of costa to three-fifths of inner margin, slightly incurved in middle the included space fuscous brown edged with ferruginous; wider at both ends and constricted in middle; some dark scales indicating a submarginal line from a little before apex to before anal angle; a row of minute dark dots before apex to middle of outer margin.

Hindwing: suffused with grey-brown and with some dark mottled scales from base below median vein; a pale, inwardly dark-edged, curved line from before middle of costa to beyond middle of inner margin; a row of small black pale-edged lunules from upper to below lower tooth, and traces of a dark sub-marginal line on inner margin.

Underside pale dove-grey, the forewing coarsely black-speckled.

Thorax and abdomen like wings; face and palpi blackish; forelegs black with pale mottling.

Expanse of wings: 15 mm.

1 ♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

Outer margin of forewing with minute teeth at 7, 6, and 4, faintly concave between 4 and 6; hindwing toothed at 4 and 7, and with a slighter tooth at 6.

18. *Nyctibadistes nigrata* spec. nov.

Forewing: dull black, with no distinct markings; cell-spot deeper black; three black spots, sometimes confluent, in a line below apex close to outer margin, with a slightly paler space before them; fringe black.

Hindwing: with two thick dark lines; the inner angled in middle close before the outer, which is simply curved at three-fifths; the included area black; some obscure red-brown scales along and below median vein; a paler blotch at apical angle, in one example reddish grey and prominent; the fold and inner margin pale, bone-colour.

Underside of both wings dull black, without markings.

Head, thorax, and abdomen black.

Expanse of wings: 22 mm.

2 ♂♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

Forewing elongate triangular; anal angle well marked; hindwing with costa hollowed out in middle beyond a prominent rounded shoulder, the costa to apex as well as the shoulder fringed; outer margin projecting at vein 7; no excision before anal angle.

19. *Psamathia amplata* spec. nov.

Like *Ps. angulata* Warr., but larger; the outer margin of forewing in both sexes elbowed at vein 4 and concave between it and apex, more strongly in the ♀; the lines are indistinct, except at costa; the black point at base of wing is absent; fringe reddish brown.

In the hindwing the outer line is followed above inner margin by three double dark lunules, which are most conspicuous in the ♀♀; fringe with a pale basal line.

In both wings the central area between the lines is slightly paler, less speckled, than the rest of wing; sometimes the outer line of forewing is marked by black spots above inner margin.

Underside grey, with a pale brownish tinge and fine transverse black striae in outer half.

Face, palpi, and forelegs black-brown; thorax and abdomen like wings.

Expanse of wings: 40—44 mm.

5 ♂♂, 4 ♀♀ from Sapucay, Paraguay, October 1904 (Foster).

20. *Saccoploca brevimargo* spec. nov.

Forewing: purple-brown covered with fine darker striae placed chiefly on the veins, the brown tint showing most strongly at apex; two deep purple-brown lines, much more distinct than in either *excisa* or *consimilis*, but placed as in those species; an oblique row of four deep brown partially connected spots from apex to below vein 5; fringe purple-brown.

Hindwing: with the two lines curved and distinct.

Underside paler and duller; the costa of forewing fulvous; the outer margin of hindwing and the hair-tuft beneath ochreous.

Face and palpi black-brown; thorax dark purplish; abdomen more cinereous.

Expanse of wings: 35 mm.

2 ♂♂, 5 ♀♀ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden); 1 ♀ from R. Huacamayo, Carabaya, Peru, 3100 ft., June 1904, dry season (Ockenden).

In *excisa* and *consimilis* the inner margin of the hindwing of the ♂ is long; in *brevimargo* it is quite short, and the outer margin well rounded throughout; the ♀ is the form I wrongly referred to *consimilis*, cf. *Nov. Zool.* xi. p. 9 (1904).

21. *Saccoploca hendida*

Erosia hendida Dogn., *Ann. S. E. Bely.* xl. p. 134 ♀ (1896).

Saccoploca consimilis Warr., *Nov. Zool.* vi. p. 9, ♂ only (1904).

The insects which I formerly considered to be the ♀♀ of *consimilis* Warr. ♂, should be referred to the new species above described: the real ♀♀ of *consimilis* have, like those of *excisa*, an excavation below apex in the outer margin of forewing, but they are consistently smaller and darker, slightly larger than their own ♂♂, as is the case with *excisa*.

The name *consimilis* must sink to *hendida* Dogn., a typical ♀ of which, through the kindness of M. Dognin, I have lately been enabled to inspect.

22. *Siculodopsis pallidifrons* spec. nov.

Forewing: pale dirty grey, towards costa coarsely speckled with fuscous; without, in the unique example, any distinct markings, though the darker shading at middle of costa appears to form a fascia with oblique outer edge, beyond which the costa before apex is paler and contains a short inwardly oblique black streak from apex; cell-spot black; fringe concolorous.

Hindwing: dark grey, speckled with fuscous, with a dark cell-spot.

Underside paler, without speckling; forewing with the black apical streak.

Head, thorax, and abdomen dirty grey; face whitish.

Expanse of wings: 22 mm.

1 ♂ from R. Cayapas, N.W. Ecuador (Flemming and Miketta).

Tricolpia gen. nov.

Closely allied to *Trotorhombia* Warr., but the apex of forewing is acute, not truncate: the antennae of the ♂ are not pectinate, but lamellate and subserrate only.

Type: *Tricolpia acutaria* Wlk. (*Erosia*) = *Erosia biangula* Feld.

23. *Trotorhombia metachromata*.

Erosia metachromata Wlk., xxiii. p. 855 ♀ (1861).

Erosia bisinuata Feld., *Reise Nor.* t. 128. fig. 21 ♀ (1874).

Trotorhombia metachromata Warr., *Nor. Zool.* xi. p. 298 (1904).

These two forms, I find cannot really be separated. Walker's type from S. Domingo, the form occurring also in Porto Rico (from which island there are two examples, both ♀ ♀, in the Felder collection), has a few whitish scales preceding the inner and following the outer line, which are not so visible in the mainland specimen, as typified by *Felder's bisinuata* from French Guiana, and many examples from other localities; these also appear to show a slightly browner tinge and more numerous striae.

FAMILY GEOMETRIDAE.

SUBFAMILY OENOCHROMINAE.

24. *Dolerophyle nerisaria* Wlk.

In *Nor. Zool.* i. p. 371 (1894), I made *Budura concersata* Wlk. a synonym of this species. I have lately been able to examine the type and find that it is an ordinary *Nipteria*, and the name must be struck out of the synonymy.

SUBFAMILY CYLLOPODINAE.

25. *Brachyglene dispar* spec. nov.

Forewing: dull olive-brown; the costa finely, the apex broadly, blackish to vein 4; all the veins orange; fringe blackish.

Hindwing: deep orange; the costal area, as far as middle of cell, velvety black, the outer margin narrowly black, broadening out between vein 2 and submedian fold, along which it emits a black tooth.

Underside of forewing orange, with the costa and apex, and the outer margin narrowly black: hindwing as above.

Head, thorax, and abdomen black; patagia orange.

Expanse of wings: 25 mm.

1 ♀ from Tucuman (Steinbach).

26. *Cylopora gracillima* spec. nov.

Forewing: purple-black, with the yellow markings very much as in *C. durnfordi* Druce, but much paler yellow; the outer transverse streak both shorter and narrower.

Hindwing: pale yellow, with all three margins black, the costal most broadly; the streak on inner margin ending in a point before base; veins 2 and 3 with a few dark scales.

Underside with the yellow markings all amplified; costa of hindwing yellow from base to two-thirds.

Head and thorax blackish; lower half of face pale; shoulders and patagia marked with yellow scales at base; abdomen with dorsum olive-fuscous, and a fine yellow lateral line; underside and legs creamy ochreous.

Expanse of wings: 27 mm.

1 ♂ from Sapucay, Paragnay, March 1903 (Foster).

27. *Cyllopoda ovata* spec. nov.

Forewing: black; a lemon-yellow blotch on inner margin from base to two-thirds, its top flattened and not reaching beyond submedian fold, its ends not so pointed as in *Myriodes parapostica* Dogn., the black ground-colour not encroaching towards anal angle; an oval lemon-yellow blotch towards apex nearly touching costa and outer margin, narrow in ♂, wide and large in ♀; fringe black.

Hindwing: lemon-yellow, with a moderately broad black margin of uniform width from before apex to anal angle, close above which it ends in a point.

Underside the same, with the base of hindwings black.

Head, thorax, and abdomen above black; shoulders with a large yellow spot at the sides.

Underneath and sides of abdomen yellowish, with a black lateral stripe.

Expanse of wings: ♂ 38 mm.; ♀ 43 mm.

1 ♂ from R. Huacamayo, Carabaya, Peru, 3100 ft., June 1904, dry season (Ockenden) type; 1 ♀ from San Augustin, Mapiri, Bolivia, 3500 ft., June 1895 (Stuart).

28. *Darna trigonata* spec. nov.

Forewing: smoky black, with a large triangular orange space from base, its outer edge running nearly straight from middle of costa obliquely to vein 3 near outer margin, bluntly rounded to 1, thence roughly edged and narrowing off to base of wing; costa narrowly black; along the orange area the black is deeper than towards the margin; fringe black.

Hindwing: wholly smoky blackish, thinly scaled.

Underside like upper.

Head, thorax, abdomen above and below, and legs, blackish with a brownish tint.

Expanse of wings: 50 mm.

4 ♀♀ from Cushi, Huancayo Province, Peru, 1900 m. (Hoffmanns).

Distinguished from both *D. volitans* and *flammifera* by the much broader orange area of forewing.

29. *Ephialtias cordigera* spec. nov.

Forewing: brown-black, with a sinuous orange-yellow band beyond middle from subcostal vein to vein 2.

Hindwing: with a large heart-shaped orange blotch in middle of wing, and the inner margin dull yellow.

Underside similar, the orange markings more ample.

Head, thorax, and abdomen like wings; sides of face and basal segment of antennae white; abdomen beneath white, with a black lateral line, above which the sides are yellowish.

Expanse of wings: 35 mm.

1 ♂ from La Vuelta, R. Caura, May 1903 (Klages).

30. *Paratyria longiplaga* spec. nov.

Forewing: brown-black; the veins in places finely pale; two elongated yellow blotches; the first horizontal, between median and submedian veins, reaching two-thirds of wing; the second oblique from three-fifths of costa to below vein 3, both ends rounded; fringe dark.

Hindwing: with all the margins black, the central yellow area elongate, its lower edge sinuous.

Underside the same.

Head, thorax, and abdomen black; face with yellow cheeks; patagia with yellow centres; dorsum with a yellow line; abdomen with the underneath whitish, and a yellow lateral line.

Expanse of wings: 30 mm.

1 ♂, 1 ♀ from Rio de Janeiro (E. May).

The antennae of the ♂ are quite shortly pubescent.

31. *Phaeochlaena pictifrons* spec. nov.

Forewing: black, with the veins and folds broadly sulphur-colour: a round whitish spot on median vein touching the cell-fold above and vein 2 below; a double spot before apex between veins 7 and 5; fringe black.

Hindwing: whitish, with a broad black marginal border, continued narrowly along costa to base.

Underside with the veins very finely paler; a streak of pale scales from base along costal vein; another broader from base below cell swelling out into a large filmy blotch embracing the end of cell; the subapical spot larger: hindwing as above, but the costa also white.

Palpi and base of patagia bright orange: middle of face, tongue, and antennae black; sides of face pale sulphur-coloured; collar, shoulders, and thorax black spotted with pale sulphur; abdomen black with the basal segments whitish; abdomen beneath, pectens, and inside of legs whitish.

Expanse of wings: 30 mm.

1 ♂ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., October 1904, wet season (Oekenden).

32. *Phaeochlaena unimacula* spec. nov.

Forewing: olive-brown, with all the veins and folds paler; the apex and outer margin dull black; this dark margin is preceded by a broadly rounded paler space caused by the orange of the underside showing through; at middle of costa an outwardly oblique oval yellow blotch reaching lower end of cell; fringe blackish.

Hindwing: bright orange, with a broad black outer margin, running to a point on inner margin and costa: extreme base smoky black.

Underside of forewing with basal half above median vein, the inner margin below submedian fold, the outer margin, apex, and costa beyond three-fifths dark olive-brown; the enclosed area orange, touching costa beyond middle and with a narrow streak from base, which is slightly dusted with brown scales: hindwing as above, but with the margin brown.

Head yellow; palpi yellow internally, blackish externally; thorax brown (patagia and shoulders damaged); abdomen with an orange dorsal stripe and broad olive-fuscous lateral stripes; underneath creamy ochreous, like the legs.

Expanse of wings: 38 mm.

1 ♀ from Cuzco, Peru, January 1901 (Garlepp).

33. *Polypoetes tenebrosa* spec. nov.

Forewing: deep olive-brown, with all the veins and folds finely deep orange; fringe black.

Hindwing: black.

Underside deep olive blackish; forewing with base of costa and veins on each side of apex whitish, the base of veins 7, 8, 9 forming a spot: hindwing with whitish streaks from base, that along costa longest.

Palpi blackish above, pale below, the basal segment yellow; face black at middle with the sides whitish; collar and shoulders blackish mixed with pale scales; patagia black varied with deep orange; abdomen olive-black, below, like the pectus and inside of legs, whitish.

Expanse of wings: 24 mm.

1 ♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Oekenden).

34. *Stenoplastis albibasis* spec. nov.

Forewing: white for rather more than basal half, passing into pale ashy grey, which towards apex is slightly olive-tinged; costal edge grey; on the inner margin are two black bent lines, one from just before middle, the other from three-fourths, nearly meeting at the rise of vein 2; the white between them purer.

Hindwing: white, with the costal and outer margins smoky fuscous, the apex very broadly dark; the inner margin slightly grey.

Underside of forewing fuscous-grey with a large diffuse white space at middle of inner margin: hindwing as above.

Head, palpi, and basal segment of antennae yellow; thorax white; abdomen grey, beneath white; legs grey and white.

Expanse of wings: 30 mm.

1 ♂ from La Union, R. Huacamayo, Carabaya, Peru, 2000 ft., November 1904, wet season (Oekenden).

35. *Stenoplastis? phryganeata* spec. nov.

Forewing: olive fuscous; all the veins finely whitish; an obliquely placed white pyriform blotch from before lower end of cell to middle of vein 1, followed above by a small white spot beyond discocellular, incurved to middle of costa, where the veins are whiter; a submarginal row of blurred white spots between the veins, the veins themselves being whiter along its course; fringe dark.

Hindwing: white, with a broad blackish marginal border, narrowing towards anal angle and very broad at apex; fringe of inner margin smoky grey; the costa from base narrowly blackish.

Underside of forewing dull blackish, with a round white spot representing the pyriform blotch of upperside: hindwing as above.

Head, shoulders, and patagia fuscous; base of patagia with a large orange spot at the sides; thorax whitish with a grey central line; abdomen pale grey; legs and antennae fuscous-grey.

Expanse of wings: ♂ 36—40 mm.; ♀ 42 mm.

3 ♂♂, 1 ♀, from La Union, R. Huacamayo, Carabaya, Peru, 2000 ft., November 1904, wet season (Oekenden).

The wings are longer and narrower than is usual in the genus, and the abdomen of the ♂ elongated.

In one ♂ the large white pyriform blotch is reduced to a round one like that of the underside.

SUBFAMILY GEOMETRINAE.

36. *Auophylla basiplaga* spec. nov.

Forewing: pale green, with bone-coloured markings edged and speckled with dull red; the line edging the marginal pale area starts from costa shortly before apex, is roundly curved outwards between 7 and 4, below which vein it nearly reaches outer margin, forming a shallow curve to above vein 2, then running inwards and touching 2, whence it curves upwards and forms a quadrate projection above vein 4 touching discocellular, thence descending again vertically and slightly waved to middle of inner margin; close to base of inner margin is a small semicircular patch of bone-colour, edged with red; marginal line red; fringe bone-colour.

Hindwing: similar, but the costal blotch is larger, and that at anal angle smaller; the blotch at base is likewise larger than in forewing; a white spot on upper end of discocellular.

Underside very pale green, with the white areas showing through.

Head, thorax, and abdomen pale green, the dorsum with a series of red crests.

Expanse of wings: 24 mm.

1 ♂ from Sapucay, Paraguay, July 1902 (Foster).

Close to *A. multiplagiata* Warr. from Paraguay.

37. *Blechroma oppleta* spec. nov.

♂. *Forewing*: pale green, with all the grey-brown bands and shadings of *confusa* Warr. so largely developed and amalgamated that only four small patches of green remain: viz. two small triangular patches on inner margin on each side of the end of outer band, one on costa at one-third, and a larger one on outer margin below apex; the course of the dark curved basal band and of the outer and submarginal bands can be traced by the paler-edged lines, and the cell-spot is blackish and distinct; marginal line formed of coalescent purplish black lunules; fringe grey with a whitish base, and faint chequering.

Hindwing: green, with base narrowly dark brown; a curved grey band just before middle, and the whole outer two-fifths grey-brown, containing a paler lunulate-dentate outer line, with the teeth marked prominently on the veins; margin from 4 to 6 narrowly green; marginal line fine, blackish.

In the ♀ all the green spaces are larger, but in no case to such a degree that the insect can be mistaken for *confusa* Warr.

Underside paler green, with all the grey-brown areas duller.

Head and thorax grey-brown; basal segment of abdomen with a velvety black ring; rest of abdomen ochreous above, whitish below; shoulders green.

Expanse of wings: ♂ 32 mm.; ♀ 39 mm.

1 ♂, 1 ♀ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season, and 1 ♂ from R. Huacamayo, Carabaya, Peru, 3100 ft., June 1904, dry season (Oekenden).

38. *Comibaena subaurea* spec. nov.

Forewing: pale yellow, striated with olive and green; costa green; apex broadly green, narrowing to anal angle; cell-spot dark green.

Hindwing: with a narrow green marginal border, its inner edge diffuse; rest of wing pale yellow, with olive striae.

The fringes of both wings are worn, but were probably green.

Underside orange, the green borders of upperside showing through.

Face and palpi red; vertex and antennal shaft snow-white; the pectinations fuscous; shoulders and patagia green; abdomen pale yellow with a few striae, and at base marked laterally with green.

Expanse of wings: 28 mm.

1 ♂ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Ockenden).

This species stands quite by itself.

39. *Drucia circumdata* spec. nov.

Forewing: dull grass-green; costa white underlined with rusty yellowish; an apical and anal bright brick-red blotch connected along margin in the middle by a fine reddish line; fringe red; cell-spot minute.

Hindwing: similar; the apical blotch long and narrower, the anal blotch narrowly produced along inner margin to join a semi-oval blotch on basal third.

Underside whitish green, with the red blotches partially showing through.

Face, thorax, and dorsum brick-red; the last with five red crests tipped with shining scales; abdomen beneath and legs whitish.

Expanse of wings: 38 mm.

1 ♂ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., October 1904, wet season (Ockenden).

40. *Halioscia atroviridis*.

Oospila atroviridis Warr. *Nov. Zool.* xi. p. 24. ♂ (1904).

The ♀ of this species differs from the ♂ in having the thick black marginal border greatly reduced in width and wholly interrupted in the middle below vein 4; the forewing bears, therefore, only a black-brown blotch between veins 4 and 6 and a larger diffuse one at anal angle, while the hindwing has a narrow streak at apex, a square blotch on vein 5, and a small, more rounded, one above anal angle; these markings are all repeated, but duller, on the bluish white underside.

Expanse of wings: 44 mm.

1 ♀ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1905, wet season (Ockenden), along with two typical ♂♂.

The ♀ may be distinguished from that of *H. procellosa* Warr., which it somewhat resembles, by the bulged outer margin of forewing.

41. *Halioscia procellosa* spec. nov.

Forewing: semitransparent, deep sea-green, covered with very fine dark scales arranged in obscure striae; costal edge ochreous, with fine dark dots; a diffuse round smoky blackish cell-spot, and two large marginal blotches; one diffusely subquadrate, from vein 7 to below vein 5, running narrowly to apex; the other rounded, at anal angle, reaching nearly to middle of inner margin, above not touching vein 3; fringe smoky black, chequered narrowly with white between veins.

Hindwing: the same, but with both marginal blotches larger; a raised white spot at upper end of discocellular; across the dark blotches in both wings a faint pale waved submarginal line can be traced.

Underside uniform bluish white, with the fringes dark; costa of forewing yellow.

Face and palpi above, thorax, patagia, and base of dorsum with the crests, all smoky blackish; palpi and face beneath whitish; vertex and shaft of antennae snow-white; the pectinations and apex yellow; collar and shoulders green; anal segments and underside of abdomen, the legs, and pectus white.

Expanse of wings: ♂ 42 mm.; ♀ 48 mm.

1 ♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden) type; 1 ♀, Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Ockenden).

A large edition of *H. congener* Warr. from Rio Demerara.

42. *Hydata brunneopicta* spec. nov.

Forewing: yellow-green; the markings deep olive-brown; the costa fulvous brown; a black-brown blotch at base, reaching to one-fourth of inner margin, but hardly extending above median vein; a small diffuse dark spot in cell, and an ear-shaped brown dark-edged cell-spot at the end; two fine wavy lines reversely lunulate, the first antemedian, nearly vertical, the other postmedian and outcurved above, the reversed lunules closely approximated on submedian fold; a dark brown submarginal band ending in a wide triangular costal blotch of the same colour, containing a small spot of pale ground-colour before apex; a marginal brownish shade; fringe green, with dark brown spot at apex.

Hindwing: occupied by three broad olive-brown bands with darker edges, leaving only narrow spaces of ground-colour: viz. a spot at base; an antemedian band, reaching inner margin and broader above median vein, where it is crossed by the dark inner edge of median band; a curved and dentate postmedian band, preceded by the black dentate outer edge of the median band; and a slight submarginal space in upper half of wing; fringe green shaded with brown, and with a blackish spot at end of vein 6 which runs out into a tooth.

Underside pale dull yellowish green; forewing with brown marks at base and middle of costa and with the subapical triangle and submarginal band; hindwing with straight central line and curved submarginal shade.

Head, thorax, and abdomen olive-brown, the last somewhat paler; lower part of face, palpi beneath, and fillet greenish.

Expanse of wings: 22 mm.

1 ♂ from R. Huacamayo, Carabaya, Peru, 3100 ft., June 1904, dry season (Ockenden).

Hindwing shaped as in *transductaria* H. S., but with a prominent tooth at vein 6.

43. *Hydata latifasciata* spec. nov.

Forewing: pale hyaline green; a small patch at base of inner margin, and a broad submarginal band dull blackish green; between veins 3 and 4 this band runs to margin, and between 6 and 7 projects towards it without touching it; costa whitish ochreous; fringe whitish, darker between veins 3 and 4; traces across middle of two curved grey lines.

Hindwing: wholly blackish green except a narrow marginal space before the whitish fringe; traces of a darker median fascia with pale edges.

Underside pale green with the dark markings showing through.

Head and antennae white; thorax and abdomen ochreous, perhaps faded.

Expanse of wings: 26 mm.

1 ♀ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., October 1904, wet season (Ockenden).

The anastomosis of costal and subcostal veins of hindwing is very short, but complete; outer margin of hindwing subcrenulate, with stronger teeth at 4 and 6, and a sinus between.

44. *Hydata lunifera* spec. nov.

Forewing: very pale yellowish green, crossed by four series of large white spots; these spots are in the same relative position as the fine white lines in *H. malina* Butler and *H. tridentata* Warr. (*Pachycopsis*); the antemedian, postmedian, and submarginal consist of contiguous white crescents; the marginal row of round spots; fringe greenish white.

Hindwing: the same, but the spots are even broader.

Underside dull pale green, with the white spots showing through.

Face green; vertex and antennal shaft snow-white; thorax and abdomen pale green varied with white, the abdominal segments with white rings.

Expanse of wings: 20 mm.

1 ♂ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Ockenden).

45. *Hydata spilosata* spec. nov.

Forewing: yellow-green, thinly scaled; with patches of deeper green at base, along costa, and at apex, this last connected with a submarginal patch beyond cell; cell-spot large, deeper green, connected with the costal streak; fringe concolorous.

Hindwing: with base, a large rounded blotch before middle of inner margin, the cell-spot, and a submarginal spot beyond cell, darker green.

Underside pale yellowish green.

Thorax and abdomen yellow-green; vertex, antennae, and face white.

Expanse of wings: 22 mm.

1 ♂ from Ciudad de Tucuman, 450 m., January 1902 (Dinelli).

46. *Lissochlora?* *nigricornis* spec. nov.

Forewing: pale green, rather thinly scaled, with the costal edge paler, and at base reddish; two pale dentate lines: the inner from one-fourth of costa to one-third of inner margin edged outwardly with darker, slightly grey-green; the outer from two-thirds of inner margin oblique outwards and edged inwardly with darker; a black cell-spot; a fine purplish marginal line, broadly interrupted at the ends of veins; fringe yellowish.

Hindwing: like forewing, the inner line curved.

Underside whitish green; the cell-spots and marginal dashes very distinct; the outer line darker green; costa of forewing grey at base.

Head and thorax pale green; vertex white, with a reddish line behind; abdomen ochreous, the dorsum marked broadly with grey; antennae with shaft white and pectinations black, these being short and stiff, and thickened at apex.

Expanse of wings : 24 mm.

1 ♂ from Cushi, Province Huauco, Peru, 1900 m. (Hoffmanns).

Hardly a true *Lissochlora* ; the structure of the antennae differs.

47. *Lissochlora venilineata* spec. nov.

Forewing : deep green ; the costal edge white, underlined with yellow ; all the veins,—except the costal and subcostal with its branches,—the folds, and the discocellular narrowly white ; a pale curved line at one-fourth, followed by a deeper band of green interrupting the white veins ; a dentate-lunulate line at two-thirds, parallel to outer margin, the dark green teeth of which interrupt the pale lines of veins ; fringe white.

Hindwing : with both lines and the pale veins all more clearly marked.

Underside paler green, with the pale veins hardly marked ; costa of forewing bright red, finely edged with white in apical half.

Thorax and basal segment of abdomen green ; abdomen whitish ; face and palpi bright red ; vertex white, green behind ; antennae white, with the pectinatus greenish fuscous ; forelegs fuscous in front.

Expanse of wings : 34 mm.

1 ♂ from Limbani, Carabaya, 9500 ft., April 1904, dry season (Ockenden).

48. *Melochlora condensata* spec. nov.

Forewing : deep grass-green ; lines darker, olive-green ; first, nearly vertical, from one-fourth of costa to before one-third of inner margin, with slightly paler inward edge ; outer line from five-sixths of costa to two-thirds of inner margin, nearly straight, outwardly edged with paler ; fringe pale green, with a dark spot at apex ; cell-spot small, black.

Hindwing : with curved broad dark shade near base just before the minute black cell-spot ; outer line straight just beyond middle, edged with pale bluish green ; fringe pale green.

Underside pale green ; forewing with cell-spot and broad well-defined black submarginal cloud, reaching vein 6, but constricted at vein 4 ; a black dot at apex in the fringe ; hindwing with diffuse straight blackish blotch near base, not touching either margin ; a black blotch on costa before apex, produced as an indistinct curved green shade across wing.

Face, vertex, thorax, and abdomen ochreous ; palpi and antennae black and white ; collar, shoulders, patagia, and belt on basal segment of abdomen green ; abdomen, palpi beneath, pectus, and legs ochreous.

Expanse of wings : 33 mm.

1 ♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

Smaller and darker than *M. intermedia* Warr., from which it is distinguished by the very different underside ; the hindwing is also more distinctly angled at middle.

49. *Melochlora minor* spec. nov.

Forewing : deep apple-green, paling slightly towards outer margin ; fringe yellow-green ; a darker postmedian shade is faintly perceptible.

Hindwing : the same.

Underside paler green; fringe yellow.

Face and palpi red-brown above, ochreous below; vertex and shaft of antennae white; collar, shoulders, and patagia green; thorax and abdomen above and below, pectus, and legs ochreous.

Expanse of wings: 22 mm.

1 ♂ from R. Huacamayo, Carabaya, Peru, 3100 ft., June 1904, dry season (Ockenden) (*type*); 2 ♂♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

50. *Miantonota imitans* spec. nov.

Forewing: pale green; the costal edge yellowish, shortly red at base; two fine white lines, as in *M. nigrisquama* Dogn.; first near base, slightly bent on median vein, obsolete before costa; second straight from inner margin at two-thirds to vein 6, parallel to outer margin, almost imperceptibly curved between veins; cell-spot blackish; marginal line rust-red, interrupted by pale spots on the veins; fringe yellowish with dull red spots beyond veins.

Hindwing: with the outer line bent on vein 4; no distinct cell-spot.

Underside whitish green, yellowish green towards costa of forewing, which is yellowish; fringe yellow with the marginal line reddish; cell-spot of forewing visible.

Face and palpi externally dull red; antennae white at base, then reddish; fillet white; vertex, thorax, and abdomen green; a single dorsal spot on second segment and double blotch on fourth and fifth segments black-brown.

Expanse of wings: 26 mm.

1 ♂ from Tinguri, Carabaya, S.E. Peru, 3400 ft., August 1904, dry season (Ockenden).

M. nigrisquama Dogn. has the face green; no red marginal line; and a black blotch only on basal segments.

51. *Miantonota sellata* spec. nov.

Exactly like *M. decorata* Warr., but the outer line in both wings is finely dentate-lunulate instead of being straight.

Face, thorax, and dorsum green like the wings; fillet white; second dorsal segment with a brick-red blotch with paler centre; fourth, fifth, and sixth segments with three contiguous brick-red blotches, that on the fourth with a whitish centre; anal tuft, abdomen beneath, and legs whitish.

Expanse of wings: 35 mm.

2 ♂♂ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1905, wet season (Ockenden).

Near also to *M. xaliria* Dogn., but larger.

52. *Racheolopha astigma* spec. nov.

Forewing: deep grass-green; costa bone-coloured, speckled with black; a bone-coloured marginal border, stained with flesh-colour and speckled with black, except along inner edge; the border runs from costa to vein 4 nearly uniformly wide, its edge rounded between the veins; from 4 to 2 it is much narrower, and then forms an elongated blotch along inner margin nearly to middle; marginal line black interrupted above; fringe flesh-colour, slightly grey-chequered; no cell-spot.

Hindwing: with the border amplified at apex, starting from just beyond middle of costa and angled internally at vein 6, the blotch at anal angle much smaller.

Underside whitish green, the pale borders showing through; costa of forewing ochreous, flesh-coloured towards base.

Face, palpi, and forelegs dull reddish; vertex and antennae whitish; collar red; thorax green; abdomen ochreous, the dorsum and crests reddish.

Expanse of wings: 26 mm.

1 ♂ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., October 1904, wet season (Ockenden) (*type*); and 1 ♂ (worn) from Tinguri, Carabaya, S.E. Peru, 3400 ft., January 1905 (Ockenden).

Distinguished by the entire absence of cell-spots.

53. *Racheolopha fimbripedata* spec. nov.

Forewing: semi-hyaline green, with a minute black cell-spot; costa brownish yellow; a dull red-brown marginal border from vein 6 to inner margin, narrow between veins 3 and 4, forming a bilobed projection between 4 and 6, and a longer bilobed blotch below 3; both edges darker; the marginal line interrupted by yellow at the vein-ends and reaching apex; fringe yellowish, chequered with brown.

Hindwing: with an elongated blotch at apex and anal angle, narrow between 3 and 4; the green runs in beak-like on vein 6; the anal blotch shows four slight curves; fringe as in forewing.

Underside dull yellowish green with brown blotches showing at apex of hindwing and anal angle of forewing, and slightly beyond veins 4 and 6.

Face and palpi red-brown; vertex and antennae white; collar dull red; thorax, patagia, and sides of abdomen green; dorsum reddish brown with the crests darker; abdomen beneath and pectus greenish white.

Expanse of wings: 24 mm.

1 ♂ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1905, wet season (Ockenden).

Near *R. arpata* Schaus and *extensata* Warr.; the hindtibia bears a fringe of long pale hairs.

54. *Racheolopha leucostigma* spec. nov.

Forewing: grass-green; costa bone-colour, thickly grey-speckled; a bone-coloured marginal border, starting as a small semicircle from 7 to 6, forming a bilobed rounded projection from 6 to 4, a simple shallow lunule from 4 to 3, and a larger rounded blotch at anal angle reaching to two-thirds of inner margin; the two larger blotches are filled with dark grey scales, and the inner edge throughout is dark grey; marginal line dark grey, interrupted at the veins; fringe bone-colour, chequered with grey beyond veins; cell-spot blackish.

Hindwing: with the marginal border broad and elongate at apex, smaller at anal angle, narrowest and angled between 2 and 3; the central grey scaling continuous; cell-spot silvery white, oval, at top end of discocellular.

Underside pale yellowish green; costa of forewing yellowish ochreous speckled with grey, wholly grey at base.

Face and palpi dull reddish brown; vertex and antennae whitish; thorax and sides of abdomen green; dorsum red-brown with metallic crests and hairs; anal segment, abdomen beneath, and legs whitish ochreous.

Expanse of wings : 24 mm.

2 ♂♂ from Tinguri, Carabaya, S.E. Peru, 3400 ft., January 1905, wet season (Oeckenden) (*type*); and 1 ♂ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1905 (Oeckenden).

55. *Racheolopha plurimaculata* spec. nov.

Forewing : green; costal stripe brownish grey; at apex and anal angle two bone-coloured blotches stained with flesh-colour and thickly edged with red-brown; the upper one large, reaching to below vein 4, nearly semicircular in shape, the veins across it marked with red-brown scales; the lower one flattened, reaching to vein 2 and crossed near the angle by a red-brown mark; marginal line formed of black-brown lunules beyond the blotches and red-brown between; fringe bone-colour, mottled with dull red-brown beyond veins 2, 3, and 4; cell-spot blackish.

Hindwing : with a lengthened apical blotch reaching vein 4, traversed by a red-brown submarginal line, veins 6 and 7 being thickly marked with red-brown speckling; anal blotch as in forewing, but smaller, connected with a semi-elliptical blotch occupying basal half of inner margin; cell-spot minute; fringe and marginal line as in forewing.

Underside pale green, the marginal markings showing through; costa of forewing reddish grey at base.

Head, palpi, and antennae dull red-brown; thorax green; abdomen pinkish ochreous, with red-brown basal ring; the crests varied with red-brown.

Expanse of wings : 28 mm.

1 ♂ from Pozuzo, Huánuco, Peru, 800—1000 m. (Hoffmanns).

Nearest to *R. rosipara* Warr., which has no anal blotches.

56. *Racheospila fallax* spec. nov.

Forewing : grass-green; the costa white; cell-spot red-brown, rather large; a deep flesh-coloured semicircular blotch from apex nearly to vein 4, broadly edged inwardly with red-brown; a small flattened blotch at anal angle, the lower half of which is whitish; a red-brown marginal line; fringe pale red-brown with white flecks at veins.

Hindwing : with the apical blotch narrower, not reaching vein 5, whitish crossed by pink shades; the anal blotch like that of forewing; cell-spot small, red-brown; inner margin narrowly red-brown.

Underside whitish green, darker in costal half of forewing; costa itself yellowish; cell-spot and apical blotch of forewing red-brown; marginal lines and mottling of fringes red-brown in both wings.

Face and palpi deep red-brown, the lower part of face whitish; vertex and antennae white; fillet, shoulders, and patagia green; thorax and dorsum brick-red; second, third, and fourth segments of dorsum each with a whitish saddle, that on third with a red centre; abdomen beneath and legs whitish; forelegs marked with dark brown.

Expanse of wings : 28 mm.

1 ♂ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., October 1904, wet season (Oeckenden).

57. *Racheospila pulchrifimbria* spec. nov.

Forewing: uniform green; costal edge white, diffusely underlined with deep reddish and before apex crossed by three or four red spurs from the red streak, which itself on each side of the middle is interrupted by white spots; a marginal row of semi-elliptical snow-white spots between the veins, edged inwardly by a deep red dentate-lunulate line, before which the green is stained with vinous; each marginal spot is followed by a corresponding white spot in the fringe, the rest of which is vinous; the spots above the middle are rounder than those below.

Hindwing: with the marginal spots all rounder.

Underside pale green, with the marginal markings and fringe all dull.

Palpi white with a few reddish scales externally; face olive-green, with a red line above; fillet and antennae snow-white, the back of vertex scarlet; thorax, shoulders, and patagia green; dorsum deep red, each segment but the second with a large snow-white spot, that on basal segment small; anal tuft white; abdomen at sides and beneath white, like the legs.

Expanse of wings: 17 mm.

1 ♂ from Aroewarwa Creek, Maroewyn Valley, Surinam, April 1905 (Klages).

I have seen specimens of this species from various localities before; hitherto it has, I think, been passed over as a form of *sigillaria* Guen., but both that species and *stellaria* Gn. have only three white dorsal spots.

58. *Racheospila semiornata* ab. *brunneilinea* nov.

Differs from the type-form of *semiornata* Warr. in that both lines of the forewing are marked by brown spots on the veins, partially connected, and ending on inner margin in brown blotches reaching to submedian fold, the outer line not connected with the blotch at anal angle, which is smaller than in the type-form.

In the hindwing these two brown extremities of the lines are united along the inner margin and form a shallow blotch.

1 ♂ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1905, wet season (Oekenden).

59. *Rhodochlora unicolor* spec. nov.

Forewing: apple-green; costa finely white, red at the extreme base: inner line marked by a red dot on the median and submedian veins and on submedian fold; these in the ♀ are connected by a wavy red line; cell-spot red; outer line lunulate-dentate, red, parallel to outer margin, not reaching above vein 6, and marked mainly by the red teeth on the veins; this line plainer in the ♀, where the lunule between veins 1 and 2 is thick and filled up with yellow scales edged with red; fringe pale green, with a red spot at apex.

Hindwing: with the usual yellow basal area green like the rest of wing; the purple subbasal band pear-shaped, broader below, and edged with yellowish, reaching from middle of cell to vein 1, and larger in ♀; outer line marked by red teeth on veins; fringe pale green.

Underside whitish green, especially in hindwings; cell-spot of forewing reddish; a faint green central band on hindwing; costa of forewing red at base.

Palpi bright red above, white below; face orange, edged with red; vertex and antennae white.

Thorax green; abdomen whitish green; pectus, abdomen beneath, and legs white; knees and tibiae spotted with black.

Expanse of wings: ♂ 50 mm.; ♀ 60 mm.

2 ♂♂, 1 ♀ from Agualani, Carabaya, Peru, 9000 ft., March 1905, wet season (Ockenden).

Distinguished by the green base of hindwings.

60. **Tachyphyle albisparsa** spec. nov.

Forewing: deep apple-green, paling along outer margin; from three-fifths of inner margin a bluish white line runs, slightly curved, parallel to hindmargin, fading out above 6; a faint bluish white inner line, oblique outwards; space between the lines dusted with bluish white scales; cell-spot black; fringe pale green, dark at apex.

Hindwing: with the line straight and central.

Underside paler green, washed with whitish in hindwing; marginal area and fringe in both wings whitish.

Head white; thorax green; abdomen greenish ochreous, beneath white; legs white, with black knees.

Expanse of wings: ♂ 30 mm.; ♀ 40 mm.

3 ♂♂, 1 ♀ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1905, wet season (Ockenden).

61. **Tachyphyle lucens** spec. nov.

Forewing: glossy deep green; lines thick, deeper green; first curved, at one-third; second from three-fifths of inner margin, slightly curved, towards four-fifths of costa, before which it becomes obsolescent; a lilac-grey lustre precedes the first and follows the second line and also fills the central area below middle; fringe pale green; cell-spot minute, black and round.

Hindwing: with straight central line and dark green cell-spot; costa whitish; fringe pale green.

Underside shining whitish green, deepening towards outer margin; the fringes and extreme margin pale green; a dark grey-green cloud in fringe at anal angle of forewing and apex of hindwing, and a small grey spot on submedian fold of hindwing beneath the base of vein 2; hindwing yellowish green towards base; inner margin of forewing white.

Vertex, face, palpi, and base of antennae snow-white; shoulders and patagia green; thorax and abdomen ochreous, probably green when fresh.

Expanse of wings: 34 mm.

1 ♂ from Pozuzo, Huáuco, Peru, 800 to 1000 m. (Hoffmanns).

62. **Xenopepla flavinigra** spec. nov.

Forewing: dark olive-brown, crossed by three pinkish brown lines curved parallel to hindmargin; the inner and outer dentate-lunulate; the inner at one-fourth, the teeth pointing basewards; the outer at two-thirds, the teeth pointing outwards; submarginal line simply curved, starting from a pinkish brown costal space, followed by a finer one slightly dentate close before the margin; fringe with basal half dark, apical half whitish between the veins, wholly dark

beyond them : from beyond middle of costa a tawny orange stain runs obliquely to before submarginal line above vein 3, the two lunules of outer line between 4 and 6 being edged internally by two yellow lunules and externally by two yellow blotches, with a third below between veins 3 and 4.

Hindwing : similar, but the tawny and yellow colouring less extended.

Underside dark olive-fuscous with a golden-yellow blotch beyond cell in each wing, that in the hindwing much narrower.

Head, thorax, and abdomen deep olive-fuscous ; abdomen below dull brown.

Expanse of wings : 23 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

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63. *Anisodes coenosata* spec. nov.

Forewing : yellow, with transverse red striations, much obscured by an olive-grey suffusion which extends from base along costal half of wing to apex and embraces the two submarginal shades, the inner of which also encroaches upon the course of the outer line, which is marked by black vein-dots ; cell-spot large, formed by a coal-black ring with olive-grey centre ; marginal spots small and black ; fringe mottled, olive-grey and yellow ; the veins with olive scales.

Hindwing : like forewing ; the lower half also crossed by olive-grey antemedian and median bands ; cell-spot larger.

Underside dull yellow, without speckling ; base of forewing above submedian fold dull rosy purple ; outer line, dentate-lunulate, and the interrupted praesubmarginal band purple rosy ; fringe yellow ; cell-spot diffusely black ; hindwing with oval black cell-spot and outer and marginal series of reddish spots.

Head, thorax, and abdomen clouded with olive-grey ; the face pale yellow with the top reddish ; abdomen paler, more yellow.

Expanse of wings : 26 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

Hindlegs without fringe ; hindtibiae with only terminal spurs.

64. *Anisodes flavistigma* spec. nov.

Forewing : pale greenish ochreous, faintly dark-speckled ; the lines dull purplish, faint, oblique outwards below costa, then inwards parallel to outer margin : first at one-fourth, bent in cell ; median at three-fifths, roundly bent from costa to vein 2 ; outer at three-fourths, angled on vein 6, and marked darker on veins ; an annular cell-spot, the centre yellowish with dark edge ; purplish marginal spots between veins ; fringe concolorous.

Hindwing : like forewing ; the cell-ring larger.

Underside paler, the disc of forewing greyish ; outer line marked by vein-dots.

Face brownish ; palpi greenish, with terminal segment brownish ; thorax and abdomen dull green ; vertex and antennal shaft white.

Expanse of wings : 25 mm.

1 ♂ from Sapucay, Paraguay, September 1904 (Foster).

Apex of forewing acute ; outer margin oblique, without crenulation ; hindwing toothed at vein 4, with minute crenulations ; hindtibiae with terminal spurs only. A very distinct species.

65. *Anisodes gracililinea* spec. nov.

Forewing: bone-colour; the lines and shades luteous grey; costa broadly of the same colour; the whole wing with a few very fine dark atoms; all the lines oblique parallel to outer margin: first line very fine, angled sharply in cell, marked by brown spots on veins and in cell; a subcostal brown spot nearer base; cell-spot olive-brown: median shade obscurely dentate, from quite two-thirds of costa to before middle of inner margin; outer line lunulate-dentate, the teeth darker on veins; submarginal line obscure between darker luteous grey shades; black marginal spots between veins and minute dots at their ends; fringe bone-colour.

Hindwing: like forewing, but the cell-spot oval, black-edged, with a white centre.

Underside of forewing with all markings rosy; the base suffused with dull rosy as far as median shade: hindwing pale ochreous with the markings brown-red.

Head, thorax, and abdomen bone-colour; dorsum spotted with black.

Expanse of wings: 36 mm.

3 ♂♂ from Unshi, Huánuco, Peru, 1900 m. (Hoffmanns).

Hindtibia of ♂ with a median spur. Wings shaped as in *lanccaria* Feld.

66. *Anisodes griseomixta* spec. nov.

Forewing: pale yellowish ochreous, finely speckled with blood-red; the inner and outer lines marked by purplish red vein-spots; the inner line, the dentate median shade, and the praesubmarginal shade smoky olive-grey, the last interrupted between veins 3 and 4, and 6 and 7; cell-spot with purplish red edge and white centre; marginal spots large, purple-red; fringe yellow, mottled with reddish beyond veins.

Hindwing: the same, but without inner line.

Underside paler, with all the markings dull rosy; cell of forewing also dull rosy.

Head, thorax, and abdomen yellowish ochreous dusted with red; dorsum with red spots.

Expanse of wings: 26—28 mm.

3 ♂♂, 3 ♀♀, from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

Hindtibia of ♂ with a median spur.

67. *Anisodes ignea* spec. nov.

In shape of wings and in markings exactly like *A. fimbripedata* Wlk., but the ground-colour is bright deep yellow, with the speckling orange-red; first line marked by black spots on folds as well as on veins; median shade diffuse, marked with dull smoky olive, dentate throughout, and incurved below vein 4; outer line marked by black points on veins; submarginal line hardly marked, but preceded by an interrupted band of smoky olive; marginal spots black; fringe deep orange.

Underside dull fulvous, with all markings darker.

Head and thorax deep yellow and orange; abdomen paler yellow, with the dorsum streaked with orange; hind femur and tibia fringed with deep yellow hairs; tibia with terminal spur only.

Expanse of wings: 40 mm.

1 ♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

68. *Anisodes khakiata* spec. nov.

Forewing: bone-colour, covered with sandy brown speckling; crossed by two lines of the pale ground-colour, curved more or less parallel to the outer margin, from one-third and three-fourths of costa to one-third and two-thirds of inner margin respectively, the first edged outwardly, the second inwardly with brown; the first line is acutely angled outwards on the subcostal vein; cell-spot pale with dark edging; black marginal spots between the veins: fringe pale, with an interruptedly brownish base; veins slenderly pale.

Hindwing: like forewing; the basal area rather paler; outer line bulged outwardly in middle as in forewing.

Underside of forewing washed with dull rosy; costal and marginal areas speckled with pale; outer line dentate-lunulate, paler-edged; cell-spot grey, diffuse; marginal lunules dull rosy; fringe yellowish: hindwing ochreous speckled with dull rosy; markings as in forewing.

Head, thorax, and abdomen sandy brown, the last with a pale dorsal stripe; palpi, face, and forelegs reddish.

Expanse of wings: 30 mm.

3 ♂♂ from Cuzhi, Huánuco, Peru, 1900 m. (Hoffmanns).

Allied to *Anisodes fulgurata* Warr., but without the zigzag marginal lines.

69. *Anisodes latifasciata* spec. nov.

Forewing: quite pale straw-colour, dusted with minute dark atoms; inner line marked only by three small dark spots on the veins; cell-spot a flattened oval, the centre whitish with a dark ring; median shade sharply dentate and sinuous, from two-thirds of costa to middle of inner margin; outer line lunulate-dentate, below costa acutely dentate, from five-sixths of costa to two-thirds of inner margin; space between these lines deep red to vein 5, with some scattered brown-red scales above, where the lines are more conspicuous; the praesubmarginal and marginal shades marked by deep red blotches beyond cell separated by two lunules of the pale submarginal line; some slight reddish marginal spots between veins and smaller ones at the vein-ends; fringe straw-colour.

Hindwing: with basal line slightly marked; the red fascia as in forewing to vein 5, the part above with very slight scaling; no red blotches beyond cell in the marginal area.

Underside glossy straw-colour, with traces of the fascia, lines and blotches, all purplish grey; costa of forewing yellowish with grey dusting near base, which is also spread over the whole base of wing; cell-spot distinct.

Head, thorax, and abdomen straw-colour; top of face pale brown; a reddish spot at back of vertex in the middle; a pair of spots on thorax, and reddish blotches in front of each segment of dorsum.

Expanse of wings: 38 mm.

1 ♀ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

70. *Anisodes parciscripta* spec. nov.

Forewing: sandy yellow, covered with coarse grey speckling; the lines formed of dark grey speckles; the first indistinct, at one-fourth, bent in cell; median shade from two-thirds of costa to middle of inner margin, diffuse and slightly

waved, the inner edge touching a small snow-white cell-spot; outer line lunulate-dentate, the teeth marked darker on the veins; black marginal spots between veins; fringe concolorous, mottled with grey.

Hindwing: without first line.

Underside yellow, very sparsely speckled; the median shade and outer line distinct on both wings, purplish grey; base of forewing and costa suffused and sprinkled with purplish grey.

Head, thorax, and abdomen concolorous with wings; face deep brown.

Expanse of wings: 40 mm.

1 ♀ from Agualani, Carabaya, Peru, 9500 ft., August 1904, dry season (Ockenden).

71. *Anisodes parvidens* spec. nov.

Forewing: bone-coloured, finely speckled with olive and reddish; costal and outer marginal areas tinged with olive teneous: the lines of the same hue: inner line at one-fifth, obscure, bent in cell, and marked by dark points inwardly on veins; median shade obscurely dentate, oblique from two-thirds of costa to before middle of inner margin; outer line fine, lunulate-dentate, the teeth marked by purple spots on veins; praesubmarginal shade olive-grey, interrupted above and below middle; submarginal line pale, waved; purplish marginal spots between the veins, and minute dots at their ends; fringe bone-colour; cell-spot minute.

Hindwing: like forewing; but the cell-spot larger, irregularly oval, with purplish edging and whitish centre.

Underside bone-colour; the cell-spots and outer and marginal series of spots brown-red; forewing from base to median shade dull grey with a faint reddish tinge; slight speckling along costal and outer margins.

Head, thorax, and abdomen bone-colour; top of face brownish; thorax and dorsum spotted with blackish.

Expanse of wings: 26 mm.

1 ♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

The tooth at vein 4 of hindwing is slightly prominent; hindtibia with one median spur, and no fringe.

72. *Anisodes radiata* spec. nov. and ab. *connexa* nov.

Forewing: yellowish ochreous, thickly speckled with rusty brown, sometimes with a redder tinge; inner line very undefined, but marked by dark dots on veins; median shade nearly straight, diffuse and oblique, from two-thirds of costa to before middle of inner margin, just beyond the cell-spot, which is brown-edged with a centre of pinky white scales; outer line parallel to outer margin, from four-fifths of costa to two-thirds of inner margin, lunulate-dentate, the dark brown teeth showing clearly on a paler band of yellow ground-colour following it; submarginal line interrupted, the shades preceding and following it sometimes conspicuously brown and well defined; marginal spots dark brown, sometimes placed in pale yellow marginal blotches; fringe yellow.

Hindwing: the same; the cell-spot somewhat larger.

Underside less speckled, with the lines and bands rosy-tinged; the base of forewing dull rosy; inner margin whitish; cell-spots of both wings deep rosy.

Head, thorax, and abdomen like wings; face with a dull rosy bar at top; forelegs reddish in front.

Expanse of wings: 38—40 mm.

3 ♂♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

A third example from the same locality, to which I give the name of *ab. connera*, is slightly smaller (35 mm.). It is distinguished by having in both wings the median and praesubmarginal shades dark purplish brown, broad and diffuse, connected by a similarly coloured streak running from cell-spot, the centre of which is silvery white, along vein 5 to margin; the rest of each wing is yellower, being less densely speckled, than in the typical form; the teeth of the outer line and the marginal spots all well defined. On the underside the markings are deeper rosy and broader.

The species is closely allied to *A. lancearia* Feld.; but the forewings are less acute, and the hindmargin, and consequently the transverse markings, less oblique; the ground-colour also is a warmer yellow.

73. *Anisodes ruficeps* spec. nov.

Differs from *magnidiscata* Warr., in having the vertex and shaft of antennae concolorous with the rest of body instead of white; also the costal edge of forewing is not paler. In the hindwing the round white cell-mark is slightly larger.

2 ♂♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

Of the same size as, and, except in the above-mentioned points, exactly like a typical ♂ example of *magnidiscata* also from Cushi.

74. *Anisodes scintillans* spec. nov.

Forewing: pale yellow, thickly speckled, and along the costa suffused, with pale olive-brown; the lines accompanied by olive-brown shading; first line from one-sixth of costa to one-fourth of inner margin, angled on subcostal vein at one-third, then oblique inwards; the olive shade not visible above the subcostal vein and marked on its inner edge with purple-brown spots on the veins; the spot on costa from which the line starts at one-sixth is preceded by another obliquely below it on subcostal; median shade thick, olive-brown, from two-thirds of costa to just beyond middle of inner margin, slightly bent at vein 6, passing a little beyond the cell-spot, which is brown-edged with a centre of lustrous silvery scales; outer and submarginal lines curved parallel to outer margin; the outer lunulate-dentate, the brown teeth on the veins shown up by a pale band of unspotted yellow, as in *A. radiata*; the submarginal interrupted to form pale yellow spots preceded and separated by a band of dark brown; a row of brown marginal spots; fringe yellow, flecked with brown; a horizontal brown shade from cell to margin between veins 4 and 5.

Hindwing: like forewing, but the cell-spot distinctly larger, the metallic scales grey.

Underside pale yellow with all the markings and speckling dull rosy.

Head, thorax, and abdomen pale yellow, washed with deeper; top of face brownish; collar dull red, and a spot at back of the pale yellow vertex; pairs of similar spots on thorax and base of abdomen; antennae yellow, the shaft red-speckled; abdomen at sides and beneath and legs yellow ochreous; forelegs red.

Expanse of wings: 44 mm.

1 ♂ from Agualani, Carabaya, Peru, 9500 ft., August 1904, dry season (Ockenden).

A handsome species with ample wings; hindlegs with femora and tibiae fringed with yellow hair; the tibiae with a median spur.

75. *Anisodes spiculifer* spec. nov.

Forewing: straw-colour, speckled with fine violet scales, which are denser along costal area; lines purple-brown, thick and concise; first vertical at one-fourth; outer curved parallel to outer margin and slightly irregular, from beyond three-fourths of costa to two-thirds of inner margin, followed closely by a faint wavy violet line; cell-spot small, silvery white, with dark edge; from beyond it along vein 5 a spearhead-like purple mark runs into fringe, swollen in the inner half of marginal area beyond outer line, and there containing a bed of silvery white scales; some dark purple spots on margin between veins, joined by a partial marginal festoon; fringe concolorous, mottled with faint violet.

Hindwing: similar, the cell-spot stronger.

Underside yellower, the forewing rosy-tinged in cell and along costa; inner lines faint; outer line with the outer arm dark and wavy, the inner dull rosy; the mark on vein 5 dull rosy.

Head, thorax, and abdomen like wings; upper part of face rosy; the dorsum rosy-tinged; palpi externally and forelegs in front deep rosy.

Expanse of wings: 38 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

Hindtibia with a middle spur.

76. *Cnemodes viridiplaga* ab. *vacuata* nov.

Like typical *viridiplaga* Wlk., but without the green discal markings; the cell-spot represented in both wings by a short dark line; the median shade is reddish grey and indistinctly double. From *C. indignaria* Guen., which it resembles superficially, it may be at once distinguished by the difference in the outer line and in the cell-marks.

Expanse of wings: 38 mm.

1 ♂ from Sapucay, Paraguay, September 1904 (Foster), accompanied by typical *viridiplaga* and several examples of *indignaria*.

77. *Deinopygia devestita* spec. nov.

Forewing: ochreous, tinged with grey; first line blackish, curved, at one-fourth; outer line at two-thirds, squarely projecting between 3 and 4, then incurved, preceded by a dark fuscous uniformly broad band; a broad grey submarginal cloud in the pale marginal area; fringe slightly darker than ground-colour.

Hindwing: without basal line; outer line of band projecting at both 6 and 4.

Underside ochreous, with pale greyish brown suffusion; the lines obscurely shown.

Face and palpi dark brown; vertex and antennae whitish; thorax and abdomen ochreous.

Expanse of wings: 15 mm.

1 ♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

In this species the lateral tufts are present at the base of the lengthened anal segment, and the inner margin of hindwing is folded and furrowed, but the outer margin of the hindwing is simply rounded, without excision or sinns.

78. *Dichromatopodia canidiscata* spec. nov.

Forewing: dark purplish brown, crossed by two fine yellowish lines; the inner slightly outcurved at one-fourth; the outer from three-fourths of costa to two-thirds of inner margin, bent at right angles on vein 6, and vertical above inner margin; fringe hardly paler, beyond a dark marginal line; cell-spot dark, followed by a curved patch of grey scales.

Hindwing: without inner line; outer line bluntly bent on vein 6; cell-spot as in forewing.

Underside dull liver-colour, dusted with whitish; outer lines and cell-spots dark.

Head and thorax purple; abdomen greyer.

Expanse of wings: 26 mm.

1 ♂ from Sapucay, Paraguay, September 1904 (Foster).

This and the following species from Tucuman appear to me to be quite distinct from any of those described from Central America or from the northern parts of South America.

79. *Dichromatopodia concomitans* spec. nov.

Forewing: greyish liver-colour, deeper in the central area and especially in its outer half, where a dark median shade runs near and parallel to outer line; lines very fine, pale; first vertical, but faintly outcurved, at one-fourth; outer from four-fifths of costa to three-fourths of inner margin, excurved from costa to below vein 2, then vertical; cell-spot a short grey line; a fine dark marginal line interrupted at the veins; fringe concolorous.

Hindwing: with no inner line, and the cell-spot black and round; the rest as in forewing.

Underside brick-red, paler in hindwing; cell-spots black, distinct; outer line reddish brown.

Head and thorax dark; abdomen paler, each segment ringed with dull blackish.

Expanse of wings: 26 mm.

1 ♂ from Tucuman, Argentina, 1100 m., January—February 1905 (Steinbach).

80. *Dysephyra flavida* spec. nov.

Forewing: yellow, slightly dusted with grey-brown; the lines grey, very obscure; the inner at one-fourth, vertical; the outer and submarginal lunulate-dentate, parallel to each other and the outer margin, at two-thirds and five-sixths; fringe yellow; a slight brown-grey cell-spot.

Hindwing: similar, but without inner line.

Underside uniform dull yellow; inner margin of forewing whitish; lines scarcely visible.

Face and palpi whitish below, brownish above; vertex and antennae brown; thorax and abdomen yellow; abdomen below, pectus, and legs dull yellowish.

Expanse of wings: 30 mm.

1 ♂ from La Union, Caura R., October 1902 (Klages).

81. *Emmiltis serratilinea* spec. nov.

Forewing: chalk-white, speckled with black in basal third; crossed by five blackish serrated lines; the first antemedian, angled in cell, followed by the distinct black cell-spot; the other four at equal distances apart and parallel to one another, the outermost somewhat interrupted; a row of black marginal lunules; fringe white.

Hindwing: like forewing, with one antemedian and only three postmedian lines.

Underside white, with the markings hardly showing; veins of forewing dark.

Face and palpi black, whitish below; collar brown; vertex and antennal shaft white; thorax and abdomen white peppered with dark, the abdomen with dark belts.

Expanse of wings: 25 mm.

1 ♂ from La Union, R. Huacamayo, Carabaya, Peru, 2000 ft., January 1905, wet season (Oekenden).

82. *Haemalea nigricostata* spec. nov.

Forewing: cream-colour, finely speckled with rufous; costa purplish at base, thinning out beyond middle; lines brownish, faint; first near base, bent in cell; second, median, at nearly two-thirds, vertically waved; outer line quite near outer margin, thick from costa, bent outwards in middle, but slightly insinuate beyond cell; distinct purplish marginal lunules between veins; fringe cream-coloured; cell-spot purple.

Hindwing: without first line; the anal angle strongly produced.

Underside cream-colour, with an iridescent pearly gloss; cell-spot, outer, and marginal lines of forewing distinct.

Face and palpi brown above, pale below; vertex snow-white; collar purple; thorax and abdomen like wings.

Expanse of wings: 21 mm.

2 ♂♂ from Dominica, West Indies (E. A. Agar).

83. *Haemalea subcuprea* spec. nov.

Forewing: dark liver-colour, slightly grey-tinged along costa; crossed by three darker lines, the first at one-third, the third at two-thirds, the median halfway between, beyond a black cell-spot; submarginal line shown only by the darker shade preceding it; dark marginal spots; fringe with apical half rufous.

Hindwing: without inner line; the basal area paler.

Underside coppery brown, darker in forewing, with all the lines shown.

Head, thorax, and abdomen like wings; fillet pale; abdomen beneath shining whitish.

Expanse of wings: 25 mm.

3 ♂♂ from Pozuzo, Huánuco, Peru, 800—1000 m. (Hoffmanns).

84. *Haemalea umbrimedia* spec. nov.

Forewing: pale lilac grey, dusted with darker; lines and markings dark brown; first line at one-fourth, angled on subcostal vein, then slightly oblique inwards; median line at two-fifths, parallel to it, followed by a diffuse reddish

brown shade which fades off before outer line; the dark cell-spot close beyond the line; outer line from three-fourths of costa to four-fifths of inner margin, wavy, insinuate on both folds; praesubmarginal shade dark brown, darkest beyond cell and submarginal interval, faint and linear above 6; extreme margin whiter; marginal line thick, deep brown; fringe reddish grey.

Hindwing: with inner third grey; outer area, beyond the straight antemedian line, suffused with reddish brown; outer line dentate-lunulate; submarginal only marked at anal angle by a double brown spot.

Underside pinky white; marginal line dark brown; outer line marked in forewing.

Face, collar, and shoulders red-brown; vertex white; thorax, patagia, and abdomen pale grey.

Expanse of wings: 30 mm.

2 ♂♂, 1 ♀ from La Oroya, R. Inambari, Carabaya, Peru, 3100 ft., September, 1904, dry season (Ockenden).

The ♂ is paler than the ♀, with the middle shade quite narrow.

The species is closely related to *H. comminuta* Warr. from French Guiana.

85. *Hemipterodes brunneosticta* spec. nov.

Forewing: dull brown, covered with pale yellowish striations; cell-mark linear, white; lines coarse, purplish brown; first at one-fourth, vertical; second from middle of costa to before middle of inner margin, approaching first line, followed on inner margin by an indistinct pale patch with a dark border round it; outer line from three-fourths of costa to above middle of outer margin, paler-edged, and cutting off a pale apical triangle; marginal line red; fringe yellowish.

Hindwing: uniformly strewn with red-brown speckles on a pale ground; an indistinct dark middle shade; cell-spot linear, white.

Underside rufous ochreous, with dull purplish brown median shades and marginal borders.

Face and vertex brown; thorax and abdomen speckled, brown and ochreous.

Expanse of wings: 26 mm.

1 ♂ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Ockenden).

86. *Heterophyra luridata* spec. nov.

Forewing: flesh-colour, dusted with bright red, but this paler ground-colour is much restricted by patches of smoky fuscous suffusion; costa broadly fuscous; the whole of inner margin beyond basal line below vein 2 fuscous, joined to the costal streak by a narrower band across the discocellular; a quadrate apical fuscous blotch reaching vein 4, but containing a smaller square at apex flesh-colour; first line at one-fourth, wavy, red, preceded by two red dots, one in cell and one below it; median line at two-thirds and outer at three-fourths, parallel to each other, lunulate-dentate, insinuate beyond cell and incurved below middle; marginal line dark fuscous; cell-mark linear, brown, along the discocellular; fringe worn.

Hindwing: wholly smoky fuscous, except a narrow basal area and a trilunate space from anal angle to vein 3 along outer margin; the three lines all present, but obscure; cell-spot formed of two black dots at the ends of discocellular.

Underside reddish ochreous, with traces of the lines.

Head and dorsum fuscous; thorax and anal segment of abdomen flesh-colour; tufts of hindtibiae reddish ochreous.

Expanse of wings: 30 mm.

1 ♂ from La Oroya, R. Inambari, Carabaya, Peru, 3100 ft., September 1904, dry season (Ockenden).

Near to *H. commaculata* Warr., but certainly distinct.

87. *Heterephyra rubella* spec. nov.

Forewing: pale brick-red, dusted finely with grey; lines olive-grey, obscure; first at one-fourth curved; outer and submarginal at two-thirds and five-sixths, lunulate-dentate, parallel to outer margin; cell-mark small, white, with a grey edge; marginal line fine, deeper red, interrupted at veins; fringe concolorous.

Hindwing: without inner line.

Underside uniform pink; inner margin of forewing white.

Face and palpi above brown-red, palpi below white; fillet and antennae white; thorax and abdomen above like wings; abdomen below white.

Expanse of wings: 26 mm.

1 ♀ from Dominica, West Indies.

88. *Hyriogona mixta* spec. nov.

Forewing: thinly scaled, yellow, speckled throughout with red, with traces of inner, median, and outer red lines, but all very shadowy and indefinite; beyond the outer line an interrupted submarginal cloud; fringe yellowish.

Hindwing: thickly speckled with red, but without lines.

Underside almost entirely dull orange.

Head, thorax, and abdomen like wings.

Expanse of wings: 16 mm.

1 ♂ from Tuguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Ockenden).

Hindwing almond-shaped, blunt-pointed at vein 4; beneath clothed with long rough scales before anal angle.

89. *Lipomelia segmentata* spec. nov.

Forewing: dark brown with a semicircular flesh-coloured patch on basal half of inner margin, and a horseshoe-shaped patch of greyish ochreous at apex between veins 7 and 4, its outside edge containing three small triangles of the brown ground-colour; cell-spot a shining white point; traces of a darker outer line starting vertically from costa at three-fourths; fringe rufous brown.

Hindwing: flesh-coloured ochreous, speckled with black; a dark brown marginal border, beginning wide from before apex and narrowing below 6 to a point at anal angle, with a fine wavy line inside it from vein 6.

Underside of forewing deep flesh-colour, darker towards outer margin; the semicircular patch at base of inner margin pale; hindwing rather paler, with the brown marginal border as above.

Thorax and abdomen flesh-colour; shoulders and head brown.

Expanse of wings: 26 mm.

1 ♂ from Pozuzo, Huánuco, Peru, 800—1000 m. (Hoffmanns).

Paradmata gen. nov.

Forewing : costa curved; apex rectangular; outer margin crenulate, vertical to a slight tooth at vein 4, thence oblique.

Hindwing : with crenulate outer margin, toothed at 6 and 4, with a sinus between.

Antennae of ♂ thickened and flattened, the segments triangular, ending in tuberculate fascicles of cilia; palpi porrect, thickly haired, terminal segment obscure; hindtibia aborted; tongue and frenulum present.

Neuration: forewing, cell half as long as wing; discocellular vertical above, oblique below; first median nervule at five-eighths, second well before end of cell; radials normal; 7, 8, 9 stalked; 10, 11 free, 10 anastomosing with 11 and 8, 9, forming a double areole: hindwing with veins 6, 7 from end of cell, vein 3 from before lower end.

Type: *Paradmata perstrigata* spec. nov.

99. **Paradmata perstrigata** spec. nov.

Forewing : pale lilac-grey; first line denoted by seven black dots, the three regular ones on the veins, one on each fold, one subcostal, and one on inner margin; cell-spot small, shining white; median line lunulate-dentate, from beyond middle of costa incurved to middle of inner margin; outer line at five-sixths, parallel to outer margin, marked by black dots on veins, below 2 forming a fine line; the two submarginal shades beyond this line form two oblique black-brown streaks not reaching vein 3, and a roundish brown blotch, followed by a diffuse shade, beyond cell: a row of black-brown marginal crescents between veins: fringe concolorous, with a black-brown middle line, also forming crescents.

Hindwing : coarsely speckled with black-brown; cell-spot white, with a brown edge; a thick black-brown streak from costa to inner margin just beyond it; outer line lunulate-dentate, most distinct towards each margin, and marked by black dots on veins; the submarginal shades marked by black-brown lunular blotches, interrupted between veins 2 and 4; marginal black marks between veins, and black spots beyond them in the fringe.

Underside of forewing dark grey with a reddish tinge, of hindwing whitish with grey margin; cell-spots black; middle, outer, and submarginal lines shown.

Face and palpi black-brown; vertex, thorax, and abdomen like wings; dorsal segments each with a pair of thick brown marks.

Expanse of wings: 30 mm.

1 ♂ from Sapucay, Paraguay, October 1904 (Foster).

Parazeuxis gen. nov.

Differs from *Anisodes* Guen. in the structure of palpi and hindlegs; the palpi are porrect, the second segment thick and hairy, the terminal quite short; the hindlegs are aborted; the femur, tibia, and tarsus being all short and of about equal length, fringed with pale hairs, which on the tarsus form a large spreading brush; from the femoro-tibial joint rises a long slender pencil of hairs. In the forewing veins 7, 8, 9, 10 are stalked from shortly before end of cell and 11 rises some distance before, 10 anastomoses with 11 and again with 8, 9, forming a double areole.

Type: *Parazeuxis punctifera* Dogn. (*Anisodes*).

Pareupithex gen. nov.

This genus is allied to *Deinopygia* Warr., but differs as follows :

In the hindwing veins 6, 7 are not stalked as in *Deinopygia* ; the genus may therefore be considered as an off-shoot of *Emmiltis* rather than of *Ptychopoda*.

The forewing has the anal angle produced into a hook, clothed with a bed of rough curled hairs, the inner margin below also having a tuft of hairs ; outer margin longer than inner margin. The hindwing towards anal angle is similarly clothed with rough hairs above and below, the anal angle being produced as a blunt lobe, the outer margin just above it indented only, not excised.

The structure of the hindlegs and of the abdomen coincides with *Deinopygia*.

Type : *Pareupithex cupithecciata* Guen. (*Acidalia*).

91. Tricentra bisignata spec. nov.

Forewing : liver-coloured, with three thick darker lines placed as in the closely allied species *T. quadrigata* Feld. : the two folds marked with bright red, from before first line to median, and extended diffusely to submarginal, the intervals between 2 and 3, 3 and 4 also tinged with red ; a snow-white mark on discocellular swollen below ; fringe and extreme outer margin beyond the straight dark edge of ground-colour, yellow.

Hindwing : similar : the white cell-mark larger and broadened at base along median vein ; another snow-white mark from base along median nearly touching the outer ; cell area between the spots deep bright red, the area beyond and below cell sprinkled with red scales.

Underside dull greyish rosy, with pale marks on discocellulars ; fringe and margin yellow ; outer line alone visible.

Head, thorax, and dorsum liver-colour ; abdomen at sides and beneath, and legs ochreous ; antennae bright red.

Expanse of wings : 24 mm.

1 ♂ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Ockenden).

Distinguished from *quadrigata* Feld. by the double white spot of hindwing.

92. Tricentra citrinaria spec. nov.

Forewing : dull golden yellow, suffused from the base outwards with olive fuscous, the costa except quite close to base and the outer margin remaining yellow ; first line blackish, obscure, from one-fourth of costa to one-third of inner margin, slightly waved, but vertical from the subcostal bend ; second and third lines indicated only by the paler shade of fuscous, starting close together from the subcostal vein at two-thirds, outcurved to vein 4, forming a bilobed projection towards margin below middle, then incurved and waved, the inner to two-thirds of inner margin, the outer to close before anal angle ; a yellowish projection from costal streak over the discocellular ; a concise fuscous curved streak from costa before apex to middle of inner margin : fringe dull yellow.

Hindwing : with the two outer shades of forewing ; the submarginal streak fine at apex, thickening to anal angle ; cell-spot formed of two white dots, one at each end of discocellular.

Underside dull ochreous in marginal area, suffused with dark violet grey from base to outer shade ; the cell-marks represented by pale spots.

Head and thorax olive fuscous ; abdomen yellow, dorsally tinged with fuscous.
 Expanse of wings : 17 mm.

1 ♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

93. *Tricentra laciniata* spec. nov.

Forewing : dull vinous ; a linear discocellular mark, a slight curved line from costa near base, and the costal margin beyond middle, dull yellow ; outer lunulate line from four-fifths of costa to middle of outer margin, then skirting the margin to anal angle, pale yellow ; fringe (worn) probably yellow.

Hindwing : without first line ; the outer line submarginal.

Underside dull rosy, with the margins broadly, and discocellular lines narrowly, pale yellow.

Head, thorax, and abdomen vinous red.

Expanse of wings : 17 mm.

1 ♂ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Ockenden).

94. *Tricentra mimula* spec. nov.

Forewing : violet, with the markings reddish, but very obscure ; first line simply curved, near base ; outer and submarginal, lunulate-dentate, outcurved above and incurved below middle ; a deep red diffuse cell-spot, containing towards its upper end a brilliant point ; outer margin narrowly and fringe pale yellow, the red running out into the fringe at vein 3.

Hindwing : redder, with traces of the lines ; cell-spot a pale linear mark ; fringe and outer margin yellow.

Underside dull violet ; the outer margins and fringe yellow ; a yellow linear cell-mark visible on hindwing.

Head, thorax, and abdomen violet, the abdomen darker.

Expanse of wings : 22 mm.

1 ♀ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1905, wet season (Ockenden).

Very close to *T. flavistigma* Warr. from British Guiana ; but the costal edge of forewing is not white, and the vertex and antennal shaft are red, not white ; the cell-mark, too, is different.

SUBFAMILY HYDRIOMENINAE.

95. *Anapalta costimaculata* spec. nov.

Forewing : pale grey with a brownish tinge, suffused with darker grey, these tints along the costa forming irregular blackish blotches ; markings much as in *A. psyroides*, but the inner edge of central fascia not so straight, the outer edge not uniformly curved, but flattened above median and lunate only below it ; the band beyond it filled with dull tawny brown ; a short yellowish brown marginal mark from 3 to 4, running out into the fringe at 3 ; the rest as in *psyroides*.

Hindwing : yellow, grey-tinged at base ; the apex and a patch at anal angle dark grey ; cell-spot and outer line marked, the latter more clearly on inner margin.

Underside of forewing fuscous black, with a broad yellow fascia at two-thirds, which below vein 3 is clouded with grey ; a yellowish marginal spot between

3 and 4; the fringe chequered with yellowish: hindwing yellow, with apex broadly and outer margin narrowly black; cell-spot and outer line black; fringe yellowish, mottled with black.

Head, thorax, and abdomen dark grey; the edges of the face, shoulders, and patagia pale yellowish.

Expanse of wings: 35 mm.

3 ♂♂ from Cushi, Province Huánuco, Peru, 1900 m. (Hoffmanns).

Allied to *psyra* Druce and *psyroides* Warr., but clearly distinct.

96. *Anapalta psyroides* spec. nov.

Forewing: pale grey with a yellowish tinge, suffused with darker, sometimes blackish, grey; the lines dark with pale edgings; edge of basal patch and inner edge of central fascia each margined with a pale grey line; the latter angled in cell, then vertical; central fascia with two darker bands on either side, containing between them a large black cell-spot; its outer edge lunate and regularly curved from three-fifths of costa to two-thirds of inner margin; the pale band following it is yellowish grey from costa to vein 3; submarginal line irregularly waved, whitish, with blackish grey shades on each side, the outer becoming again paler grey before the distinct black marginal line, which is interrupted by white spots at the vein ends; fringe dark grey, paler externally.

Hindwing: pale yellow, with apex and inner margin dull black, the latter interrupted above anal angle by a yellowish line; the yellow ground-colour reaching outer margin between 3 and 4; cell-spot and fringe blackish.

Underside of forewing blackish, with a broad yellowish fascia from costa to vein 3; the cell, especially along subcostal vein, marked with yellow; costa before apex white: hindwing as above, the fringe chequered dark and light.

Head, thorax, and abdomen dark and light grey, the head parts somewhat tinged with yellowish.

Expanse of wings: 34 mm.

2 ♂♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

This is quite distinct from the Central American *A. psyra* Druce.

97. *Calocalpe furva* spec. nov.

Forewing: brownish fuscous, crossed by numerous waved lines, parallel to outer margin; the central fascia rather darker, narrow, and with the outer edge not angled at veins 4 and 6; the cell-spot black, near the inner edge; submarginal line pale, internally dark-edged, swollen into a larger pale spot on submedian fold; marginal black lunules between veins: fringe pale grey.

Hindwing: browner, with the lines obscure, except the pale submarginal.

Underside paler, browner grey, without speckling; cell-spots black, followed by three curved dark postmedian lines; submarginal line of forewing distinctly pale, with a dark shade preceding it.

Head, thorax, and abdomen concolorous with wings.

Expanse of wings: 48 mm.

1 ♂ from Sapucay, Paraguay, December 1902 (Foster).

In the shape of outer line this species agrees with *Scotosia cunctata* Snell, which I have not seen; but that is much smaller, and no mention is made of any fringe of hairs along the fold of hindwing, which could hardly have escaped notice.

98. *Coenocalpe crypsichroma* spec. nov.

Forewing: delicate pale grey, crossed by many fine and faintly marked lunulate lines; of these two are curved and limit the slightly darker basal field; the inner edge of central fascia from nearly one-third of costa to one-third of inner margin, also curved; outer edge at three-fourths, lunulate, and bent at middle of wing; this edge is preceded by three or four and the inner followed by one fine waved line; this last and the innermost of the outer series form elongate rings; cell-spot black; the fascia itself is slightly darker grey and is limited by paler grey bands on each side; three fine submarginal lines, that edging the pale band lunulate and marked basewards by grey dots on veins; fringe with basal half darker grey, dotted beyond veins, apical half whitish tipped again with grey.

Hindwing: whitish, with slight cell-spot and traces of a darker outer line; fringe greyish.

Underside of hindwing wholly, of forewing along costal area tinged with bright brick-red; cell-spots and outer lines well marked.

Head and thorax grey like forewing; abdomen whiter, beneath reddish-tinged.

Expanse of wings: ♂ 30 mm.; ♀ 25 mm.

1 ♂, 1 ♀ from Limbani, Carabaya, Peru, 9500 ft., April—May 1904, dry season (Oekenden).

The ♀ is throughout rather darker than the ♂, and decidedly smaller.

99. *Erebochlora chamaeleonis* Schaus and ab. *pallidistria* nov. and *subinnotata* nov.

In his description of this species, *Tr. Am. Ent. Soc.* xxvii. p. 271 (1901), Mr. Schaus mentions the outer pinkish band from costa to vein 4 of the forewing beneath, but not the pink costal blotches which precede it. Out of ten specimens, 7 ♂♂, 3 ♀♀ (eight from Limbani and the other two from Tinguri, Carabaya), all but one show these plainly. It is evident, even from this short series, that the species is very variable. The white edging of the outer lunulate line, spoken of by Schaus, is often absent; on the other hand, some examples show a thin or thick white crescent in the middle of the cell, sometimes followed by other pale marks. The insect called by me *E. albistrotata* (*Noc. Zool.* xii. p. 331) is evidently an extreme example of this aberration; another, which may be known as *pallidistria*, has a broad pinkish green smear from base running through cell to submarginal line, obliterating the markings; in one example this streak starts from middle of cell only, and is interrupted beyond cell. In the ♀♀ the dark pink or pale-edged line on the underside of the hindwing runs in the middle of a broad pink band, and this is the case likewise in one ♂. On the other hand, one ♂, ab. *subinnotata*, has the whole underside olive fuscous without any trace of pink or white scales along costa.

100. *Eriopygidia*? *leucocyma* spec. nov.

Forewing: deep olive-green; the lines white, broad; first at one-sixth, vertical, subangulated; second at one-third, angled outwards on median vein, obscurely lunulate-dentate; third at two-thirds, lunulate-dentate, inangulate beyond cell, outcurved between veins 5 and 2; submarginal line much interrupted, waved and distinct from costa to vein 6, where it is joined by an oblique white streak from below apex, marked by faint lunules below middle; veins white at margin; fringe green.

Hindwing: orange-red; the base as far as end of cell and inner margin to postmedian line dull olive-green; the postmedian line thick and waved from inner margin to vein 4; cell-spot dark olive; apex and anal angle with some olive scales; fringe greenish grey.

Underside dull fulvous and grey, the fulvous predominating in forewing; both wings with white postmedian line, within which the ground is greyer.

Head and thorax dark green; abdomen greenish ochreous; face paler, probably faded.

Expanse of wings: 52 mm.

1 ♀ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1905, wet season (Oekenden).

A handsome species, placed provisionally in *Eriopygidia*.

101. *Eriopygidia miniata* spec. nov.

Forewing: olive-green, with darker green markings; basal patch small, edged by a pale green line; inner edge of central fascia waved and straight, from beyond one-third of costa to near middle of inner margin; outer edge from two-thirds of costa to two-thirds of inner margin, insinuate beyond cell and forming a rather sharp outward tooth between veins 3 and 4, and blunter ones obliquely below; the fascia is traversed by a median dark shade beyond the black cell-spot, and is marked by a white costal spot at the commencement of both outer lines; band before fascia wide, with a darker green centre; submarginal line pale, waved, preceded by a series of dark green lunules, and followed by dark green patches at apex, beyond cell, and above anal angle; a pale green oblique apical streak; pairs of large black marginal spots at the vein ends, coalescing above middle to form lunules between veins; fringe rufous green, chequered with black.

Hindwing: bright orange-red, tinged broadly along inner margin from base to outer line with olive, and with an interrupted series of similar coloured blotches along hindmargin; cell-spot olive; fringe red.

Underside dull brick-red; cell-spots black; an obscurely marked outer line followed by a paler space; marginal line dark; apex of forewing pale; hindwing greenish along inner margin.

Head and thorax green; face paler, but perhaps faded; abdomen pinkish ochreous, tinged laterally with pale green; abdomen below and legs dull red; foretibiae and tarsi dark fuscous with pale joints.

Expanse of wings: 35 mm.

1 ♀ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., October 1904, wet season (Oekenden).

Nearest to *E. intensa* Warr. (*Spargania*), but the red hindwings of quite a distinct tinge, the underside of wings without any yellow.

Two other species described by me as *Spargania* should be removed to *Eriopygidia*—viz. *colorata* and *semipallida*. The latter appears to be identical with *C. cyllene* Druce, and the name must sink.

102. *Eriopygidia rubriviridis* spec. nov.

Forewing: olive-green, with various shades and lines of darker green; basal patch small, dark green, passing into blackish green, edged by a fine curved whitish line, dentate inwards on the veins; edges of central fascia pale whitish green,

lunulate outwards and dentate inwards, from costa at two-fifths and three-fifths, nearly meeting just beyond middle of inner margin; the outer edge curved throughout; the fascia itself dark green with lines of blackish green and a blackish cell-spot; the broad space between basal patch and central fascia dark green in the middle, passing into paler yellowish green with darker lines at the sides; space beyond central fascia olive-green, with three waved dark green lines, the outermost blackish green, before the whitish irregularly lunulate submarginal line, which is followed by blackish green patches in places in the dark green marginal space; a marginal row of large black lunules, those below the middle each divided into two; a paler green oblique shade from apex; fringe olive-green, with darker base.

Hindwing: with inner marginal half olive fuscous; a broad dark brownish marginal fascia; rest of wing reddish orange, interrupting marginal fascia in middle; a row of marginal black lunules; fringe greenish black.

Underside dull greyish orange; outer edge of central fascia marked by a whitish shade; apex of forewings thickly strewn with blackish scales, becoming grey towards apex itself; cell-spots blackish; an interrupted marginal black line; fringes greenish grey.

Head, thorax, and abdomen pale greenish.

Expanse of wings: 44 mm.

2 ♂♂ from River Tanampaya, Bolivia, 1894 (Garlepp).

103. *Hammaptera definita* spec. nov.

Forewing: whitish dusted with grey; the lines and shading dark fuscous; basal patch small, pale, edged by two dark straight lines; band following broad, its centre filled up with grey, edged outwardly by a dark line, separated by a pale band with grey centre from the central fascia; this has its inner edge curved at one-third; the outer edge, which projects bluntly at veins 6 and 4, at two-thirds, concave beyond cell, and incurved below middle, distinctly defined outwardly by a white dark-margined line; the fascia dark fuscous, containing a dark cell-spot and traces of lines; a broader pale band edged by another blackish line precedes the dark marginal area, which is traversed by a pale waved submarginal line; pairs of small dark dots at the ends of the veins; fringe dark above, paler below.

Hindwing: whitish, becoming grey along outer margin and slightly along inner margin also.

Underside whitish, grey-speckled to outer line, which is followed by a broad pale band, beyond which the marginal area is dark, especially the quadrate apical blotch; cell-spots black.

Thorax and abdomen greyish; vertex and face pale ochreous.

Expanse of wings: 26 mm.

1 ♂ from Sapucay, Paragnay, September 1904 (Foster).

The fold on abdominal margin of hindwing is very restricted.

104. *Hammaptera obtusaria* spec. nov.

Forewing: suffused with olive fuscous, the pale ground-colour appearing only beyond outer line and in the edging lines of the basal area and central fascia; all the lines beginning as oblique dark spots on costa, the intervals reddish fuscous; basal patch small, limited by three dark lines edged by a pale one, wavy and

vertical; inner edge of central fascia from one-third of costa, oblique outwards and rounded in cell, then oblique inwards, waved throughout, approaching basal patch on inner margin, and edged by a pale line; the band between fuscous like the fascia; outer edge at two-thirds, bluntly rounded at veins 6 and 4, but not angled; the fascia dark fuscous, paler in centre and traversed by deeper lines, with a black linear cell-spot; pale band beyond fascia edged by a dark lunulate inwardly dentate line; marginal area fuscous tinged with reddish, the submarginal lunules pale-edged, and filled in with dark in lower half of wing; black marginal spots in pairs at the ends of the veins; fringe reddish fuscous.

Hindwing: cream-coloured, grey-tinged at base, with black dashes just above anal angle; black spots in pairs at the vein ends below middle, beyond which the fringe is blackish, becoming pale towards apex.

Underside of forewing dull fuscous, with black cell-spot, pale outer band, and submarginal row of white spots; hindwing whitish, speckled with grey, and with traces of curved lines.

Head, thorax, and abdomen reddish fuscous; the basal dorsal segments pink; the anal white, black tipped.

Expanse of wings: 38 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6400 ft. (Böttger).

The abdominal fold in hindwing is slight.

105. *Opisogonia obtusa* spec. nov.

Forewing: luteous, suffused with pale brown; basal patch hardly darker than ground-colour, edged by a black line at one-sixth; central fascia limited by two brown bands, each containing three crinkled lines, the innermost of the first and outermost of the second blackest; the first is slightly antemedian, the second postmedian and outcurved at costa; below the middle these bands coalesce, forming annuli above inner margin; pale spaces before and after fascia with indistinct darker lines across them; submarginal ill-marked, the lunules followed by black wedge-shaped marks to margin; marginal line crenulate; fringe brownish.

Hindwing: dingy whitish, with a brown flush; a dark curved postmedian line, and traces of other lines along inner margin; fringe like wing.

Underside dull greyish ochreous, dusted with grey-brown; the outer lines and cell-spots marked.

Head, thorax, and abdomen like wings.

Expanse of wings: 42 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

The angle at vein 6 of hindwing is much blunter than in *herrichiana* Snell.

106. *Orthonama densilineata* spec. nov.

Forewing: ochreous tinged with pale brown and crossed by grey lines placed so thickly as all but to hide the ground-colour; lines at base slightly curved, also the two inner lines of central fascia; the outer edge is formed by five straight grey lines, oblique and parallel to outer margin; the central area forms a grey triangle above median, containing the black cell-spot, and is narrowed to a line below middle: the third and fourth of these lines are generally darker than the others; the outermost is edged by a pale line of ground-colour, followed by a grey line dotted darker on the veins; marginal area grey-brown, traversed by a fine,

hardly waved, white submarginal line; a fine dark marginal line; fringe brown-grey, with base and apex paler.

Hindwing: with all the lines repeated, but obsolete towards costa, except the submarginal shades and lines; cell-spot distinct.

Underside thickly powdered with grey; cell-spots black; a broad pale submarginal band between two dark bands.

Head, thorax, and abdomen brownish grey.

Expanse of wings: 26 mm.

1 ♂ and 7 ♀♀ from Limbani, Carabaya, Peru, 9000 to 10,000 ft., February to May 1904; 1 ♂ from Oconeque, July, and 1 ♂ from R. Huacamayo, June of the same year (Oekenden).

In the ♂ the outer edge of central fascia is slightly outcurved at middle. The strongly ciliated, subserrate antennae distinguish the ♂♂ from *Coenocalpe*.

107. *Perizoma camptogrammaria* spec. nov.

Forewing: ochreous grey, paler beyond central fascia; the markings darker grey in the ♀, dark fuscous in the ♂; the usual paler band between basal patch and central fascia of the same tint as the fascia, its edges curved, parallel and waved; central fascia twice as wide on costa as on inner margin, its outer edge wavy and nearly straight above median and with two prominent teeth below it, preceded in upper half by three dark crinkled lines, the lower portion with one line on each side; cell-spot large and dark; beyond the fascia a rather broad pale band, with a fine and a zigzag sandy-grey line, ending in a thin, dark, curved shade filling up the lunules of the submarginal line; veins pale, with dark edges towards margin; margin crenulate, with dark spots; fringe pale, with concise dark mottlings beyond veins.

Hindwing: with basal two-thirds darker grey than marginal third, edged by a darker band, preceded by a line beyond the small dark cell-spot; margin rather darker, with pairs of spots at the vein ends; fringe pale grey.

Underside like upper, but the dark markings much more decided.

Head, thorax, and abdomen grey, much darker in ♂.

Expanse of wings: ♂ 30 mm.; ♀ 35 mm.

2 ♂♂, 1 ♀ from Limbani, Carabaya, Peru, 9000 ft., February and March 1904 (Oekenden).

108. *Perizoma interlauta* spec. nov.

Forewing: white, suffused with dull buff; a purplish fuscous basal patch with the edge concave outwardly, sometimes oblique, crossed by two or three darker lines; a slight brown spot on costa just beyond middle, and a short fuscous streak just before apex; on inner margin two slight brown marks, one at middle, the other near anal angle; cell-spot darker buff; the edges of the buff area are whitish; fringe buff.

Hindwing: dull cream-colour, with some dark markings on inner margin above anal angle.

Underside suffused with smoky brown, darker in forewing; hindwing with black cell-spot and submarginal curved row of dark vein-dots.

Head, thorax, abdomen, and palpi all dark fuscous, like basal patch.

Expanse of wings: ♂ 18 mm.; ♀ 19—23 mm.

1 ♀ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden), type; 1 ♂, 1 ♀ from Santo Domingo, Carabaya, 6000 ft., November 1901, wet season (Ockenden).

Much resembling *P. basiplaga* Schaus from Mexico, for which I have previously mistaken it, but Mr. Schaus assures me that his species is different.

109. *Perizoma strictifascia* spec. nov.

Forewing: ochreous: the shadings fuscous: these are the basal patch, the edge of which is rounded: the centre of the band between basal patch and central fascia, and the central fascia itself, which is twice as broad in cell as on costa and tapers off to a round spot below vein 1, where the lunate edges meet on inner margin: the pale lunulate-dentate dark-centred bands on each side of the fascia have their teeth pointing towards each other; the veins towards outer margin are broadly pale: at the apex is a pale ochreous triangular blotch, the apex of which reaches vein 5, edged inwardly on costa by a fuscous blotch, and outwardly by a fuscous blotch along outer margin: between veins 3 and 4 a white horizontal spot before margin; a row of dark marginal lunules between veins; fringe worn; cell-spot black, distinct.

Hindwing: whitish ochreous, with a dark cell-spot and traces of obscure grey bands.

Underside much duller: the forewing with the markings showing through: hindwing speckled with ochreous, with a dark cell-spot, dark waved postmedian line, and obscure submarginal shade.

Head and thorax fuscous, like markings of forewing: abdomen like hindwing.

Expanse of wings: 30 mm.

1 ♂, 1 ♀ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Ockenden).

The ♀ is darker, with the lines and veins flesh-pink.

110. *Plemyriopsis facetata*.

Phalaapteryx facetata Guen., *Phal.* ii. p. 439 (1857).

Erosia distincta Wlk., xxiii. p. 844 (1861).

Plemyriopsis distincta Warr., *Nor. Zool.* ii. p. 118 (1895).

There can be no doubt that these two species are identical. The coloration is very variable; but I have lately seen a brown specimen answering exactly to Guenée's description; this typical form, however, seems to be of rarer occurrence than those more nearly resembling Walker's *distincta*.

111. *Psaliodes catenifera* spec. nov.

Forewing: deep red-brown: basal patch narrow, edged by a very fine white line, which is acutely angled outwards on subcostal vein, then oblique inwards, forming lunules between the veins, concave outwards; inner edge of central fascia from two-fifths of costa to one-half of inner margin, white, forming lunules concave inwards: the space between the lunules above and below median vein filled up with blackish, the white edges widely divergent on costa and inner margin: outer edge of central fascia at two-thirds, angled outwards on vein 4, uniformly dentate-lunulate; the cell-spot dark; space beyond rather paler, containing

two wavy dentate obscure lines : margin again deep brown before the deep brown fringe, which is tipped with whitish.

Hindwing : silky white, tinged with vinous towards outer margin ; marginal line dark vinous, projecting beyond veins into the whitish fringe.

Underside deep vinous ; costa and apex of forewing purplish fuscous speckled with pale ; the outer and submarginal lines marked on costa by yellow spots : hindwing with a zigzag yellowish submarginal line followed by two more obscure lines ; cell-spots black.

Head, thorax, and abdomen vinous brown, marked with black.

Expanse of wings : 25 mm.

1 ♂ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Ockenden).

112. *Psaliodes duplicilinea* spec. nov.

Forewing : brown ; crossed by inwardly oblique double white lines ; first close to base, slightly curved beneath costa, followed by a very fine, scarcely perceptible, whitish line ; second from two-fifths of costa to middle of inner margin, broad, but not so oblique as the first and third, preceded by a fine white line ; third at two-thirds, broad, followed by a fine line, from which at vein 5 a fine streak runs straight to apex, and another just below it runs out halfway to outer margin, and then to inner margin parallel to outer margin ; a pale, slightly crenulate, marginal line ; fringe brown, darker in basal half ; the brown is deepest along the edges of the lines, and in lower half of wing is slightly freckled with whitish scales.

Hindwing : dingy cream-colour, tinged with brownish along outer margin and fringe, and with a darker blotch at anal angle ; an obscure grey cell-spot and outer line.

Underside of forewing blurred lilac-grey, the costa, apex, and outer margin ochreous speckled with brown ; the lines cream-colour ; an oblique brown streak from apex : hindwing ochreous speckled with brown, with a brown cell-spot, curved central, and waved submarginal line.

Head and thorax dark brown ; abdomen paler brown, with whitish segmental rings.

Expanse of wings : 26 mm.

1 ♂ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Ockenden).

113. *Psaliodes exilis* spec. nov.

Forewing : white, with blackish grey lines and shading ; costa with minute black and white dots ; basal patch and central fascia edged with white lines traversed by a dark thread ; edge of basal patch and inner edge of fascia both curved ; outer edge at three-fifths of costa, roundly bent inwards above vein 4 and upcurved at end of cell, forming three outward curves below median, the lower half of fascia much narrower than the costal ; an ill-defined whitish submarginal line, followed by an equally ill-defined whitish patch on margin between 3 and 4 ; the marginal third powdered with white ; fringe white, chequered with black.

Hindwing : dull dark grey, with obscure dark cell-spot and flexuous outer line, followed by a whitish line, and a second line above anal angle only.

Underside paler, blurred and freckled with white ; both wings with a tawny

brown costal streak before apex reaching to vein 5; cell-spot of hindwing large and marked by brown scales.

Face and palpi fuscous; vertex, thorax, and base of abdomen white; patagia white, banded with fuscous; abdominal segments on dorsum dark grey; legs mottled black and white; antennae annulated black and white.

Expanse of wings: 18 mm.

1 ♂ from R. Huacamayo, Carabaya, Peru, 3100 ft., June 1904, dry season (Oekenden).

An unusually delicate insect for the genus.

114. *Psaliodes nivestrota* spec. nov.

Forewing: brown, peppered all over with white, and crossed by three broad white lines, the edges of which are rather browner; the first curved, close to base; the second oblique, from two-fifths of costa to one-third of inner margin; the third at two-thirds, slightly outcurved and lunulate from vein 5 to 2, traversed towards its outer edge by a brown lunulate line; a darker streak, interrupted by the white lines, through cell and beyond, ending in a diffuse lunate-edged brown patch below apex, above which the beginning of a whitish submarginal line is seen; veins towards margin pale, dotted with brown; fringe (worn) brown and white.

Hindwing: dirty whitish, greyer along margin.

Underside of forewing grey, darker dotted towards costa, with a diffuse orange subcostal streak; hindwing whitish, striated with brown, with a dark cell-spot and sinuous postmedian line.

Head, thorax, and abdomen brown, speckled with white.

Expanse of wings: 26 mm.

1 ♀ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Oekenden).

115. *Rhodomena alterata* spec. nov.

Forewing: like *R. grandimacula* Warr., pale yellow-green, with seven dark costal spots; first at base, second close beyond; from the third, which in *grandimacula* is small, a broad brown somewhat sinuous fascia runs to one-third of inner margin; from the fourth and fifth, which are large, two lines of dark vein-spots run, the outer excurved; the sixth and seventh, which in *grandimacula* are small, are both broad and extend to vein 6, where they are joined together; a slender upright brown blotch at anal angle; fringe green, spotted with brown.

Hindwing: dull grey, with a reddish tinge.

Underside dirty white and smeared with grey, especially in disc of forewing; the costal spots marked; hindwing with dark central line and cell-spot.

Head and thorax pale green; palpi shining blackish green; metathorax brown-black; abdomen ochreous grey.

Expanse of wings: 38 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

116. *Rhodomena grandimacula* spec. nov.

Forewing: very pale yellow green, the costa with only six black spots, the apical one being absent, and the third very small; the fourth and fifth are large and subquadrate; submarginal line marked by a liver-coloured blotch on vein 5, and two smaller ones on each side of vein 2; an oblong black blotch

from base of vein 2 to inner margin, preceded by a spot on median and submedian veins; a small spot at base of veins 3 and 4; fringe pale green with deep brown-black spots beyond veins.

Hindwing: yellowish white; fringe white, with dark spots beyond veins.

Underside duller, pale green; forewing suffused with grey in basal two-thirds, except along costa, where the intervals between the black spots are pale green; outer third pale green with the submarginal spot and line hardly marked; hindwing pale green, with dark cell-spot and curved postmedian line, the submarginal line only partially visible.

Head, thorax, and abdomen pale green; face and vertex paler.

Expanse of wings: 40 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

117. *Rhodomena parcinotata* spec. nov.

Forewing: dark grey-green, slightly darker freckled; costa with seven black marks, four before middle, three beyond; the first at base; the next three giving rise to three outwardly bent obscure lines, the middle one only marked distinctly on inner margin; from the sixth an interrupted subterminal line rises, marked from 6 to 4, and above inner margin; pairs of minute dark dots at the ends of veins; fringe pale green, flecked with darker beyond veins.

Hindwing: pale grey, rather darker along outer margin; fringe paler.

Underside dull greenish grey, paler, more purely green, at apex of forewing; costa with a black triangular mark before apex and a black blotch before it, from which a generally distinct outer and more obscure submarginal shade run across wing, and are repeated on hindwing.

Head and thorax concolorous with wings; abdomen rusty green; palpi, antennae, and metathoracic tuft dark metallic green; face below paler.

Expanse of wings; 40 mm.

2 ♂♂: one from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Oekenden) type; the other from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

118. *Rhodomena purpurissa* spec. nov.

Forewing: pale olive-green along costa and outer margin; costa marked with seven oblique vinous purple blotches, representing bands, separated by similarly shaped green intervals, each traversed by more or less complete streaks of vinous scales; the first dark blotch at base, the second close beyond, the whole base narrowly green; the seventh small, apical, inwardly oblique; the sixth consisting of two elongated lunules continued nearer outer margin as a submarginal band of similarly shaped lunules; below vein 6 and in the lower half of cell the other dark blotches expand into a vinous purple area occupying the whole wing, the green interspaces reappearing along inner margin and as green dots along the median vein; pairs of fine black dashes at margin at the ends of the veins, which are themselves finely lined with black; fringe green, with vinous flecks beyond the veins.

Hindwing: silky white.

Underside pale glossy green, in forewing with a grey-green sheen in basal two-thirds; the costal area and marginal third paler; the third, fifth, sixth and seventh dark costal spots are marked, the fifth being continued as a dark

curved band across wing, and the sixth and seventh coalescing to form a triangle: hindwing with small dark cell-spot, wavy curved outer, and slight submarginal line.

Head, thorax, and abdomen pale green; the thorax and patagia spotted with purple; the dorsum purple-tinged; terminal segment of palpi dark metallic green.

Expanse of wings: 44 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

119. *Rhodomena roseostriata* spec. nov.

Forewing: pale yellowish green, with a broad diffuse rosy stripe along each fold to submarginal line; costa marked with seven large velvety black blotches, of which the middle three project below the subcostal vein, forming parts of irregular black bands which are all interrupted across the cell: the first reappearing as an erect pointed blotch from inner margin at one-fourth, the second as a much larger blotch reaching middle of cell and constricted on submedian fold; the third and fourth as two finer streaks joined below vein 1, the inner long and nearly vertical, the outer bent outwards towards a triangular oblique blotch between veins 4 and 6; beyond this is a large blotch whose pointed upper end touches the apical spot; and from the anal angle rises an irregular black blotch reaching vein 3; marginal black dashes at the ends of all veins except vein 1; fringe yellow-green, with black chequering beyond the veins.

Hindwing: greyish white, with a slight pinkish tinge; a continuous black crenulated marginal line; fringe pale, with darker chequering beyond veins.

Underside of forewing blurred blackish grey, with the apex only green and showing the black costal blotches clear: hindwing blackish grey with black cell-spot and postmedian and submarginal bands, the latter interrupted.

Palpi externally black; face, thorax, and patagia pale green; abdomen greyish ochreous; two spots at top of face, one in centre of vertex, and the bases of shoulders and patagia black; legs all blackish, with pale joints.

Expanse of wings: 44 mm.

1 ♂ from Ococone, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

120. *Rhopalista impuber* spec. nov.

This species, in appearance, is a facsimile of *Rh. undulosa* Warr. from Castro, Parana, Brazil; but in reality the hindwing of the ♂ above is simple, without the characteristic tuft of hairs in the submedian fold; on the underside there is a fringe of hairs along the submedian fold. A more important point of separation is the abnormal neurulation in the ♂ hindwing: the radial rises below the middle of discocellular, and veins 2, 3, 4 rise close together from near end of cell and are shortly curved downwards to the truncate outer margin.

Expanse of wings: ♂ 40 mm.; ♀ 34—36 mm.

4 ♂♂, 2 ♀♀ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

The ♀ has a dark grey submarginal band on the underside of hindwing which shows through above.

Trotocalpe gen. nov.

Forewing: costa arched at base and slightly shouldered at one-fourth, then straight, shortly depressed at apex, which is bluntly rounded; outer margin bluntly

toothed at vein 4, concave above and strongly oblique below, the anal angle scarcely marked; inner margin convex.

Hindwing: with both angles rounded; outer margin faintly elbowed at vein 4.

Antennae lamellate, simple; palpi porrect, long, decumbent; tongue and frenulum present.

Neuration as in *Perizoma*.

Type: *Trotocalpe albilunata* spec. nov.

Allied to *Plemyriopsis*, *Rhinura*, and *Urocalpe*; differing from the two first in the hindwing, from the last in the forewing.

121. *Trotocalpe albilunata* spec. nov.

Forewing: dark lilac-grey with darker, browner, grey markings; basal patch crossed by two pale curved lines and edged by a third which is insinuate between median and submedian veins; at middle of wing a dark fascia, slightly bent inwards below median, edged on each side by a dark line, sometimes with the appearance of two lines; submarginal line biconcave, the elbow in the middle on vein 4 pointing outwards; preceded by a very regularly dentate-lunulate line, the teeth of which point basewards; a dark marginal line; fringe pale grey; all the pale lines marked on costa by a whitish dot.

Hindwing: dark grey, without markings; cell-spot and marginal line dark; fringe pale.

Underside shining purplish brown, the inner marginal area blurred, the markings distinct only towards costa, which is marked by white spots; a white crescent towards outer margin, bisected by vein 6; some pale lustrous scales before the dark marginal line: hindwing frosted with whitish scales, with dark median, postmedian, and submarginal lines; cell-spot with a whitish ring.

Head, thorax, and abdomen grey; palpi and thorax darker.

Expanse of wings: 22 mm.

3 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6400 ft. (Böttger).

SUBFAMILY ASTHENINAE.

122. *Cambogia basaliata* spec. nov.

Forewing: deep yellow, crossed by irregular reddish brown lines; basal patch small, brown-black; lines forming outer band of central fascia dentate-lunulate, the lunules marked with black-brown, those of the outermost line elongated and blacker, projecting on veins 6 and 4 and insinuate between, the space between 3 and 4 filled up with black; the two submarginal shades swollen into blackish brown patches at apex and beyond cell, and less prominently at anal angle; cell-spot large, black; brown marginal dashes at end of veins; fringe yellow.

Hindwing: without the basal dark blotch; cell-spot large and black; the rest as in forewing, but the submarginal dark markings less developed.

Underside like upper, but duller throughout.

Head, thorax, and abdomen deep yellow; face brownish yellow; basal half of patagia and second segment of dorsum black-brown; legs dull yellow.

Expanse of wings: 30 mm.

1 ♀ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

123. *Cambogia cinerascens* spec. nov.

♂. Forewing: ash grey; the lines generally indistinct; inner at one-third, outer at two-thirds, oblique outwards from costa, bent below subcostal vein, then oblique inwards parallel to outer margin, with a median line between them, all wavy; the outer is followed by a wavy yellow line; the space between median and outer lines sometimes darker grey, with an additional line in the middle, all three blackish and lunulate between the veins; the two lunules above and below vein 6 of the outer line often black, with a blackish oblique streak from them into apex; marginal area with traces of two or three lunulate oblique lines; the space between 3 and 4 ash grey, the area above and below it pinkish; a black cell-spot; marginal black dots before fringe, which is glossy pinkish grey with pale base.

Hindwing: with the yellow line central; the basal area dark grey, its outer half darker and edged with dark lines; postmedian and submarginal dark lunulate lines: the marginal area darker grey; the whole outer half of wing slightly pinkish-tinged.

Underside duller; the lines all marked; basal areas up to outer lines grey, beyond paler and pinkish.

Face brown; fillet whitish; vertex, thorax, and abdomen grey; the abdomen paler, but the basal and middle segments much darker.

♀ with the ground-colour yellowish, the grey areas of the ♂ less strongly marked: the lines more numerous and clearer; the paler areas suffused in parts with pinkish and ochraceous.

Expanse of wings: ♂ 30 mm.; ♀ 30—34 mm.

2 ♂♂, 1 ♀ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Oekenden) type; and 1 ♀ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Oekenden).

This last ♀ is smaller, yellower, and less strongly marked.

124. *Cambogia ciocolatina* spec. nov.

Forewing: chocolate-brown; costa with some slight oblique yellowish streaks; the wing crossed by some darker brown lines, of which two limiting a central fascia containing a dark cell-spot are slightly plainer; submarginal line formed of sulphur-coloured striae and speckles, swollen into a round yellow blotch between veins 4 and 6 and a narrower oblong one between 1 and 2; a dark marginal line; fringe yellow and brown.

Hindwing: with the brown more broken up by sulphur-coloured striae, the submarginal line developed into a broad bent fascia; two or three darker lines near base before the black cell-spot; fringe mottled yellow and brown.

Underside with all the colours paler and blurred.

Head, thorax, abdomen, and antennae brown; vertex, abdomen beneath, and legs pale sulphur-colour.

Expanse of wings: 23 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

Hindwing with outer margin crenulate, the sinns beyond cell deeper, the tooth at vein 4 slightly prominent.

125. *Cambogia condensata* spec. nov.

Forewing: like *C. lilacina* Warr., but the lilac-grey diffusion more grey and less lilac, more broken up into broad waved lines, showing the deep yellow ground-colour between, the central fascia below the middle becoming velvety black, the edges of the fascia and basal patch marked with dull lustrous scales; marginal area yellow, with three distinct waved orange lines; fringe yellow; cell-spot black.

Hindwing: wholly yellow; the base with three or four orange waved lines, not lilac-grey as in *lilacina*.

Underside like upper; the forewing, except marginal area, dull purplish rosy.

Face, vertex, and thorax brownish yellow; abdomen yellow with the dorsum dull orange; fillet and antennae snow-white.

Expanse of wings: 26 mm.

1 ♂ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Ockenden).

126. *Cambogia contraversa* spec. nov.

Forewing: yellowish straw-colour, slightly freckled with brown; the lines chocolate-brown; three outwardly oblique slightly curved lines before middle, the first close to base, the third from one-third of costa to middle of inner margin, the middle one from costa halfway between the other two, but approaching third on inner margin; the intervals with less marked brown lines, the middle one forked; beyond the cell-spot three outwardly curved brown lines, all uniting on inner margin with the third antemedian line; the inner two narrow and well curved, the outer line thick and angled on vein 4, thence oblique and straight; three submarginal lines of wedge-shaped marks between veins; the veins slightly brown, especially vein 4; a distinct brown marginal line; fringe yellow, finely dark beyond veins, more thickly beyond vein 4.

Hindwing: with three thick brown antemedian lines, the two inner straight and almost conjoined, the outer angled on vein 4; three brown lines at base before the brown cell-spot; the other lines as in forewing.

Underside paler, with cell-spots and outer lines well marked, the others more obscure.

Face, shoulders, and base of patagia brown; palpi yellow with terminal segment brown; fillet and antennae white; vertex, thorax, and abdomen brownish yellow, the basal and 5th and 6th segments ringed with brown.

Expanse of wings: 26 mm.

1 ♀ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

Forewing with outer margin elbowed at vein 4 and concave above; hindwing toothed at 4.

127. *Cambogia haematodes* spec. nov.

Forewing: bright blood-red, with a curved pale yellow band at one-third, a narrower, more undulated and partially interrupted dentate-lunulate band at two-thirds, and a still slighter submarginal line of the same colour; in the red basal area are a few yellow scratches; the submedian fold yellow, but interrupted in middle between the two bands; the submarginal yellow line throws out on each side lateral yellow streaks between the veins; costal area deeper yellow, the

intervals purple : the central area with some purple scales below middle ; fringe pale yellow.

Hindwing : with a central waved pale yellow band, and some slender yellow streaks before margin ; fringe yellow, tinged with red beyond middle tooth.

Underside with all the tints paler.

Face purple ; fillet, collar, and antennae yellowish ; vertex, shoulders, patagia, thorax, and dorsum blood-red ; abdomen beneath and legs yellow ; forelegs red in front.

Expanse of wings : 26 mm.

1 ♀ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

Outer margin of hindwing deeply crenulate, the teeth at veins 4 and 6 somewhat more prominent than the rest.

128. *Cambogia imitata* spec. nov.

Forewing : pale yellow, crossed by numerous brownish lunulate-dentate lines ; a dull broad grey-brown subcostal stripe, almost reaching costa beyond two-thirds, and a brown stripe along vein 4 to margin ; the cell-spot, the three outer lines of central fascia, and the marginal line dark brown ; the outer edge of fascia is bluntly angled on veins 6 and 4, then oblique inwards ; five antemedian brownish lines, bent above middle, then oblique inwards ; the inner line of central fascia below middle forms annuli with the inner of the three outer lines ; all the veins brownish ; the outer lines diffusely marked ; fringe yellow, spotted with brownish beyond veins.

Hindwing : paler, especially along costa ; before middle a straight band of three dark brown slightly waved lines beyond the black cell-spot, which is preceded by three or four curved brownish lines at base ; outer half as in forewing, but without dark stripes to margin.

Underside duller yellow, with the brown markings all likewise duller.

Head, thorax, and dorsum dark brown ; vertex yellowish brown ; palpi brown ; antennae distinctly annulated brown and white ; abdomen below and legs yellow.

Expanse of wings : 28 mm.

1 ♀ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Ockenden).

Outer margins crenulate ; hindwing bluntly toothed at middle.

129. *Cambogia inconspicua* spec. nov.

Forewing : fawn-colour, grey-speckled ; costa mottled dark and pale ochreous ; lines slightly darker, but very inconspicuous ; a pair near base, curved in cell before the black cell-spot ; an outer and a submarginal line, indistinctly lunulate-dentate, parallel to outer margin ; black marginal dots between veins ; fringe concolorous.

Hindwing : with a black cell-spot, a minutely waved median, and two or three submarginal lines.

Underside rather paler, with all the lines indistinctly expressed.

Thorax and abdomen fawn-colour ; face and vertex ferruginous.

Expanse of wings : 22 mm.

1 ♂ from Dominica, West Indies (E. A. Agar).

130. *Cambogia lavendula* spec. nov.

Forewing: pale lilac-grey; costa marked with contiguous brownish-black spots, indicating the origin of the lines, which are all more or less interrupted along the subcostal area: two antemedian sinuous brown lines, with traces of lines of grey striae between them; cell-spot brown, minute; an outer fascia of three dark-brown crinkled lines, of which the outermost is brownest and angled outwards on vein 4; a submarginal flexuous line, and a large brown blotch on margin between veins 3 and 4; black spots between veins along outer margin united by a fine marginal line; fringe vinous.

Hindwing: with all the lines marked, but more obscurely; the whole wing, except towards costa, dusted with brownish grey; cell-spot black.

Underside of forewing and costa of hindwing suffused with vinous grey, which is deepened towards costa of forewing; all the lines partially marked; cell-spots black.

Head, shoulders, and prothorax dark brown-black; thorax, patagia, and basal segment of abdomen lilac-grey; rest of dorsum suffused with vinous.

Expanse of wings: 28 mm.

1 ♂ from R. Huacamayo, Carabaya, Peru, 3100 ft., June 1904, dry season (Oekenden) type; 1 ♂ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Oekenden).

Forewing with apex produced, acute; outer margin oblique, as long as inner margin; hindwing toothed at vein 4.

131. *Cambogia lucivittata* spec. nov.

Forewing: pale yellow, crossed by three pairs of fine sinuous silvery lines; in the median pair the space between veins 3 and 4 is marked with some brown scales; a short silvery line before apex; a series of fine marginal purple dashes at the ends of the veins; fringe yellow.

Hindwing: with the basal pair of lines absent, but with a red basal spot.

Underside of forewing with costal half rosy, emitting three rosy streaks beyond middle parallel to outer margin and nearly reaching inner margin; hindwing with three fine red lines in outer half.

Face pale olive-brown; fillet white; vertex, thorax, and abdomen yellow; antennal shaft white dotted with red on each segment.

Expanse of wings: 22 mm. and 26 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6400 ft., (Boettger) (type); 1 ♂ from La Oroya, R. Inambari, S.E. Peru, 3,100 ft., March 1905, wet season (Oekenden).

In the smaller example from La Oroya the yellow is rather deeper, the silvery lines are purplish tinged, and each dorsal segment of abdomen is banded with purplish.

Near *C. argentiflata* Feld., but with fewer lines.

132. *Cambogia mediostrigata* spec. nov.

Forewing: grey freckled with reddish brown; the lines thick, reddish brown; two, obscure, close to base; an antemedian at one-third, bluntly bent in cell just before the large black cell-spot, then vertical and outwardly concave; from costa above cell-spot an oblique outwardly convex line to vein 4, thence incurved and

vertical to about middle of inner margin, followed by a similar line, which, however, in its upper half is convex inwardly; two submarginal lines, the inner straight, the outer curved, to vein 4, then incurved parallel to the postmedian lines, the outer very obscure, being crowded out; a dark marginal line, swollen into spots between veins; fringe grey-brown, with the base ochreous; costal edge with pale dots; a horizontal, slightly curved, blackish streak from base running along cell above median vein and between 3 and 4 to outer margin.

Hindwing: with four lines, all parallel and bluntly angled outwards, the first on the median vein, the other three between 3 and 4; the last is very obscure: a black cell-spot on the first.

Underside rufous ochreous, less rufous in hindwing; all the lines marked.

Head, thorax, and abdomen concolorous with wings; the dark streak of forewings is continued across the middle of patagia and thorax.

Expanse of wings: 22 mm.

1 ♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

133. *Cambogia nigriceps* spec. nov.

Forewing: wood-brown; the lines dark grey, all swollen laterally on costa into blackish coalescent blotches, so that the costal area appears dark; between veins 3 and 4 the outer line and submarginal shades are swollen into black blotches and continued interruptedly dark to inner margin and anal angle; two slight lines close to base and an antemedian, bracket-shaped one at one-fourth; beyond the black cell-spot two lines forming the outer band of central fascia run, oblique outwards from costa to vein 6, vertical to below 4, then waved inwards, both more or less blackened; two submarginal lines, also oblique outwards to vein 7, then in the main parallel to the outer lines; black marginal dots between veins united by a very fine black festooned line; fringe wood-brown, slightly dark-checkered towards anal angle.

Hindwing: pale fawn-colour speckled with dark grey; cell-spot black on a slight antemedian line; a broad blackish central shade, outwardly lunate-edged; two submarginal blackish shades; all the markings stronger along inner margin; marginal dots, line, and fringe as in forewing.

Underside reddish fawn, with all the markings blackish and distinct.

Head and shoulders black; collar, thorax, and legs fawn colour; abdomen missing; antennae above ringed black and white, below pubescent.

Expanse of wings: 30 mm.

1 ♀ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Ockenden).

Hindwing with outer margin crenulate, slightly toothed at 4.

134. *Cambogia nigrinotata* spec. nov.

Forewing: pale yellow; the veins and finer lines marked by orange-red scales; costal streak broadly smoky black, the costal edge with small yellow dots; space between veins 3 and 4 also smoky black; a thick straight blackish line near base, preceded by one and followed by two waved orange-red lines; cell-spot black and large; postmedian band consisting of three lines of blackish lunules, the outer two coalescing to form horseshoe-shaped blotches separated from the inner line by a pale space; outer band formed of red lunules separated by a yellow line from a row of black lunules, followed by a row of broad yellow lunules, ending in smaller

red ones ; fringe yellow, with dark spots at base beyond veins, and black-mottled beyond 3 and 4.

Hindwing: with the markings less distinct ; space between 3 and 4 blackish, but not the costa.

Underside straw-colour, with the markings expressed ; the black of upperside becoming fuscous ; cell-spots black and distinct.

Face brown ; fillet and base of antennae white ; vertex and collar deep ferruginous ; shoulders and base of patagia black-brown ; tips of patagia, thorax, and abdomen yellow varied with orange ; third segment of dorsum brown-black.

Expanse of wings : 26 mm.

2 ♂♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Oekenden).

135. *Cambogia pallidicosta* spec. nov.

Forewing: red-brown ; costal streak creamy grey, broadening beyond middle, with fine dark speckles ; cell-spot black, distinct ; before it a whitish line, vertical and concave outwards ; beyond it a white line runs obliquely outwards to vein 4, and then is incurved, reaching inner margin vertically at two-thirds ; fringe deep red-brown, with a fine yellow basal line and whitish apices.

Hindwing: paler towards base and along costa ; cell-spot black, followed by a wavy whitish central line, inwardly marked with fuscous scales ; some obscure darker striae.

Underside redder, less brown ; the outer line well shown in both wings.

Face, thorax, and abdomen red ; vertex and shoulders creamy grey.

Expanse of wings : 26 mm.

1 ♂ from Cushi, Province Huánuco, Peru, 1900 m. (Hoffmanns).

136. *Cambogia percisa* spec. nov.

Forewing: pale yellow, with lilac-grey wavy cross-lines parallel to the oblique outer margin ; in the basal half of wing and including the central fascia these lines are thickened and confluent, obscuring the ground-colour except on costa ; the edge of the fascia is angled on vein 6, then straight and oblique to inner margin ; cell-spot large and black, with some pale scales round it ; space between veins 3 and 4 lilac-grey, and the costa beyond two-thirds, but not reaching apex ; fringe yellowish, beyond a fine grey marginal line.

Hindwing: like forewing, but only the basal third grey, containing a large black cell-spot ; a pale yellow band beyond it, which is visible, but less prominent, in forewing also.

Underside like upper, but altogether paler.

Face and thorax lilac-grey ; vertex and antennae yellow ; abdomen yellow, ringed with grey on dorsum.

Expanse of wings : 21 mm.

1 ♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Oekenden).

137. *Cambogia perstrigata* spec. nov.

Forewing: pale lilac-grey along costa, pale brick-red below, with fine dark speckling ; lines dark brown ; two basal and an antemedian line just as in *A. mediostrigata* ; the three beyond middle are all outcurved from costa and partially sinuous

to vein 4, then incurved and slightly lunate between veins; the fourth line, that before margin, is hardly visible; an obliquely edged brown subapical shade; cell-spot black; marginal line black, swollen between veins; fringe dark brown, with pale base, and chequered with pale in outer half; a blackish curved streak from base along cell and between veins 3 and 4 to outer margin.

Hindwing: wholly brick-red, with the four lines as in *A. mediostrigata*.

Underside dull rufous ochreous, much speckled with grey; all the lines brown.

Head, thorax, and abdomen like wings; the black streak continued across middle of thorax and patagia.

Expanse of wings: 26 mm.

1 ♀ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Oekenden).

Whether this can be the ♀ of *mediostrigata* must be left for the present.

138. *Cambogia planetaria* spec. nov.

Forewing: reddish fawn-colour, crossed from base to margin by series of round white dots on the veins, representing the transverse lines; as in *C. stellataria*, described below, the double spots on the folds in the course of the outer line are large and conspicuous, those of the submarginal line also being somewhat larger; a row of white marginal spots; cell-spot white; fringe worn, probably mottled red and white.

Hindwing: similar: the basal area not spotted; the spots towards margin all larger.

Underside of forewing blurred reddish, with whitish dusting; of hindwing whitish with red lines.

Head, thorax, and abdomen reddish fawn; fillet white; dorsum spotted with white.

Expanse of wings: 27 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

139. *Cambogia stellataria* spec. nov.

Forewing: dull chocolate brown; the costa and all the veins covered from base to margin by uniform pale yellow dots, representing a succession of pale lines; among these two larger double spots on the two folds in the series representing outer line are conspicuous, while those of the inner submarginal series are lunulate in shape and slightly larger; cell-spot blackish; fringe pale yellow, strongly mottled with brown beyond veins.

Hindwing: similar, but without prominent yellow spots; the basal half only speckled with pale.

Underside duller; the outer line pale and almost uninterrupted; basal area before it and apical region without spots; marginal area with alternate waved reddish and pale lines; hindwing pale yellow, traversed by reddish lines; cell-spots marked.

Head, thorax, and dorsum red; fillet pale yellow; anal segment of abdomen and underside pale yellow; antennae annulated red and yellow.

Expanse of wings: 24 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

140. *Cambogia vinosata* spec. nov.

Forewing: bright yellow; basal area crossed by four or five sinuous vinous lines, the outermost containing the large vinous black cell-spot; following a band of clear yellow, the outer half of wing is suffused with deep vinous, shading into black internally and along the inner edge and between veins 3 and 4 to margin; the outer margin is yellow, with a row of vinous marginal spots, preceded by two thick vinous lunulate lines, before which in the submedian interval is a pure yellow blotch; the costal edge is also marked with three yellow spots; fringe yellow, vinous black at middle and apex.

Hindwing: with the base yellow, a spot on inner margin and the cell-spot vinous; the vinous blotch of forewing is here restricted to a blotch from inner margin to median, continued between 3 and 4 to outer margin; the yellow marginal area traversed by two thick wavy vinous lines; the rest as in forewing.

Underside the same, but the vinous tints all dull; the cell-spots black.

Head, thorax, and abdomen vinous; palpi, vertex, and collar yellow; the vertex with a vinous spot in centre; abdomen beneath and legs pale yellow.

Expanse of wings: 22 mm.

1 ♀ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., October 1904, wet season (Ockenden).

SUBFAMILY EUCESTINAE.

141. *Callipia balteata* ab. *confluens* nov.

Differs from the type-form of *balteata* Warr. in the greater extent of the red coloration of forewing. The thick central black band is widely interrupted in middle, so that there remains of it only a rounded blotch above middle and an oblique triangular mark on inner margin; the red suffusion starts broadly from base, nearly touches inner margin, and runs up to subcostal vein on each side of the two black blotches, being bounded outwardly by a curve, whereas in the type-form the outer red line is straight. The yellow mottlings of the fringe run through to the tips, and are not restricted to the base. Beneath the same extent of red is shown, and the yellow striae and fine pale veins are strongly marked.

Expanse of wings: 65 mm.

1 ♂ from Agualani, Carabaya, Peru, 9000 ft., March 1905, wet season (Ockenden).

Perhaps this redder form prevails at the higher altitudes; the darker type-form was taken at 6500 ft.

142. *Callipia fulvida* spec. nov.

Closely allied to *C. flagrans* Warr., from which it may be distinguished by the following points: the ground colour is fulvous instead of orange-red; the inner edge of the black marginal border runs, slightly diverging from outer margin, to the subcostal streak, where it is preceded at the upper end of discocellular by a small black blotch; the veins end in pale spots only, not in streaks. In the hindwing the fringe of inner margin is black. On the underside the pale marginal patches in both wings are narrower; and the central band of hindwing is narrower and paler.

Expanse of wings: 65 mm.

2 ♂♂ from Agualani, Carabaya, Peru, 9000 ft., March 1905, wet season (Ockenden).

143. *Cophocerotis cinerea* spec. nov.

Forewing: dull ashy grey; costal area broadly pale, with blackish striae; a paler space, without striae along the second fifth, edged by a thick black mark at each end, and with a double black fleck at middle; a smaller pale patch at nearly three-fourths, edged inwardly by darker scales, from which a pale curved line rises that can be just traced across wing; fringe pale grey, with darker line along middle and at the tips; a faint dark cell-spot.

Hindwing: with a pale postmedian line strongly outcurved in middle, followed by a finer pale submarginal line; a dark cell-spot; fringe pale, spotted with grey beyond veins.

Underside of forewing dark grey; the costa pale ochreous, with black striae; a triangular patch of brown striae running to a point at apex; from its inner edge the limit of the dark grey area runs straight to anal angle, leaving the margin pale grey, like the whole hindwing, which is striated with blackish, most thickly along inner margin; a blackish bent middle line; fringe of both wings pale grey with dark spots in the basal half beyond the veins.

Head, thorax, and abdomen pale grey; centre of patagia darker.

Expanse of wings: 40 mm.

1 ♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

144. *Eudule ockendeni* spec. nov.

Forewing: deep coppery red; the markings black; these are two irregular fasciae, a large apical and small anal patch, a narrow marginal line, and the fringe; the basal fascia consists of a triangular blotch above median and an elongated diamond-shaped blotch between median and submedian veins, which remain red; the central fascia consists of a quadrate blotch above median vein and a wide flattened one below, into which the basal blotch runs on the fold; the inner margin below submedian vein is black throughout; the apical blotch has a curved inner edge, and is sharply cut off above vein 4, followed by a small black spot below it.

Hindwing: wholly black.

Underside like upper.

Head, thorax, body, and legs all black.

Expanse of wings: 22 mm.

1 ♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

Costa of forewing sinuous, arched at base and insinuate before apex.

Near *E. phœaria* Staud. (*Polyomma*).

SUBFAMILY TRICHOPTERYGINAE.

145. *Dyspteris aequivirgata* spec. nov.

Forewing: pure white; the markings dark green; a broad green costal stripe from base to apex, leaving the costal edge diffusely whitish, more broadly just beyond middle; four dark green transverse oblique streaks from inner margin, all fairly broad and with well-defined margins; first, nearly straight, from one-fourth of inner margin to lower edge of costal streak at one-third; second, broadest of all, curved from middle of inner margin to costal streak before apex; third from three-fourths of inner margin, curved nearly parallel to second, ending in a point on

vein 7; fourth submarginal, slightly waved, also ending on vein 7, so that the white band between second and third green streak runs with a uniform curve to apex; fringe (worn) white.

Hindwing: with base green, and two short broad green bands not reaching costa; fringe white.

Underside with the costal stripe of forewing diffusely edged below; first streak absent; second obsolete below 2, much thickened above, and produced into a biangulate projection on veins 3 and 4; third and fourth diffuse and interrupted; hindwing with base and a narrow band before middle green.

Head, shoulders, patagia, and the front half of each dorsal segment green; thorax and rest of abdomen white; abdomen below and hindlegs white; fore and middle tarsi dark green.

Expanse of wings: 36 mm.

1 ♂ from R. Huacamayo, Carabaya, Peru, 3,100 ft., June 1904, dry season (Oekenden).

A neater insect than *amata* Cram.; the outer margin of forewing more curved and shorter, so that the wing is narrower. The markings are deeper green and better defined, and the white purer.

146. *Dyspteris extremata* spec. nov.

Forewing: white; markings blue-green; a broad costal stripe, somewhat diffusely edged below, leaving the basal half of costal edge whitish; four oblique green streaks from inner margin: first at one-fourth, narrowing upwards to costal stripe at two-fifths; second from middle, oblique and slightly sinuous to a projection from lower edge of costal stripe at two-thirds; third from two-thirds, very broad at origin, ending in a point at vein 7, where it coalesces with the fourth, which starts narrow from anal angle and thickens upwards; green marginal lunules, above middle absorbed in outer streak; fringe white below middle, green above.

Hindwing: with base and three narrow bands green, the outermost curved above to costa.

Underside with costal stripe of forewing broad and well defined, cut by a white line at two-thirds, which is edged with green spots between veins, and continued as a green interrupted line to middle of inner margin; a large green blotch beyond middle on vein 2, and another close to margin from 4 to 7; marginal lunules distinct, and above the middle enlarged; hindwing with a slight green line before middle; the markings all deep green.

Head, shoulders, and patagia green; thorax, tips of patagia, and abdomen white; the last with green belts; abdomen beneath white; fore and mid tarsi green.

Expanse of wings: 40 mm.

1 ♀ from Obydos, Amazons, October, November 1904 (de Mathan).

The antennae of this ♀ are as strongly pectinated as in the ♂.

Differs in having the third streak the broadest, not the second.

147. *Dyspteris subcoerulea* spec. nov.

Forewing: bluish green; a small whitish cell-spot; a faint whitish line from two-thirds of inner margin running parallel to outer margin, but scarcely perceptible except at its rise; costa with four or five brown dashes before apex; a purple-brown marginal line; fringe whitish, with purple-brown spots beyond the veins.

Hindwing: with fairly distinct straight white line beyond middle, and a faint pale cell-spot; fringe and margin as in forewing.

Underside bright blue-green; the markings as above.

Head, thorax, abdomen, and legs blue-green; antennae ochreous, bronzy green above.

Expanse of wings: 25 mm.

1 ♀ from Obydos, Amazons, October, November 1901 (de Mathan).

Antennae lamellate, subserrate, finely pubescent; palpi long, decumbent.

148. *Rhopalodes derufata* spec. nov.

Forewing: whitish; the lines and bands all pale olive-green; only the central fascia finely dusted with black scales, especially along cell and submedian fold; the cell-spot black and distinct; in the marginal area beyond the distinct pale-submarginal line are two blackish spots, one between veins 6 and 7, the other between 4 and 5; the marginal spots, which are black above middle, become olive-green below; the pale band preceding central fascia projects angularly into it on the two folds, the angles being marked with black; similarly, on the outer edge the pale band is sharply indented basewards beyond cell.

Hindwing: cream-colour, tinged with greyish olive.

Underside olive-grey, the outer line and cell-spot dark.

Head and thorax olive-green; abdomen like hindwings; palpi externally blackish.

Expanse of wings: 36 mm.

1 ♂ from Sapucay, Paraguay, December 1902 (Foster).

This is like *Rh. curvifata* Warr. from Brazil, but differs in being entirely without red scaling.

SUBFAMILY TEPHROCLYSTHINAE.

149. *Eucymatoge biumbrata* spec. nov.

Forewing: pale slaty grey, crossed by many fine dark lines, all angled below subcostal vein, then inwardly oblique and parallel, slightly dotted with darker on the veins; the interval between the two containing the black cell-spot is filled up with rather darker grey as far as vein 1, tinged beneath the cell-spot with brown; and the line preceding the submarginal is thickened and blackened from vein 6 to 2; submarginal line indicated by darker white-tipped spots, the outer margin generally being clouded with darker grey; marginal line very fine; fringe pale grey chequered with darker.

Hindwing: with alternate dark and light wavy grey lines, plainer towards inner margin.

Underside dark grey, slightly paler in hindwing; all the lines uniformly dark, and towards outer margin dotted on veins.

Head, thorax, and abdomen pale grey; palpi dark grey; dorsum, except at base, distinctly brown-tinged.

Expanse of wings: 26 mm.

1 ♀ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Ockenden) type: 1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6400 ft. (Böttger).

The description was made from the Limbani ♀, the ♂ being a much wasted specimen; the two oblique parallel blackish shades in outer half of wing will always distinguish it; outer margin of hindwing truncate from 3 to anal angle.

150. *Eucymatoge brunneodorsata* spec. nov.

Forewing: chalk-grey, with a slight greenish tinge; the lines indistinct, except along costa and inner margin; costa with five black spots, the fourth much the largest; from the third the inner edge of central fascia, slightly outcurved in middle, runs to inner margin, from the fourth its outer edge, which is strongly outcurved from 6 to 2; two or three curved lines in the fascia, and those marking basal patch and the interval beyond can be faintly traced; the fascia is followed by a pale band with grey centre; submarginal line pale, preceded and followed by olive shading at costa, beyond cell, and at anal angle, where the shades are large and brown; fringe pale with olive mottling.

Hindwing: with a line near base, a broad middle shade, with a thin line on each side of it, a broad postmedian and marginal shade pale green; the first three dark brown-black below median vein; marginal line dark, interrupted; fringe as in forewing.

Underside of forewing dark greenish grey with obscure markings; of hindwing whitish, with the five bands clear.

Head black; thorax and base of abdomen like wings; rest of abdomen red-brown.

Expanse of wings: 22 mm.

1 ♀ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Oeckenden).

151. *Eucymatoge costirufaria* spec. nov.

Forewing: dark grey; the costa broadly, the median vein and its branches, and the praesubmarginal shade dull red-brown; a dark line twice angled close to base; two lines angled outwards in cell before the large black cell-spot, three slightly waved beyond the spot, before a thick black outer line which is angled on vein 6, and followed by a pale band with a grey central line; submarginal line white, regularly zigzag; the ground-colour between the lines along both folds is whitish; marginal line fine; fringe grey with darker chequering.

Hindwing: grey; the inner margin with the commencement of lines which are red-brown.

Underside dark grey, with all the lines well marked.

Head, thorax, and abdomen grey with a rufous tinge; the dorsum red-brown; palpi dark brown, very long.

Expanse of wings: 26 mm.

1 ♂ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Oeckenden) type; 1 ♀ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Oeckenden).

152. *Tephroclystia albicarnea* spec. nov.

Forewing: white, overspread with dull greyish flesh-colour, the costal half of central fascia alone remaining white; costa with two black spots close to base, indicating the lines of basal patch; a longer dark blotch beyond, giving rise to the darker centre of the band before central fascia, the dark limiting lines of which

start from black triangles at two-fifths and three-fifths of costa; the inner edge straight and oblique, the outer obtuse between veins 6 and 2; the fascia below median greyish flesh-colour, above it white with a black cell-spot; marginal area greyish flesh-colour, with traces of a paler submarginal line, preceded and followed in places by dark clouds, especially towards anal angle; a dark marginal line; fringe (worn) greyish flesh-colour.

Hindwing: white, with indications of black waved lines; two across middle more conspicuous; a grey blotch on inner margin near base; marginal line black, crenulated.

Underside of forewing dull dark grey with a rufous tinge; of hindwing white; the lines and cell-spots darker in both.

Head, thorax, and abdomen white; two black spots on lower part of face; base of shoulders and patagia, centre of metathorax, and the middle segments of dorsum black; underneath dull grey; farsi mottled dark and light grey.

Expanse of wings: 24 mm.

1 ♂ from Cushi, Huáncayo, Peru, 1900 m. (Hoffmanns).

Hindwing with inner margin short; outer margin bent at vein 3.

153. *Tephroclystia albifusca* spec. nov.

Forewing: white; the shadings fuscous, varied in parts with reddish brown; costa with five dark brown blotches; two at base indicating basal blotch and centre of the following interval; two at two-fifths and three-fifths, from which spring the edges of the central fascia, and one towards apex at the commencement of the praesubmarginal shade; the central fascia edged on each side by a pale band with a dark centre; the inner edge oblique and curved below costa, the outer wavy and preceded at middle by a rufous patch; the inner marginal half of wing whiter than the rest; marginal area greyish fuscous varied with rufous, through which the pale waved submarginal line runs, sometimes preceded by blacker spots; black marginal lunules between veins; fringe mottled dark and light grey; cell-spot black.

Hindwing: like that of *T. albicornea*, but the marginal dark line thicker.

Underside with the forewing dark grey, and the hindwing white; both with the lines and cell-spots plain; the markings clearer and more defined than in *albicornea*.

Head and thorax white; face white or grey; palpi grey; base of shoulders and patagia laterally only, and a spot in middle of patagia black; metathorax white; dorsal segments all dark grey, laterally blackish.

Expanse of wings: 21 mm.

1 ♂ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Ockenden), type; 1 ♀ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

This species is undoubtedly closely allied to *T. albicornea* described above, but as certainly distinct.

154. *Tephroclystia analiscripta* spec. nov.

Forewing: dull luteous grey, tinged with dull red-brown along costa and outer margin, and across the basal field; central fascia rather darker grey, containing a conspicuous black cell-spot, and with the outer edge, which is bluntly bent on

vein 6, marked by black dashes on veins; the whole wing crossed by wavy grey lines; bands preceding and following fascia paler with a grey centre; submarginal line wavy, pale grey; marginal line finely dark, interrupted at the veins; fringe mottled light and dark grey.

Hindwing: grey, with the markings repeated, but all very indistinct, except along inner margin, where the darker shades are dull red-brown, with one more conspicuous spot at anal angle.

Underside grey, with black cell-spots and very indistinct markings.

Head, collar, shoulders, base of patagia, centre of thorax, and the whole of dorsum red-brown; patagia and underside of abdomen grey; palpi dark brown.

Expanse of wings: 20 mm.

2 ♂♂ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Ockenden).

In some respects like *T. panda* Druce from Central America, but much smaller.

155. *Tephroclystia arenaria* spec. nov.

Forewing: glossy pale sandy, the ground really being cream-colour, which is only faintly visible across wing beyond the different cross-lines, which themselves are only traceable in certain lights; the lines forming the inner and outer edges of central fascia at one-third and three-fourths can be generally seen, especially the outer, which is more conspicuously followed by a pale line; beyond this a broader praesubmarginal band of sandy tint rises from a dark costal shade, the submarginal line itself being represented by a series of large cream-coloured spots between veins; an interrupted dark marginal line; fringe glossy, pale ochreous and white.

Hindwing: cream-coloured, with commencements of lines along inner margin and the outer lines complete but fine.

Underside of forewing shining pale grey, the spots of submarginal line showing plain; hindwing cream-colour, with the marginal line only.

Head, thorax, and abdomen like wings.

Expanse of wings: 17 mm.

1 ♂ from Oconoque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

Nearest to *T. subalba* Warr. from Mexico; it might easily be mistaken for a *Stenrhid*.

156. *Tephroclystia atricollaris* spec. nov.

Forewing: luteous grey; the costa marked by thick dark grey outwardly oblique lines alternating with the paler intervals; below the subcostal the lines are all oblique, tinged with rufous, and masked on veins by dark dashes; a rufous streak from cell to outer margin between veins 5 and 6; cell-spot black and large, the cell itself with dark grey scales; submarginal line marked by white spots preceded and followed by black spots, that on submedian fold larger; a fine dark marginal line; fringe very pale grey, with large distinct brownish mottlings beyond the veins. The whole wing has a powdery look.

Hindwing: pale grey, darker towards outer margin; inner margin below median vein and vein 2 with thick brownish grey lines and a dark triangular mark at base; marginal line thick, blackish, interrupted at veins; fringe as in forewing.

Underside of forewing dark grey, of hindwing shining white; forewing with

lines only visible towards apex; cell-spot black; hindwing with costa and outer margin grey; the lines marked by series of dots on veins.

Palpi externally dark brown; face and vertex ochreous, with brownish centre; collar, shoulders, and patagia white; base of patagia and prothorax velvety black; abdomen grey sprinkled with darker, brownish on dorsum.

Expanse of wings: 22 mm.

1 ♂ from Cushi, Hnáncco, Peru, 1900 m. (Hoffmanns).

157. *Tephroclystia atromaculata* spec. nov.

Forewing: a mixture of black, whitish grey, and rufous; the cross-lines and shadings blackish, the intervals grey; bands edging central fascia whitish, with dark centre; a rufous streak from base along lower half of cell; another along inner margin and submedian vein; a broad oblique brown and rufous streak from outer edge of central fascia at vein 6 to apex; veins 2, 3, and 4 pale rufous; those above middle forming pale rufous spots before outer margin; inner half of central fascia broad and dark below median, narrow and interrupted with white towards costa; outer half broad and dark at costa, narrower and interrupted by the rufous streaks below; submarginal line white, wavy, preceded at costa, beyond cell, and between veins 1 and 3 by velvety black blotches; a streak of white and blackish scales between 3 and 4; black marginal dashes between veins; fringe grey mottled with black beyond veins, sharply white at base.

Hindwing: cream-white; a blackish blotch on inner margin at base and the commencement of dark lines along inner margin; marginal line black, interrupted; fringe white, black-spotted beyond veins.

Underside of forewing blackish grey, the inner margin barred; hindwing white, glossy, with the lines blackish, well marked on costa and inner margin, and dotted on veins; cell-spots black; fringe of forewing mottled black and white; of hindwing white.

Face and palpi black; top of face in middle and vertex white; collar, shoulders, and patagia mixed black and white; metathorax black; dorsum brown, with a broad black belt on second segment and narrow segmental rings; sides and anal segment black; legs black chequered with white.

Expanse of wings: 25 mm.

1 ♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Oekenden).

158. *Tephroclystia candidata* spec. nov.

Forewing: chalk-white; crossed by grey lines, which are angled below subcostal and then run obliquely inwards parallel to outer margin, all marked more broadly on costa; basal patch quite small, edged by a curved grey line; edges of central fascia at one-third and two-thirds, the outer angled on vein 6, from there to vein 3 thickened and blackish; the fascia with three or four wavy grey lines through it, all plainest on costa; band before fascia twice as broad on costa as on inner margin, containing a central grey band with a line on each side, reduced on inner margin to one thick line; band beyond fascia broad, with a grey central line, and edged outwardly by a grey line; submarginal line indistinct, but preceded and followed at costa and beyond cell by some brown and black dentate markings; marginal line dark grey; fringe white; cell-spot grey.

Hindwing: with grey cell-spot and beginnings of lines along inner margin.

Underside white, with the cell-spots marked on both wings, and on forewing the outer edge of the fascia and the praesubmarginal shades.

Head, thorax, and abdomen white; basal and last three segments of abdomen blackish; legs blackish, with white joints.

Expanse of wings: 30 mm.

2 ♀♀ from Limbaní, Carabaya, Peru, 9500 ft., May 1904, dry season (Oekenden).

Both examples are considerably worn. The wings are narrow and elongate, the forewings with prominent apex.

159. *Tephroclystia discretata* spec. nov.

Forewing: dull white; the lines and shades dull grey, towards the outer margin with a rufous tinge; two dark excurved bands, each of two lines, limit the central fascia, containing in its white centre the rather prominent dark cell-spot; the fascia is preceded and followed by a pale band with grey centre; submarginal line slender, waved, preceded by a distinctly deeper shade; an interrupted marginal line; fringe rufous.

Hindwing: whitish, with obscure transverse grey lines; marginal area and fringe grey; cell-spot grey.

Underside of forewing grey, of hindwing whitish; lines in both indistinct.

Head, thorax, and abdomen white, the last with the second and praeanal segments of dorsum rufous; palpi grey.

Expanse of wings: 16 mm.

2 ♂♂ from Santo Domingo, Carabaya, Peru, 6500 ft., October 1902, dry season (Oekenden).

160. *Tephroclystia erecticoma* spec. nov.

Forewing: wood-brown, the lines darker; a diffuse dark patch at base; central fascia rather narrow, edged by two dark lines, the inner slightly curved, the outer bent at vein 6, consisting of two distinct lines; cell-spot large, of black erect scales; the broad spaces before and beyond fascia with very obscure markings; submarginal line waved; marginal line black, interrupted; fringe brown.

Hindwing: crossed by thick dark lines, the outer ones slightly dentate, all darker and obscured below middle; costal and apical areas ochreous; cell-spot small.

Underside of forewing dull brown, of hindwing ochreous, where only the markings are plain; cell-spots black.

Head, thorax, and abdomen brown-black.

Expanse of wings: 21 mm.

1 ♂, 1 ♀ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Oekenden).

I have made the description from the ♀, which is better preserved than the ♂.

161. *Tephroclystia evacuata* spec. nov.

Forewing: pale brown, with some slight blackish dusting towards base; the bands preceding and following central fascia narrow, white, and dentate, with a black zigzag central line; middle of fascia paler than the sides, above the median vein leaving a white space with the black cell-spot on its inner edge; costal edge and costal vein both finely and interruptedly marked with black; basal area mixed with white and blackish scales; submarginal line white, swollen between 3 and 4;

some white scales before apex ; marginal line black, interrupted at veins ; fringe chequered brown and white.

Hindwing : white ; two antemedian thick grey lines, with the thin black cell-spot between them ; two thick postmedian lines coalescing to form a brownish grey shade ; two submarginal dentate dark grey lines, the outer the stronger ; a thick black marginal line interrupted by white dots on the veins ; apical area clouded with brown-grey ; fringe as in forewing.

Underside pale ochreous, crossed by alternate bands and lines of blackish grey ; fringe mottled, ochreous and dark grey ; cell-spots black.

Head, thorax, and abdomen luteous speckled with white ; abdomen beneath pale speckled with black ; palpi yellowish buff.

Expanse of wings : 22 mm.

1 ♀ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1905, wet season (Ockenden).

In the neighbourhood of *T. conduplicata* Warr., from Mexico, but smaller and browner, the underside characteristic.

162. *Tephroclystia galenaria* spec. nov.

Forewing : pale grey, crossed by darker grey lines, forming blackish dashes on the veins ; the pale bands limiting the central fascia and that crossing it in the middle, all plain with a thick dark-grey centre, and, like the dark lines, all more waved than usual, being outcurved in midwing ; the cell-spot dark ; submarginal line regularly waved, pale grey ; the veins in outer half of wing pale grey, interrupting the dark marginal line : fringe glossy grey, dark mottled in basal half beyond veins ; veins at lower end of cell marked slightly with ochreous when fresh, but this tint is soon lost.

Hindwing : paler grey, without markings towards costa ; those along outer margin distinct, and lunulate-dentate, forming dark dashes on veins.

Underside glossy, dark grey in forewing, whitish grey in hindwing, with the dark and light spaces distinct.

Head, thorax, and abdomen pale grey, varied with darker.

Expanse of wings : 24 mm.

1 ♂, 2 ♀♀ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Ockenden) ; also 1 ♂ from Cushi, Inánuco, Peru, 1900 m. (Hoffmanns).

Wings broad ; the uniform dark and light grey speckling is suggestive of the dappled feathers of the guinea fowl.

163. *Tephroclystia lugubris* spec. nov.

Forewing : dark fuscous, with three pale lines across wing, each with a thick middle thread, one on each side of central fascia, and one in its middle, the last the whitest ; submarginal line waved, whitish, indistinct ; cell-spot dark, oblique, preceded by whitish scales ; a dark marginal line interrupted by dots of white scales at the veins ; fringe dark fuscous, mottled with darker, and with a pale base.

Hindwing : paler, crossed by alternate thick and thin dark grey lines, which are strongest on inner margin, the costal half being blurred grey.

Underside of forewing blurred dark grey ; the lines marked on costa ; submarginal line pale ; fringe chequered with white : hindwing whitish, crossed by six dark grey lines.

Head, thorax, and abdomen blackish fuscous; collar and shoulders paler.

Expanse of wings: 23 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

164. *Tephroclystia luteonigra* spec. nov.

Forewing: buff; crossed obliquely by the usual lines, which in places are darkened by blackish scales, the costal area above subcostal vein always remaining buff; space between basal patch and central fascia occupied by three oblique black lines; subcostal space immediately before and above the black cell-spot, the curved outer lines of fascia beyond cell, and the space obliquely beyond to apex are blackish, across which the paler lines show white; veins 1, 2, 3, and 4 dotted black and white; space between 2 and 4 buff without black speckling; submarginal line interrupted, consisting of white spots, preceded by black shades and joined externally by black dashes with the black marginal lines between veins; fringe whitish, chequered with dark.

Hindwing: whiter; crossed by six curved darker lines, marked black on the veins, the two outermost lunulate-dentate, with a white line between; the marginal area buff; cell-spot small, black.

Underside paler buff, with the lines all marked greyish and black; cell-spot plain; the outer edge of central fascia and the praesubmarginal shade are thickest and darkest.

Head, thorax, and abdomen all buff, slightly mixed with white scales; the dorsal crests strong; tip of palpi brown; legs dark fuscous, with pale joints.

Expanse of wings: 26 mm.

2 ♀♀ from Carabaya, Peru, June—August 1904, dry season (Ockenden).

In one example the metathorax and base of abdomen are coal-black, and the markings of the underside of wings blacker.

Akin to *T. lutulenta* and *conduplicata* Warr.

165. *Tephroclystia lutulenta* spec. nov.

Forewing: dull olive luteous, somewhat thinly scaled; the outer half of wing from just beyond the large black cell-spot of a darker hue than the basal; the central fascia with three lines to each edge, those of the outer edge closer together, all broader and darker on costa; bands on each side clear, without lines; submarginal line fine and waved, paler than ground-colour; basal line fine and dark, close to base; marginal line finely black, interrupted at the veins; fringe olive mottled with darker.

Hindwing: like forewing, with all the lines plain; the submarginal preceded by dark scales in the lunules.

Underside with the ground-colour paler, and the markings darker and plainer.

Head, thorax, and abdomen concolorous; the face paler; palpi yellowish; antennae subserrate, ciliated.

Expanse of wings: 22 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6400 ft. (Böttger).

166. *Tephroclystia melanograpta* spec. nov.

Forewing: dingy grey with a slight luteous tinge, crossed by darker grey lines, bent below costa, then oblique; costa marked with five dark blotches, the spaces between them with a darker central line; the third and fourth give rise

to the lines limiting the central fascia, the slightly paler centre containing the black elongated cell-spot; submarginal line pale grey, not waved; a dark marginal line interrupted at the veins; fringe dingy grey mottled with dark.

Hindwing: dingy grey, with the base paler; a small dark cell-spot and the usual outer lines, the postmedian being plainest.

Underside paler, more luteous; costal and outer margins darker in forewing; hindwing with cell-spot and thick postmedian line; veins in both wings dark beyond middle.

Head and palpi luteous grey; shoulders and patagia brown; thorax and abdomen pale grey; abdomen with a black lateral streak, broadest at base; anal valves large.

Expanse of wings: 15 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

An inconspicuous insect. A very much worn ♀ from Santo Domingo, Carabaya, Peru, October 1902 (Ockenden) may be the same insect, but the black lateral line of abdomen is not visible.

167. *Tephroclystia nigripennis* spec. nov.

Forewing: dark flesh-colour, except at costa, darkened with brownish; basal patch, central fascia, and praesubmarginal shade, all purplish black at costa, becoming brownish on inner margin; cell-spot large and black, followed by two dark lines in fascia; pale bands on each side of central fascia distinct, dull flesh-colour, with darker centre; submarginal line waved, indistinct; fringe dark brown.

Hindwing: wholly purplish black, crossed by five or six lines; the base pale, the fringe dark.

Underside dark purplish grey with traces of the lines; inner margin of forewing bronzy ochreous.

Head, thorax, and abdomen purplish black.

Expanse of wings: 14 mm.

1 ♂ from Rio Colorado, Peru, 2500 ft., August—September 1902 (Watkins).

168. *Tephroclystia parcinotata* spec. nov.

Forewing: luteous grey, with a slight olive tinge; without any distinct lines or markings, except the pale band which edges the central fascia externally and traces of a pale submarginal line; cell-spot black, distinct; a dark marginal line; fringe concolorous.

Hindwing: whitish, the inner margin only showing traces of lines.

Underside of forewing dull grey, of hindwing whitish; lines of forewing visible beyond middle, of hindwing throughout; cell-spots black.

Head, thorax, and abdomen concolorous; abdomen below and pectus pale.

Expanse of wings: ♂ 20 mm.; ♀ 24 mm.

1 ♂, 2 ♀♀ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Ockenden).

169. *Tephroclystia regulella* spec. nov.

Forewing: olive ochreous, crossed by a regular series of blackish grey lines, bent below costa, then oblique and parallel; cell-spot blackish, large; submarginal line hardly marked, but followed by black dashes to the black lunules forming the

marginal line; fringe pale, mottled with olive, with a narrow dark line close to base.

Hindwing: with the space along inner margin below median and vein 2, like forewing; the rest white without markings; a small cell-spot.

Underside of wings glossy ochreous; forewing greyish towards costa, where also the lines are marked; hindwing with six faint curved lines across wing, plainest on inner margin.

Palpi greenish fuscous with some white scales; face brown; thorax and abdomen olive ochreous, with the dark lines of the wings repeated across them.

Expanse of wings: 22 mm.

I ♂ from Limbani, Carabaya, Peru, 9500 ft, May 1904, dry season (Ockenden).

170. *Tephroclystia rubellicincta* ab. *birufata* nov.

The type of this species is a ♀; the amount of red in the forewing varies much, and sometimes appears to be nearly obsolete, so that it is possible that *madura* Dogn., described from 2 ♂♂, in which no mention is made of any red tints, may be the same species. In all cases, however, the second segment of the abdomen and the penultimate segment are marked with red. The hindwing is whiter and less strongly marked with lines than the ♀. For one very pale ♂, however, which may prove specifically distinct, in which the red tints are more extensive than usual, I propose the name *birufata* as an aberration. In this the centre of the band before central fascia is broadly red, and the first three lines of the fascia itself are red, not grey, and the whole of the praesubmarginal shade is of the same colour; while on the abdomen the second and praeanal segments are broadly red.

This ♂ comes from Huancabamba, Cerro de Pasco, Peru, 6400 feet, (Böttger).

171. *Tephroclystia rufivenata* spec. nov.

Forewing: pale olive from base to central fascia, with a dark curved line close to base, and two close together before the fascia, these lines edged with whitish; inner edge of fascia evenly curved at one-third; outer at two-thirds, but strongly excurved from subcostal vein to 2, on which it is indented, thence curved; inner half of fascia brown-black; outer edge interruptedly blackish; discocellular marked by a straight oblique black bar touching the inner band, followed by a round white patch with a dark dot at middle, and edged outwardly by a strongly marked black dentate line; subcostal and median veins and all the nervules pale rusty, the space between 2 and 4 more or less smeared with rust-colour; a broad oblique pale streak from apex to central fascia at vein 6; praesubmarginal shade brown-black, interrupted first by the oblique streak, and again between 2 and 4; submarginal line wavy, white, marked by a large white spot between 3 and 4; marginal area ferruginous and blackish; marginal line black; fringe mottled black and white.

Hindwing: luteous grey, with traces of straight dark grey lines, plain only on inner margin, where the anal angle is dark; fringe glossy, ochreous grey.

Underside of forewing blurred grey in inner marginal half, towards costa with the lines and intervals dark grey and whitish; hindwing whitish, dark-speckled, with five dark brown lines, the outer two dentate, with finer lines between, all very concise; cell-spots black; fringe of forewing dark mottled, of hindwing pale.

Head, shoulders, and patagia cream-coloured, spotted with black; palpi fuscous thorax and abdomen deep rust-coloured; the latter with a black belt at base, black dorsal spots tipped with white, and the anal segments black.

Expanse of wings: 26 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

172. **Tephroclystia sticticata** spec. nov.

Forewing: olive-grey, powdered with fine whitish scales; the lines very fine, brown, marked by blackish dots on veins; cell-spot linear, black; lines edging central fascia somewhat more conspicuous; submarginal line pale, emphasised by black dashes between veins, that on the submedian fold forming a round black spot, and those on each side of vein 5 larger and longer; fine dark dashes from the teeth to margin; fringe brownish grey.

Hindwing: pale luteous, with a mealy appearance; below median whiter, with traces of dark double lines; cell-spot grey; marginal line darker.

Underside of forewing blurred grey; the lines distinct only on costa, the outer line blackish, as is the cell-spot; submarginal pale; hindwing whitish, with distinct cell-spot and outer line; outer margin darker.

Head, thorax, and abdomen luteous grey; second segment of abdomen with a dark ring; the dorsum brown.

Expanse of wings: 22 mm.

Several ♂♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

Distinguished by the mealy luteous hindwings.

173. **Tephroclystia viduata** spec. nov.

Forewing: blackish grey; the usual lines darker and beyond middle black-dotted on the veins; the two narrow bands on each side of central fascia and a broader band at its middle beyond the black cell-spot, traversed by two black lines, paler; the submarginal line close to margin and very obscure; a black marginal line with pale spots at the vein ends; fringe blackish.

Hindwing: paler, more transparent towards costa; all the lines reproduced on inner and outer margins, but darkest on the former.

Underside glossy grey, blacker in forewing, whiter in hindwing, with all the lines blackish and black-spotted on veins.

Head, thorax, and abdomen blackish grey; the face and collar paler grey.

Expanse of wings: 27 mm.

1 ♂, 1 ♀ from Limbaní, Carabaya, Peru, 9500 ft., May 1904, dry season (Ockenden).

The pale bands, as described above, are plain only in the ♀; the ♂ is more obscurely black all over; in both sexes the abdomen is long and slender.

174. **Trichoclystia venulata** spec. nov. and ab. **lucidior** nov.

Forewing: grey; the lines and markings more brownish grey; the darker lines and paler intervals forming alternating light and dark dashes on veins; central fascia, especially its two limiting bands, darker than the ground-colour, its inner edge acutely angled in cell before the linear black cell-spot, which stands in a paler middle space; the pale-grey band beyond with a thick grey

traversing line; submarginal line pale, faintly waved, preceded on submedian fold by a dark blotch; a dark marginal line; fringe grey with a whitish basal line.

Hindwing: with the markings only shown on inner margin, the costal half of wing being whitish.

Underside of forewing dark grey in costal half, white along inner margin; the pencil of hairs yellowish grey; hindwing white with the markings pale grey; in the ♀ the whole forewing below is grey.

Head, thorax, and abdomen pale grey; dorsum with a dark streak on middle segments, the two basal segments and the anal segment remaining pale grey.

Expanse of wings: 22 mm.

3 ♂♂, 1 ♀ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Oeckenden).

This species differs from the type of the genus *T. peregrina* Warr. in having the wings narrower and elongate, instead of short and broad; the hair pencil is yellow, not black.

In appearance it much resembles *Tephroclystia atricollaris* Warr. and *sticticata* Warr., which both have a dark blotch before submarginal line on the submedian fold.

A ♂ from Huancabamba, Cerro de Paseo, Peru, 6400 ft. (Böttger), is larger (24 mm.) and much more brightly marked, all the pale tints being lighter and the dark ones darker. It may stand for the present as ab. *lucidior*: like many other species from Huancabamba, it probably represents a well-marked local form.

SUBFAMILY HETERUSIINAE.

175. *Erateina semilugens* spec. nov.

Closely allied to *E. dilectaria* Dogn. (*Heterusia*), but the white streak from base of forewing and the white discal area of hindwing so thickly clothed with slaty black scales as to appear smoky grey, the veins across the latter black; the inner margin of forewing with no white streak.

On the underside the basal streak and base of costa of forewing and the discal space of hindwing are silvery white, and the course of the submedian vein of forewing is marked with silvery scales; the ground-colour in both wings is rich purplish plum-colour.

On the upperside of hindwing the centre of cell and the whole lower half of the marginal border are clothed with long hairs.

Expanse of wings: 32 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

176. *Erateina xanthyla* spec. nov.

Closely resembling *E. comata* Druce, but distinguished as follows: ground-colour olive-brown rather than olive-fuscous; the hyaline space longer and narrower, yellowish, edged with orange scales, and the veins across it orange, the lowest portion, between veins 3 and 4, produced further hindwards, in the ♀ reaching halfway to vein 2, and in both sexes produced above vein 6 towards costa: the three pale costal dashes yellowish instead of white.

Underside with the yellow striae in both wings mixed with deep purple red:

the hyaline blotch of forewing produced as in *comata* to costa, but strongly orange-finged; the yellowish costal blotch at two-thirds not oblique inwards, as in that species, but outwards, deeper coloured, and continued to middle of wing by yellow spots on veins 6, 5, 4; the outer pale zigzag band of hindwing greyer and more diffuse.

Expanse of wings : 27 mm.

1 ♂, 1 ♀, from between R. Luambari and Limbani, S.E. Peru, March 1904 (Ockenden).

177. *Heterusia consobrina* spec. nov.

Much resembling *H. ovaliplaga* Warr., and from the same locality, but differing as follows: the cream-white transverse marking on forewing is narrower, especially the terminal portion lying between veins 2 and 3, which is hardly separated from the costal part.

In the hindwing the white projects angularly into the black marginal border on vein 4, the border being thus broader on costa and inner margin than in the middle, whereas in *ovaliplaga* it is of uniform width and evenly curved.

Underside of both wings vinous-brown speckled with yellow, darker at anal angle of forewing; in the hindwing the space at anal angle is white with a patch of red scales, the border obliquely cut from vein 3 to anal angle.

Expanse of wings : 27 mm.

1 ♂ from Pozuzo, Huánuco, Peru, 800—1000 m. (Hoffmanns).

178. *Heterusia plenilimes* spec. nov.

Forewing: black, with two yellowish costal spots at one-third and two-thirds: the black at base powdered with white scales; a white blotch on inner margin from near base to two-thirds, its upper edge parallel to costa, the outer nearly vertical; fringe (worn) black.

Hindwing: white with broad black marginal border; the extreme base dark.

Underside of forewing with base of costa thickly striated with white; the yellow costal spots much swollen; the apex with some blue-grey speckles; the white blotch on inner margin reaching from base nearly to anal angle; hindwing with the dark border interrupted by white scales at anal angle.

Head, thorax, and abdomen blackish powdered with white; abdomen beneath white.

Expanse of wings : 27 mm.

1 ♂ from Pozuzo, Huánuco, Peru, 800—1000 m. (Hoffmanns).

This species must be near to Hübner's *conduplicaria*.

179. *Heterusia restricta* spec. nov.

Forewing: black, with three very pale yellow costal spots, that nearest base narrow and inconspicuous, the other two broad; on the middle of inner margin an oblique, narrow white blotch with rounded top, its edge on margin equidistant from base and anal angle; fringe chequered black and white.

Hindwing: with base and inner margin smoky black, and fully the outer half of wing black, the white fascia between them generally with a black cell-spot, and projecting a little into the outer border across cell; fringe chequered.

Underside of forewing black; the base bluish grey with long thick black striae;

apical area with bluish grey scaling; the second and third costal spots large and white; two small spots before apex; a triangular bluish white patch on inner margin much larger than above; fringe black, broadly chequered with white; hindwing with base black-speckled; a large black costal spot at one-third; the black border with some blue-grey scales at apex and much interrupted with white at anal angle.

Head, thorax, and abdomen black, the segmental rings whitish; abdomen at sides and beneath, like the legs, whitish, grizzled with grey, the tarsi black-mottled; palpi beneath white.

Expanse of wings: 27 mm.

2 ♂♂ from Minas Gerais, October 1900 (Kennedy).

Distinguished by the position and shape of the white blotch of forewing and the broad black border of hindwing.

180. *Heterusia separata* spec. nov.

Forewing: deep orange at base, the edge of the orange area curved from one-third of costa to vein 1 beyond middle, then angled basewards; rest of the wing olive-brown containing an orange abbreviated fascia, separated from the basal area by a band of even width; this fascia reaches vein 2 and externally is angled inwards on vein 4; the basal area is slightly dusted with olive scales along costa and inner margin.

Hindwing: orange, paler along costa and broadly dusted with olive along inner margin; outer margin olive-brown, almost interrupted at vein 5 by the orange ground-colour, which projects into it between 4 and 6.

Underside the same, but paler, the inner margin of hindwing wholly yellow, and the outer margin quite interrupted at 5, where the fringe also is pale.

Head, thorax, and abdomen ochreous dusted with olive atoms; palpi brown, white beneath.

Expanse of wings: 28 mm.

2 ♂♂ from Rio Palcazu, Province Huánuco, Peru (Hoffmanns).

181. *Heterusia trifoliata* spec. nov.

Forewing: blackish olive, thickly powdered with buff scales in basal half, with a curved buff blotch beyond middle, from below costal edge to vein 2, its inner edge smoothly curved, its outer irregular and from vein 3 to 1 nearly vertical; fringe concolorous.

Hindwing: with the blotch trilobed, the upper lobe resting on costa beyond middle, the outer running nearly to outer margin between 6 and 4, the lower abbreviated; base of wing paler olive, thickly buff-mottled.

Underside of forewing with base dull buff, the basal half of costa thickly clothed with pale hairs; the buff streak beyond middle much swollen, with a pale spot below it at anal angle; hindwing yellower buff, with a brown cell-spot and antemedian line interrupted across cell; marginal area dark brown with a deep sinus beyond cell and a smaller one at anal angle.

Head, thorax, and abdomen brown speckled with buff; abdomen beneath and legs pale buff.

Expanse of wings: 28 mm.

♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

SUBFAMILY OURAPTERYGINAE.

182. *Phrygonis flavilimes* spec. nov.

Forewing : grey-brown, more rufous towards outer margin, with three parallel oblique lines : the first close to base, formed of steely scales ; second from one-fifth of costa to one-third of inner margin, deep yellow, bent at costa, narrow, edged inwardly by raised steely scales, and with a few beyond it on subcostal ; third line from two-fifths of costa to three-fifths of inner margin, pale yellow, broad, inwardly limited by steely scales ; extreme outer margin yellow, broader in middle, thinning out at either extremity ; fringe yellow.

Hindwing : with outer margin at middle fulvous ; the sinuous band continuing the third band of forewing orange fulvous, pale yellow on costa, edged inwardly by embossed metallic spots from vein 6 to above 2, then by a fine line, and outwardly by a lustrous violet-blue line ; margin and fringe from vein 3 to anal angle, and still more broadly from apex to vein 6 pale yellow ; in the fulvous tail a long oval black spot with metallic centre and a smaller black spot below it ; the outer margin darkened before the yellow marginal streak in both wings.

Underside pale pearl-grey, darker towards outer margin ; extreme margin and fringe yellow.

Head, thorax, and abdomen like wings.

Expanse of wings : 44 mm.

1 ♀ from La Oroya, R. Inambari, Peru, September 1904, dry season (Ockenden).

Much resembling *appropriata* Wlk., and in some respects also the figure of *politata* Stoll. ; but distinguished from all other species by the pale yellow edging of the wings before the yellow fringe.

SUBFAMILY DEILINIINAE.

183. *Lomographa modesta* spec. nov.

Forewing : white ; the costal edge finely yellowish ; lines pale grey, diffuse ; first vertical from just before middle of inner margin to median vein at lower angle of cell ; outer line from three-fourths of inner margin also vertical, slightly incurved before costa, lunulate-dentate, followed by a fringe of grey scales, which makes it appear double ; marginal area beyond a pale space dusted with pale grey scales ; marginal line very fine ; fringe grey.

Hindwing : with the outer line and shade curved ; no cell-spots ; fringe grey.

Underside wholly white ; fringe white with the tips alone grey.

Head, thorax, and abdomen white ; face and palpi dark brown ; antennae brownish ; legs white, externally yellow ; the forelegs brown in front.

Expanse of wings : 35 mm.

1 ♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

The same size and shape as *L. nubimargo* Warr.

184. *Lomographa penumbrata* spec. nov.

Forewing : white ; the costal edge finely dark ; crossed by three luteous grey lines starting from dull blackish costal triangles, and disposed almost as in *inequata* Warr., viz. from one-third, three-fifths, and five-sixths of costa to one-half, three-fourths, and seven-eighths of inner margin respectively ; but whereas in

inacquata the second line is flexuous and the third straight, in this the second is straight and the third bent outwards at vein 6; further, before the black marginal line there is a narrow grey shade broadest beyond cell, which tinges the fringes also grey, except at apex and anal angle.

Hindwing: with two narrow lines only towards outer margin, approaching one another before anal angle, the inner straight, the outer curved; fringe pale.

Underside white; forewing with an apical grey cloud from five-sixths of costa narrowing to end of vein 2, containing a roundish white blotch at apex.

Face and palpi black-brown; vertex, thorax, and abdomen white; legs white, the tarsi dark fuscous.

Expanse of wings: ♂ 30—35 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6400 ft. (Böttger).

185. *Lomographa sincera* spec. nov.

Forewing: white, the costal edge white; lines grey, ill-marked; first from before middle of inner margin to base of vein 2; outer at two-thirds, thick, slightly projecting outwards on vein 6 and below 4; marginal area faintly dusted with grey; fringe white; no cell-spot or marginal line.

Hindwing: without inner line; the outer bent on vein 3.

Underside pure white.

Head, thorax, and abdomen white; face and palpi dark brown; antennae brown, with basal third pale; legs white; forelegs brown in front.

Expanse of wings: 28 mm.

1 ♀ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Oekenden).

The lines are placed exactly as in *L. modesta* Warr., but the insect is decidedly smaller, and the fringes wholly white.

186. *Lomographa sordidata* spec. nov.

Forewing: white with a slight luteous tinge; costal edge finely yellow; lines dull grey; first very obscure, slightly curved, at one-third; outer diffuse, indistinctly crenulate, from three-fourths of costa to two-thirds of inner margin, slightly bent at veins 6 and 4, followed after a pale space by a black speckled marginal area; marginal line finely black, swollen into spots between veins; a small black cell-spot; fringe pale grey with white base.

Hindwing: without inner line; the rest as in forewing, but the marginal line not swollen into spots.

Underside white; costa of forewing yellowish; cell-spots showing through.

Head, thorax, and abdomen white; face and palpi brown; forelegs brown.

Expanse of wings: 28 mm.

2 ♂♂ from Sapucay, Paraguay, September 1904 (Foster).

Akin to *L. discolorata* Warr., also from Paraguay, but whiter, with narrower wings and distinct cell-spots.

SUBFAMILY PALYADINAE.

187. *Aplogompha riofrio* ab. *obscura* nov.

Differs from the usual typical form of *riofrio* Dogn. in the basi-costal patch of forewing not being sharply cut off along the median vein, but diffusely edged and externally continued to inner margin; the hindwing is crossed by three

complete series of grey-brown striae, which are usually only marked or suggested on the abdominal margin.

Underside the same.

1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6500 ft. (Böttger).

188. *Argyrotome metallicata* spec. nov.

Forewing: dark mouse-colour, thickly dusted with shining metallic scales; cell-spot oval, black in a yellow ring, the costal half of the black centre concealed by a boss of metallic scales, the whole placed in a larger rounded brown shade, of which the lower half is covered with a bed of bright metallic scales; beyond the cell-spot the metallic scales arrange themselves into a curved wavy-edged belt followed by a broad band of chocolate-brown, clear itself of bright scales, but edged outwardly by a shining bluish silvery line curving from costa before apex to anal angle: the extreme margin and fringe paler; base of fringe rufous.

Hindwing: with centre marked by a large blotch of metallic scales followed by a straight lustrous belt from apex to anal angle; the margin with five embossed spots, the three below middle large, the two above it quite small; margin, especially about apex, rufous-tinged.

Underside creamy white with a bluish tinge; both wings with a smoky brown submarginal fascia, very broad in forewing and narrow in hindwing; forewing with a large black discal spot.

Head, thorax, and abdomen mouse-colour; face and palpi browner.

Expanse of wings: 30 mm.

1 ♂ from R. Cayapas, N.W. Ecuador (Flemming & Miketta).

Nearest to *A. tenebrosa* Warr.

189. *Berberodes fulvicomosa* spec. nov.

♂. Closely allied to *B. cassiteris* Warr., from which it will be found to differ as follows: The dark marginal border of forewing is wider, and contains a sinus on its inner edge between veins 3 and 4, which does not exist in *cassiteris*; similarly in the hindwing the border from apex to vein 4 is wider, but stops short there, whereas in *cassiteris* it is continued narrowly to the anal angle, followed by a dark fringe; in *fulvicomosa* the fringe below vein 4 is, like the margin itself, white; the anal angle is more amply lobed, and clothed and fringed with gilded yellow hair scales, instead of black, the black blotch on the abdominal margin above the lobe being much smaller, with the tuft of black hairs less developed. Further, the silvery washing of the outer two-thirds of the hindwing is neither so dense nor so brilliant, the wing membrane remaining semi-transparent.

The costa of forewing is not so rigidly straight as in *cassiteris*, and the outer margin, instead of being uniformly curved, is more vertical to vein 3, then visibly indented.

Expanse of wings: 27 mm.

1 ♂ from R. Huacamayo, Carabaya, Peru, 3100 ft., June 1904, dry season (Ockenden), taken under identical conditions with a ♂ of the same size of *B. cassiteris*. No ♀ of either species were received from this locality; but from La Oroya, R. Inambari, caught in September of the same year, come two ♀♀, slightly differing *inter se*, but both, judging from the bend in outer margin of

forewing and from the breadth of the marginal border, referable to *fulvicomosa*. One of them, indeed, is identical with the ♂, except that it, of course, lacks the hair-clad lobe and silvery washing of the hindwing; the other, though exactly like the first beneath, shows the dark marginal border of upper side much broader, especially in the hindwing, where it extends uniformly from apex to anal angle; and the three series of pale yellow spots are here coalescent into lines and tinged with grey, and the white ground-colour is striated with grey. I take this to be merely a dark form.

190. *Ophthalmophora? bimaculata* spec. nov.

Forewing: purplish fuscous, with triangular yellow blotches just beyond middle on costa and inner margin, their apices pointing outwards; fringe concolorous.

Hindwing: with a lustrous metallic submarginal line from anal angle, where it is very faint, curving round from costa to base of veins 6, 7, preceded on costa by a large dull orange blotch, containing a lustrous spot on costa and limited towards base by a diffuse line of metallic scales running to one-third of inner margin; the narrow marginal area beyond the curved lustrous line is also dull orange; the fringe grey; between veins 6 and 7 a small embossed metallic spot on a black ground in a yellow ring; above vein 4 touching the lustrous line another embossed spot of silvery scales mixed with black; below vein 4 the wing is dusted with paler, and a few metallic scales.

Underside dull grey-brown, the yellow blotches of forewing and the orange blotch on costa of hindwing showing faintly.

Head, thorax, and abdomen concolorous with wings; abdomen below and pectus whitish.

Expanse of wings: 26 mm.

1 ♀ from Sapucay, Paragnay, October 1904 (W. Foster).

Most probably an *Ophthalmophora*.

191. *Ophthalmophora crepuscularia* spec. nov.

Forewing: deep velvety olive-brown, the fringe a little paler.

Hindwing: with base narrowly of the same tint, edged by an oblique narrow lustrous whitish line with darker outer edge, widening on costa; rest of wing, except costal and outer areas, deep brown flecked with olive scales; a metallic violet submarginal line from anal angle curving round on costa and ending in a thickened blotch at vein 6; the space between its end and the basal line, as well as the marginal area, dull fulvous; a round metallic eye between veins 6 and 7, with fine yellow orbit and black pupil containing an embossed violet spot; a smaller similar spot before submarginal line above vein 4: fringe brown.

Underside of forewing purple-brown, with base and inner margin whitish; of hindwing white, with margin and fringe purple-brown.

Head and thorax purple-brown; the abdomen cinereous; underside of abdomen and legs pale.

Expanse of wings: 34 mm.

1 ♂ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (G. R. Ockenden).

192. *Ophthalmophora trimaculata* spec. nov.

Forewing: pale mouse-grey, browner in the central area between the two lines; costa pale yellow, expanding into two flattened triangles, a smaller one at one-third, and a larger at two-thirds; the first precedes an obscure inner brown line, running parallel to outer margin; the second precedes a double brown outer line with a paler centre; the space between these lines on inner margin contains a flattened yellowish white blotch; cell-spot a minute pale dot; marginal area between apex and vein 3 paler than the rest and limited by a waved obscure shade; marginal line diffuse, purplish, running irregularly into the yellow fringe.

Hindwing: base mouse-grey, edged by a yellowish white line, which forms a square spot on costa at one-fourth; a lustrous submarginal line curving round from costa to vein 6 and preceded on costa by a triangular yellow blotch; below its end three small metallic embossed spots on a black ground in a yellow ring, the lowest one minute; interval between these and the lustrous line mouse-grey, beyond the line greyish fulvous; the fringe dull yellow; centre of wing pale brick-red thickly dusted with darker red atoms; cell-spot red; inner margin and fringe pale.

Underside pale grey dappled with darker in outer half; costa of forewing beyond middle broadly, of hindwing throughout narrowly, yellowish; fringes yellowish.

Thorax and abdomen mouse-grey; head more ochreous grey; underneath pale grey like the wings; forelegs fuscous in front.

Expanse of wings: 26 mm.

1 ♂ from Sapucay, Paraguay, October 1904 (Foster).

Nearest to the Peruvian *O. contrariata* Warr., but smaller and neater.

193. *Opisthoxia croceata* spec. nov.

Forewing: pale yellow, with the costa narrowly and the outer margin broadly deep buff; from the base of inner margin a broad brown streak runs obliquely upwards below the median vein to beyond the lower angle of cell, where it is abruptly angled and bent upwards and inwards beyond cell to the subcostal vein, below which it is marked by a metallic dash; a submarginal metallic streak consisting of spots between veins, more or less confluent below middle, the uppermost one above vein 7 elongated; fringe buff.

Hindwing: with a submarginal metallic line from anal angle curved round from below middle of costa, approaching its own course between veins 2 and 3, then running up to middle of inner margin; the basal space within this line pale yellow, the marginal space beyond it deep buff, tinged with darker along the inner course of the line and along inner margin; base of wing brown edged with whitish; between veins 6 and 7 an oval embossed metallic spot in a black ring; a similar but smaller spot before margin above vein 4, where the submarginal metallic line is interrupted.

Underside whitish with a pinkish tinge; costa of both wings yellowish; outer margin of forewing grey-brown.

Head, mesothorax, and basal segment of abdomen brown; thorax and abdomen yellowish.

Expanse of wings: 26 mm.

1 ♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

194. *Opisthoxia ockendeni* spec. nov.

Very much like *O. argenticincta* Warr., with which it may easily be confounded.

Slightly paler red; the discal pale streak absent; from the lower edge of the costal pale streak an obscure dark bar runs straight to inner margin before anal angle; the pale streaks along costa and inner margin both edged internally with blackish scales. In the hindwing there are two embossed spots, the additional one being submarginal above vein 4; the metallic marginal line which curves round inwardly to vein 6 is obscurely continued by scattered shining scales to anal angle.

Underside not so white as in *argenticincta*, the marginal border of forewing fawn-grey instead of blackish.

Expanse of wings: 34 mm.

1 ♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

SUBFAMILY BRACCINAE.

195. *Sangala aenea* ab. *rubrimacula* nov.

Forewing: with a deep blue gloss, except along the margins; across the end of the cell and the bases of veins 2, 3, and 4 a red somewhat bilobed oblique blotch instead of the few red scales of the type-form; underneath the red blotch is still larger, the red streak at base of costa is well defined, and the hindwings have a red spot at base; the red lateral marks of abdomen also present.

Expanse of wings: 39 mm.

1 ♂ from Pozuzo, Huánuco, Peru, 800—1000 m. (Hoffmanns).

The red spot is of a different shape from that in *S. antiphates* Druce.

196. *Sangalopsis angustiplaga* spec. nov.

Forewing: brown-black, with an oblique deep red narrow blotch starting from subcostal vein at middle of wing and nearly reaching vein 2, enclosing the discocellular, veins 3 and 4 marked in black across it; fringe with the tips rufous.

Hindwing: brown-black.

Underside of forewing with the red blotch broader and straighter; apex, inner margin, and base paler brown; hindwing paler brown, with a darker broad margin, the edge starting from costa just beyond middle, running vertical to middle of discocellular, then outcurved to anal angle.

Head, thorax, and abdomen black-brown.

Expanse of wings: 30 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns), type: 1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6400 ft. (Böttger).

197. *Siosta grandis* spec. nov.

Differs from *S. bifasciata* Latr. in its larger size and the different shape of the red blotch of forewing, which is only about half the width of that in *bifasciata*, the two edges parallel and both well defined. The same difference in width is seen on the underside, where both blotches are more developed. The underside of the

hindwing is deeper black, and the veins do not, as in *bifasciata*, show darker than the ground-colour.

Expanse of wings : 52 mm.

A series of ♂♂ from Zamora, Ecuador, 3000—4000 ft. (O. T. Baron).

SUBFAMILY NEPHODIINAE.

198. *Astyochia interlineata* spec. nov.

Forewing : hyaline, very scantily clothed with whitish scales ; veins towards margin and marginal line finely brown ; two faintly darker waved lines, one just before middle, the other submarginal ; between them and beyond the cell-spot a thicker line, curved below costa and touching submarginal line on inner margin ; costa greyish ; fringe white ; an inner line near base is visible on the inner margin.

Hindwing : with two waved lines, postmedian and submarginal, and the cell-spot dark.

Underside hyaline, the markings as above ; costa of forewing dark at base.

Head, thorax, and abdomen white ; antennae grey.

Expanse of wings : 36 mm.

1 ♂ from Cuzhi, Huánuco, Peru, 1900 m. (Hoffmanns).

In the possession of the broad line between the waved lines of forewing this species agrees with *A. signata* Warr., but in that the broad line is repeated in the hindwing.

199. *Astyochia transvisata* spec. nov.

Forewing : hyaline white, transparent ; costal edge finely black ; two grey lines ; first at about one-third, outcurved across wing ; outer from two-thirds of costa, lunulate-dentate, curved outwards to vein 6, then parallel to outer margin ; cell-mark grey ; fringe white ; veins before margin finely dark.

Hindwing : with the lunulate-dentate line close to margin ; cell-spot grey ; veins dark before margin only.

Underside iridescent white.

Head, thorax, and abdomen white.

Expanse of wings : 35 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6000 ft. (Böttger).

This species is noteworthy as having in the forewing the venation of *Astyochia* without the characteristic hair-tuft of hindwing. I have seen other examples, in which, owing to their condition, the tuft might have been abraded ; but the present pair are quite fresh and perfect.

200. *Nephodia interposita* spec. nov.

Forewing : dark greyish fawn-colour with darker freckling, semi-transparent ; two fine darker cross-lines, placed as in *N. perilla* Druce ; the veins and linear cell-mark rather darker ; marginal area decidedly darker, containing towards costa a short submarginal line.

Hindwing : white, slightly greyish along inner and outer margins ; fringe grey.

Underside of forewing paler, with the outer line marked and continued across the white hindwing.

Head and thorax concolorous with forewings; abdomen pale ochreous; antennae blackish.

Expanse of wings: 44 mm.

1 ♂ from Ocoeneque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden), type; 1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

The same size as *N. perilla* Drnce, from which it is separated by the white hindwings, and smaller than *impunctata* Th.-Mg., which has greyish white hindwings.

201. *Nipteria albithorax* spec. nov.

Of the same size, shape, and appearance as *N. minor* Th.-Mg., with which at first sight it might appear identical, but distinguished by the following points: in the forewing the costa is darker grey throughout; the outer line runs nearer cell-spot, rising from costa at two-thirds instead of four-fifths, is quite straight and thick, and diffusely clouded at costa; the inner line, from nearly one-third instead of one-fourth, is also clouded at costa and runs straight, not bent on subcostal vein; the outer margin is indented below apex; the fringe dark grey above middle, and grey spotted with darker below; the hindwing shows no dark line above.

Underside with the lines in both wings thick and diffuse; costa of forewing with thick black striae.

Vertex, shoulders, and patagia conspicuously white, the patagia blackish at base; in *N. minor* these are dull grey.

1 ♂ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., October 1904, wet season (Ockenden).

202. *Nipteria brevistriga* spec. nov.

Forewing: semi-transparent, pale blurred grey; costal area above subcostal vein olive-ochreous, with fine dark speckling, and two short black streaks; the first oblique outwards at one-fourth, the outer oblique inwards beyond three-fourths; from the base of this last a very obscure straight grey line runs to two-thirds of inner margin; close beyond the outer black streak is a similar slight grey line showing through from beneath; a grey cell-spot on upper half of discocellular; apical and marginal areas clothed with olive-ochreous scales having a somewhat gilded appearance; fringe of the same colour, flecked with dark beyond veins, with a faint dark basal and middle line.

Hindwing: with a thick curved grey postmedian line, stopping short at submedian fold; cell-spot grey; the whole wing clothed with olive-ochreous scales; a darker shade before outer margin.

Underside with the olive-ochreous areas densely covered with black confluent striae; of the two outer streaks on costa of forewing the outer one is black and the inner grey; cell-spots and lines black.

Head, thorax, and abdomen olive-ochreous; antennae, vertex, shoulders and base of patagia fuscous; rings of abdomen fuscous.

Expanse of wings: 44 mm.

1 ♂ from Ocoeneque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

203. *Nipteria contacta* spec. nov.

Forewing: blurred luteous grey, more luteous along costa and towards apex; costa blackish at base and spotted with black throughout; a small black cell-spot; no lines marked, but the outer line visible by transparency; fringe concolorous, with minute black dots at the vein-ends.

Hindwing: with the line more visible; cell-spot and marginal spots as in forewing.

Underside of forewing black-speckled along costa and outer margin; the line very obscurely grey, slightly sinuous, from costa just before apex to middle of inner margin, passing through a fulvous cloud before outer margin, the space immediately beyond the line being pale yellow; some black scales at apex: hindwing speckled all over, with a faint fulvous tinge; the line thick, straight across wing from below middle of inner margin to vein 6, then upcurved to before apex.

Head, thorax, and abdomen concolorous; legs and antennae fuscous grey.

Expanse of wings: 44—46 mm.

1 ♂, 2 ♀♀ from Oconeque, Carabaya, S.E. Peru, 7000 ft., July 1904, dry season (Oekenden).

204. *Nipteria curtistriga* spec. nov.

Forewing: dull white, with a few dark speckles along costa; the outer margin with a greyish brown tinge; costa marked by three dark spots: first before one-third, the second before two-thirds, oblique outwards; the third at three-fourths, oblique inwards; a dark cell-spot; fringe white, distinctly chequered with black.

Hindwing: with black cell-spot and curved dark-grey postmedian line.

Underside of forewing olive-tinged and fuscous speckled along costal and apical regions only, of hindwing speckled throughout; of the costal marks of forewing the outermost is strongly marked and the second faintly; in hindwing there is a dark spot in and below cell near base.

Head, thorax, and abdomen grey; shoulders brown; antennae black.

Expanse of wings: 40 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns), type; 1 ♂, 1 ♀ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Oekenden).

Apparently related to *N. brevistriga* Warr. and *laecipennis* Warr.

205. *Nipteria flebilis* Warr. ab. *subpallida* nov.

This form is very much paler than the typical; the lower half of forewing, the linear space beyond the outer line, and the whole of the hindwing being whitish grey; underneath both wings are whitish, with the darker tints of the typical form much reduced or absent; on the other hand the costal half of outer line of forewing and the two parts of the central line of hindwing, above and below the cell, are black and thick.

Expanse of wings: 40 mm.

1 ♂ from R. Colorado, Peru, 2500 ft., August and September 1902 (Watkins).

206. *Nipteria fumilinea* spec. nov.

Forewing: shining white; the veins grey; the costal edge narrowly grey to middle; a grey vertical line, slightly outcurved, at one-third; a grey outer line

from four-fifths of costa curved to two-thirds of inner margin, where it is thicker ; fringe white.

Hindwing : the same, with outer line only, and very faint.

Underside white, with the veins dark.

Head, thorax, and abdomen white ; collar with a yellow fringe ; antennae black ; tarsi fuscous.

Expanse of wings : 60 mm.

1 ♀ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

The antennae of this ♀ are finely subserrate, and I refer it to *Nipteria* rather than to *Leucula*.

297. *Nipteria fumosata*

Nipteria fumosata Warr., *Nov. Zool.* xii. p. 57 ♀ (1905).

Nipteria pallidilinea Warr. ,, p. 58 ♂.

These turn out to be sexes of the same species.

298. *Nipteria laevipennis* spec. nov.

Forewing : smooth pale grey, semi-transparent ; the cell and the marginal area darker grey ; costal area above subcostal vein pale straw-colour in the outer half of wing, with a black funnel-shaped mark at two-thirds reaching vein 5, followed by four small black spots before apex ; the basal half black with a pale straw-coloured blotch at one-fourth ; fringe straw-colour, broadly flecked with black beyond veins ; cell-spot scarcely marked.

Hindwing : paler, ochreous grey, with a very faint dark cell-spot and curved postmedian line ; fringe as in forewing.

Underside rather darker ; forewing with a dark shade from base through cell to outer margin ; the three black costal blotches distinct : hindwing straw-colour flecked with black ; cell-spot and postmedian line darker, and a cloudy submarginal shade.

Head, thorax, and abdomen ochreous ; the shoulders and base of patagia fuscous ; abdomen with darker segmental rings ; forelegs, palpi, and antennae blackish.

Expanse of wings : 44 mm.

1 ♀ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

299. *Nipteria perpusilla* spec. nov.

Forewing : semi-transparent greyish white, the costal edge darker ; a large smoky black cell-spot ; a thick dark line parallel to outer margin from three-fourths of costa to three-fourths of inner margin, incurved just below costa and outcurved above inner margin ; the marginal area beyond it above middle darker ; fringe blackish.

Hindwing : like forewing ; the marginal area not darker.

Underside rather duller ; space beyond cell-spot of forewing more distinctly white.

Thorax and abdomen grey ; face and vertex yellowish ; palpi blackish.

Expanse of wings : 24 mm.

1 ♀ from R. Huacamayo, Carabaya, Peru, 3100 ft., June 1904, dry season (Ockenden).

210. *Nipteria subustata* spec. nov.

On the upperside exceedingly like *N. conlecta*, but darker grey, without any luteous tinge; costa darker at base and marked with black striae rather than spots; a very obscure outer line marked by dark vein-dots from before apex to two-thirds of inner margin; fringe dark grey, hardly spotted beyond veins.

Hindwing: with cell-spot only; fringe paler, with the spots plainer.

Underside of forewing pale, except along costa and outer margin; cell-spot and line plain, the latter with the teeth marked darker on the veins; marginal area from costa to vein 2 filled in with a fulvous grey cloud; fringe dark grey, with pale tips: hindwing with the line well marked, straight from submedian fold at two-thirds to vein 6, then upcurved to costa, the whole wing darker grey and speckled with blackish; inner margin narrowly pale.

Head and thorax dark grey; patagia and abdomen paler, the latter with black segmental rings.

Expanse of wings: 41 mm.

1 ♂ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1905, wet season (Oekenden).

211. *Nipteria translineata* spec. nov.

Forewing: white, densely dappled with blackish grey; the veins finely black; a slight blackish patch at base, followed by an indistinct line; first line at one-third, vertical, blackish, forming two large outward curves above and below the median vein, preceded by a narrow area of pure white; outer line at two-thirds, running obliquely outwards from costa to vein 4, shortly and obscurely toothed on the veins, then boldly dentate-lunulate to inner margin, followed by a pure white space; cell-spot black, following the course of the discocellular; a broad irregular white band from apex to anal angle; marginal area dark from vein 6 to 1, but whitish between 3 and 4; a black marginal line; fringe white, with black chequering beyond veins.

Hindwing: white, with a blackish lunulate-dentate submarginal line; a black cell-spot, and some dark shading towards margin; marginal line black; fringe white, with dark mottling.

Underside like upper; the shadings of forewing duller, those of hindwing clearer.

Head and thorax dark grey; abdomen whitish, with dark segmental rings; legs fuscous; antennae black.

Expanse of wings: 52 mm.

2 ♀♀ from Agualani, Carabaya, Peru, 9000 ft., March 1905, wet season (Oekenden).

By its markings this insect recalls some species of the North American genus *Neptytia* Hulst; veins 6 and 7 of hindwing are short-stalked.

212. *Nipteria umbrilinea* spec. nov.

Forewing: testaceous grey, with darker speckling; the costa darker, with slight striae; a dark cell-spot; a dark diffusely scaled outer line, slightly curved from apex to two-thirds of inner margin; apex and outer margin shaded with darker; fringe concolorous, with dark spots beyond veins in costal half of wing only; veins slightly darker.

Hindwing: with the line running from middle of abdominal margin to the outer margin at vein 7, rather thicker and more diffuse than on forewing; cell-spot dark.

Underside of forewing with costal and apical areas brownish tinged, with dark striae, inner marginal half quite pale grey without striae; the line dark brown: hindwing coarsely black-speckled, especially along the course of the thick black line; costa striated with dark.

Head, thorax, and abdomen like wings; shoulders and segmental rings of abdomen blackish; a brown lateral stripe on abdomen; legs dark.

Expanse of wings: 45 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6400 ft. (Böttger).

Forewing with slightly pointed apex. Belongs to the group including *dispana* Warr. *unilinea* Warr. and *conversata* Wlk. (*Budara*).

Zamaradopsis gen. nov.

Allied to the genera *Hydatoscia* and *Neotherina*, with which it agrees in the possession of a foveal bar in the forewing of the ♂, and in the thin scaling and semi-transparent wings; but the antennae are quite simple, lamellate, instead of bipectinate.

Type: *Zamaradopsis tenera* spec. nov.

213. *Zamaradopsis tenera* spec. nov.

Forewing: pale semi-hyaline green, obscurely speckled with darker; the costa, lines, cell-spot, and marginal area pale pink; first line curved from one-third of costa to two-fifths of inner margin, where alone it is distinct; outer line from five-sixths of costa to three-fourths of inner margin dentate-lunulate, toothed outwards at 6 and 4, from 4 to 3 running close to margin, and curved in again towards inner margin, marked with red spots on veins; fringe pale.

Hindwing: similar.

Underside pale green, with the costa of forewing and apex deep pink; the outer line dark at costa.

Head, collar, and antennae pink; thorax and abdomen pale green, the dorsum pinkish tinged.

Expanse of wings: 27 mm.

1 ♂ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Ockenden).

A species of unusual appearance, superficially recalling the Eastern genus *Zamarada*.

SUBFAMILY ASCOTINAE.

214. *Bronchelia curvilinea* spec. nov.

♂. *Forewing*: white, thickly striated with brownish fuscous; lines thick, blackish; first from one-fourth of costa to one-fifth of inner margin, outcurved above median, preceded by a thick shade; median shade thick and blotched to vein 4, then incurved, and below vein 2 coalescing with outer line to form a blotch; outer line from two-thirds of costa outcurved to 6, then lunulate-dentate inwards; space beyond it above vein 4 blackish, bounded above 6 by the white submarginal line, and between 4 and 6 extended to outer margin; submarginal line bounded inwardly by a blackish spot between 2 and 3, and by an oblique blotch from inner

margin to 2; marginal border with thicker and darker striae; a row of black marginal lunules between veins; fringe grey, brown between 4 and 6.

Hindwing: with the lines duller; a thick straight antemedian, double lunulate-dentate postmedian line, and double submarginal shade enclosing the white line, the inner shade with a black blotch beyond cell; cell-spot small.

Underside white, striated only in costal half of forewing with grey; costa with dark blotches; the double inner line, the median shade, and the apical quadrate blotch all marked above median and vein 4; cell-spot black: hindwing with submarginal blackish blotches on veins 6 and 7 touching each other; a black cell-spot.

Head, thorax, and abdomen white; antennae fuscous.

♀ white, finely peppered with grey; the lines single, and very distinct; the outer line strongly curved; marginal area white, without blotches, except the two preceding submarginal line on inner margin; fringe white; hindwing with sinuous grey inner line, and lunulate-dentate postmedian; submarginal shade hardly marked.

Underside of both wings wholly white.

Expanse of wings: ♂ 56 mm.; ♀ 70 mm.

1 ♂, 4 ♀♀ from Ciudad de Tucuman, April 1903 (Monetti).

A very distinct species, marked, especially in the ♀, by the strongly outcurved outer line of forewing.

215. *Bronchelia granulosa* spec. nov.

Forewing: dull whitish, covered with grey, partially confluent, granulations; these are thickest towards base and along outer margin, where the ground-colour also is somewhat darker; lines dark grey, indistinct, but marked with black on the veins; first from one-fourth of costa to one-sixth of inner margin, curved, and preceded by a pale line; median shade from before middle, angled outwards beyond the black cell-spot, and reaching inner margin at one-third, black-marked on all the veins; outer line from costa a little beyond middle to middle of inner margin, outcurved, and indicated by black arrow-headed marks on the veins, followed by a slight grey shade; submarginal line pale, lunulate, somewhat interrupted, traversing the darker grey marginal border; black marginal lunules between veins; fringe pale grey.

Hindwing: paler; the antemedian line cloudy; the rest as in forewing, but the outer half is faintly tinged with flesh-colour.

Underside dull cream-colour, with a narrow, black, nearly marginal border in both wings; forewing only speckled with black, and with a black cell-spot; costa luteous, blotched with black; fringe and extreme outer margins pale, with the marginal lunules black.

Head and thorax olive-grey; abdomen paler, like hindwing.

Expanse of wings: 60 mm.

1 ♂ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Oekenden).

216. *Bronchelia nigriplena* spec. nov.

Forewing: chalk-white, without, or with very slight speckling along margins only; lines as in *puellaris* Guen., but all blacker and more distinct; the first more vertical; the apical blotch much blacker, and continued to hindmargin, not paler beyond submarginal line.

Hindwing: with the lunulate-dentate postmedian line and accompanying series of grey lunules very distinct; the submarginal blotch beyond cell black and conspicuous.

Underside white with only the costa of forewing striated; the quadrate apical patch abruptly cut off at vein 4; in a second example there is a narrower grey-brown cloud from it to vein 2, and a blackish streak, swollen between veins, from apex to vein 4 of hindwing.

Face, palpi, and antennae brown; thorax and abdomen chalk-white.

Expanse of wings: ♂ 56 to 65 mm.

2 ♂♂, the larger (type) from Santo Domingo, Carabaya, Peru, 6500 ft., December 1902, wet season (Ockenden); the smaller from Patino cucé, Paraguay, February (Montforts).

217. *Bryoptera deformipennis* spec. nov.

♂. *Forewing*: white, with a flesh-coloured tinge, except along the two folds; costa striated with grey and a few grey speckles about the wing; lines black, thick and interrupted; first at one-fourth, incurved below, preceded by a grey shade; outer from three-fourths of costa to two-thirds of inner margin, black-marked on veins, angled on vein 4 and insinuate above; median line thicker, strongly angled outwards within the angle of outer line; outer line followed by olive-grey blotches at costa, beyond cell, and in submedian interval; praesubmarginal shade marked only at costa and beyond cell, and below by grey dots on veins; outer shade complete, of olive-grey lunules, the extreme margin again pale, with black marginal spots; fringe flesh-colour.

Hindwing: with an olive streak at base; the median line thick, curved to the black cell-spot, preceded by an olive shade, and rising just above outer line, from which an olive blotch runs to the base of submarginal line. The wing is triangular in shape, the costa, as long as costa of forewing, straight and produced to a blunt point, the outer margin also being but slightly curved.

Underside dull pinkish ochreous with traces of a brown submarginal cloud.

Head, thorax, and basal half of abdomen white, the last with olive-grey bands; anal half pale fawn without markings; palpi externally with fuscous scaling.

Expanse of wings; 30 mm.

1 ♂ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1905, wet season (Ockenden).

In what I believe to be the ♀ of this species, all the grey markings are decidedly olive-green, the wings are more thickly speckled, and the pinkish shading more concise. The apex of hindwing is slightly more produced and prominent than in the ♀ of any other species of *Bryoptera*, and the scaling of the abdomen agrees with that of the ♂. The underside, however, differs, being dull grey with a darker cell-spot and central line, and broad darker grey marginal border, with the fringes white, much as in *B. discata* Guen.

This ♀, which is of the same size as the ♂, is from La Union, R. Huacamayo, Carabaya, Peru, 2000 ft., December 1904, wet season (Ockenden).

218. *Bryoptera subnigra* spec. nov.

Forewing: white, shaded and striated with olive-grey; the lines black, irregular; first from one-fourth of costa to one-third of inner margin, crinkled and strongly outcurved, preceded by a broad brownish yellow shade; outer line, from

three-fourths of costa to three-fifths of inner margin, irregularly waved and curved to submedian fold, thence vertical, followed by a broad brownish yellow shade; median line thick, outcurved round the blackish cell-spot to below vein 2, thence vertical, followed from vein 6 by an olive-brown cloud filling up the space between it and outer line; submarginal line white, broad and waved, between two interrupted brownish grey shades, the outer one always with a dark blotch on vein 5; dark marginal spots between veins; fringe whitish.

Hindwing: with an olive patch at base, the middle line and its accompanying shade broad and straight, reaching vein 6, and preceding the black cell-spot; outer line with a thick olive blotch from submedian interval to inner margin at base of outer line; fringe of inner margin fawn-colour.

Underside smoky olive-black; apex of forewing and fringes paler; inner margin of forewing whitish.

Head, thorax, and two basal segments of abdomen whitish grey; the second segment with a pair of spots on dorsum; abdomen fawn-colour, with a broad blackish lateral stripe; face dark above, pale below; palpi blackish, with the tips white.

Expanse of wings: 40 mm.

3 ♂♂ from Pozuzo, Huánuco, Peru, 800—1000 m. (Hoffmanns) type; 1 ♂ from La Union, R. Huacamayo, Carabaya, Peru, 2000 ft., December 1904, wet season (Ockenden).

219. *Catoria linearia* spec. nov.

Forewing: chalk-white, with numerous olive-grey fleecy striae, which are densest along costa and outer margin; the lines olive-grey, blackish on the veins, and starting from black costal streaks, at one-fourth, one-half, and nearly three-fourths; the basal curved to near base of inner margin; the median interrupted below and touching cell-spot above; the outer lunulate-dentate, the teeth black and well-defined throughout, the lunules clear only above inner margin; submarginal line ill-defined, but with grey shades on each side; blackish marginal spots; fringe white.

Hindwing: with dark, nearly straight, antemedian and well-defined dentate-lunulate postmedian line; cell-spot black; the rest as in forewing.

Underside of forewing suffused with grey, with a broad cloudy dark-grey marginal border, narrowing downwards, leaving a white spot at apex and a whitish blotch between 3 and 4; cell-spot dark; costa blackish, with pale dotting; hindwing with only the costa grey, and a submarginal band from apex to middle.

Face white, with two black spots; palpi black; vertex, thorax, and abdomen white, with a few grey scales; the tips of the shoulders grey.

Expanse of wings: 48 mm.

Fairly common from Peru, but all ♂♂.

220. *Cymatophora flaviceps* spec. nov.

Like *C. limosa* Dogn. (*Tephrosia*), but always with the vertex and top of face yellow; on the underside both wings have a dark submarginal fascia, sometimes strongly developed, of which there is no mention in the description of *limosa*. As a rule the ground-colour is paler, more grey than in *limosa*.

Expanse of wings: 48 mm. M. Dognin gives 34—38 mm. for his species.

1 ♂ from Pozuzo, Huánuco, Peru, 800—1000 m. (Hoffmanns).

Besides the present example I have seen a ♂ from Charaplaya, Bolivia, and 5 ♀♀ : 2 from Paramba, Ecuador, 2 from Santo Domingo, Peru, and 1 from Lita, Ecuador; the yellow is more developed in the ♀♀, in one case including not only the collar, but the pectus beneath, face, and forelegs.

221. *Cymatophora munda* spec. nov.

Forewing : in central area pale grey dusted with darker; in basal and marginal areas dark grey, with some pale grey intermixed; the lines limiting the central area whitish; first at one-fourth, oblique outwards to subcostal, there angled and oblique inwards, indented on median vein; outer from three-fourths of costa to two-thirds of inner margin slightly sinuous, parallel to outer margin; a dark cell-spot; submarginal line indicated only by double dark lunules beyond cell and on submedian fold; costa dotted with dark and light; fringe grey.

Hindwing : with outer two-fifths dark, limited by a straight pale line; basal area pale grey, with darker central cloud and cell-spot.

Underside similar, but the difference in shade not so marked; apex of forewing pale.

Head, thorax, and abdomen grey.

Expanse of wings : 48 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

Differing from others of the genus by the absence of distinct lines; hindwing with outer margin strongly crenulate.

222. *Hymenomima binotata* spec. nov.

Forewing : grey, finely dusted with dark atoms, and slightly yellowish-tinged; costa finely dotted with dark, and with dark spots at the rise of the lines; these all marked by black spots on veins, and curved parallel to outer margin; first from nearly one-third of costa to close to base of inner margin; median a little before middle; outer from two-thirds of costa to three-fifths of inner margin, black from vein 2 to inner margin, followed by a slight dark shade, which is also darker from 2 to inner margin; submarginal line of the ground-colour, the lunules between 4 and 6 filled up with black, and in a less degree those below vein 3; the grey shade following darker spotted below costa; marginal spots black; fringe concolorous with wings.

Hindwing : like forewing, but without basal line; the outer line with its shade forming a similar black curved blotch on inner margin.

Underside dark brownish grey in forewing, pale grey in hindwing; both wings with black cell-spots; costa of forewing yellowish striated with dark.

Head, thorax, and abdomen concolorous with wings; dorsal segments of abdomen with pairs of black spots; face black above, pale below; palpi externally black.

Expanse of wings : ♂ 35 mm.; ♀ 40 mm.

3 ♂♂, 1 ♀ from Oconeque, Carabaya, Peru, 7900 ft., July 1904, dry season (Oekenden).

The ♀ is more uniformly grey, with the markings generally darker, the blotches less conspicuous.

223. *Hymenomima densata* spec. nov.

Forewing: whitish entirely suffused with dark fuscous and speckled with darker; lines thick and black; first from one-fourth of costa outcurved above, then inwards to one-sixth of inner margin, preceded by a thick broken shade; outer line from two-thirds of costa to middle of inner margin, angled inwards below costa, then outcurved to vein 2, not dentate, forming a deep inward sinus across submedian interval; median shade obscure, parallel to outer line, passing just beyond the black cell-spot; the outer line is followed by a thick dark shade much mixed with ferruginous; submarginal line sharply lunulate, pale, white just below vein 4, where it is preceded by a black blotch; all the lunules filled up with blackish, over which are sprinkled pale scales; externally the lunules are joined by black dashes with the black marginal lunules, between which the veins are marked with ferruginous; fringe pale at base, mottled heavily with dark.

Hindwing: with basal half whiter, containing a thick black basal mark, a straight antemedian black line, and cell-spot; outer half as in forewing.

Underside dull dark grey, with median and outer lines marked strongly with black and thickened on veins, the outer nearly straight, not corresponding with the line above; marginal area of forewing darker, and with a still darker middle shade; hindwing with the shade just marked; cell-spots black.

Head and thorax dark like forewing; abdomen paler, but much mottled with blackish on dorsum, and with a black ring near base.

Expanse of wings: 32—35 mm.

1 ♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden) type; 1 ♂ from Pozuzo, Huánuco, Peru, 800—1000 m. (Hoffmanns).

Near *extersaria* Warr. and *rufata* Warr., darker than either, with no distinct pale patch at middle of outer margin; the outer line not dentate; fovea inconspicuous.

224. *Iridopsis grisescens* ab. *superscripta* nov.

Forewing: pearl-grey, without speckling or suffusion, and in consequence with all the lines distinct and not obscured as in the typical form; the two arms of basal line uniting on inner margin; the median line also double, the two arms forming a darker fascia across wing, the space between them being tinged with fuscous; a distinct olive-tawny shade beyond outer line, which is present, though much obscured, in the type; submarginal line indistinct, but followed by a darker shade, which beyond cell is blackish and joined inwardly by two black streaks above and below vein 5 with outer line; marginal spots large and black; fringe grey.

Hindwing: still paler, the basal half whitish; all the lines black and distinct; cell-spot large and crescent-shaped, black.

Underside as in the type.

Expanse of wings: 46 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger), 3 other typical ♂♂ from the same locality, and 1 ♀ from Limbani, Peru, are all of about the same size, and therefore larger than the type which came from Quito; but a second ♀ from Limbani, paler than the rest, agrees in size with the type.

225. *Iridopsis pallescens* spec. nov.

Forewing: dull whitish, sprinkled with grey and blackish scales; costa with short vertical brown striae and black dashes at the commencement of the lines; lines black; first from one-third of costa, bent in cell, then sinuous and inwardly oblique to one-fourth of inner margin; outer line from three-fourths of costa, roundly projecting outwards on vein 5, then sinuate inwards to middle of inner margin; median shade indistinct, passing close beyond the discal spot and nearly touching outer line at inner margin; a brown shade preceding inner line and another following the outer; marginal area grey and brown with a whitish waved submarginal line, the apical area above vein 4 slightly darker; black marginal spots between the veins; fringe grey.

Hindwing: with basal two-thirds paler; median line very faint; outer line finely black, angled outwards on the cell-fold, then arched to inner margin; cell-spot oval, of white raised scales; marginal area as in forewing.

Underside pearly white; costa of forewing striated and spotted with dark fuscous; a black cell-spot and narrow smoky fuscous blotch at apex, the extremity of which remains white.

Head, thorax, and abdomen greyish white, with some darker speckling.

Expanse of wings: 37 mm.

1 ♂ from Sapucay, Paraguay, September 1904 (Foster).

226. *Iridopsis submarginata* spec. nov.

Indistinguishable above from *I. syrniaria* Guen., except in one particular: the upper part of outer line is not curved obliquely outwards from costa nor forms any projection between 4 and 6, but runs straight and slightly waved from costa to vein 5 as in *chalcia* Oberth. and *rectura* Dogn.

On the underside both wings have a black marginal border, narrowing before middle; the forewing with a large black cell-spot; both wings pure satiny white.

Expanse of wings: 48 mm.

1 ♂ from La Vuelta, Caura River, Venezuela, May 1904 (Klages).

227. *Melanoscia arctiata* spec. nov.

Forewing: dark olive-fuscous, with the lines and numerous irregular specklings buff; the veins finely and interruptedly buff: first line nearly vertical, broad, at one-third, preceded by one or two fine broken marks from costa; outer line broad, from apex to two-thirds of inner margin, joined on vein 6 by a short broken streak from costa at five-sixths; a much-interrupted pale median line, plainer above vein 4 and forked to costa, with the inner branch broader; base of veins 2, 3, 4 with some buff speckling; some irregular submarginal buff spots; fringe dark, mottled with buff at the vein-ends.

Hindwing: fulvous, black-speckled, with an antemedian and median band, the latter followed by another less strongly marked, dull fulvous; the marginal border broadly olive fuscous; fringe fulvous.

Underside like upper, but all the pale spaces more strongly marked and of the same tint in both wings, yellow buff.

Head, thorax, and abdomen dark fuscous and buff; abdominal segments black tinged with buff; vertex wholly buff; face buff with black centre; antennae buff

with black mottlings; underside of abdomen yellowish buff; legs and palpi fuscous mottled with buff.

Expanse of wings : 30 mm.

2 ♂♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Oekenden).

An unusually marked species, slightly recalling some *Arctidae*.

228. *Physocleora albiplaga* spec. nov.

Forewing: blackish fuscous with the space between median and outer lines white; lines black, thick, starting from black costal triangles, the first obscured by the dark basal suffusion, preceded below median by a brown band; median line close beyond basal; outer line from three-fifths of costa to middle of inner margin, nearly vertical to 4, then inbent, followed by a broad brown band; submarginal line grey, lunulate, traversing the middle of the dark marginal area, which is grey again along outer margin; marginal black spots between veins, united by a black line; fringe dark flecked with paler; the white middle band is freckled with dark scales along costa and more broadly above inner margin.

Hindwing: similar, but without basal line; the white middle space black-speckled throughout.

Underside blackish fuscous, with cell-spots and outer lines shown; the middle space paler, in the forewing forming a quadrate white blotch below costa.

Head, thorax, and abdomen brownish fuscous; second segment of abdomen with a white ring.

Expanse of wings : 18—20 mm.

2 ♂♂, 2 ♀♀ from La Oroya, R. Inambari, Carabaya, S.E. Peru, 3100 ft., October 1904, wet season (Oekenden), and 1 ♂ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Oekenden).

Allied to *P. martena* Schaus, from Brazil, from which it is distinguished by the white middle space.

229. *Physocleora bella* spec. nov.

Forewing: white; the costa black-dotted, blackish from base to first line; lines dark, from three black costal spots at one-fourth, one-half, and three-fourths; first nearly vertical; middle fine, outcurved round the blackish cell-spot; outer line marked by black teeth on veins, angled on vein 6, insinuate in submedian interspace, to two-thirds of inner margin; this line is followed by a broken grey shade below costa and above inner margin, and by a fuscous grey blotch between veins 3 and 4; submarginal line white, ill-defined, between two dark grey diffuse shades; marginal black spots between veins; fringe whitish, chequered with grey beyond veins above middle.

Hindwing: without first line; the cell-spot large and round, the postmedian line and shade strongly outcurved beyond it.

Underside ochreous-white; the forewing grey-tinged from base to beyond middle; the marginal border black, preceded by a pale curved space; costa at middle with black dots; fringe ochreous-white; cell-spot black; hindwing with cell-spot black, and a black apical patch.

Head, thorax, and abdomen white, this last ringed with grey and slightly tinged with ochreous; face, palpi, and forelegs black.

Expanse of wings : 21 mm.

1 ♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden), type; 1 ♂, 1 ♀ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Ockenden); 2 ♂♂, 6 ♀♀ from La Oroya, R. Inambari, Peru, 3100 ft., September—October 1904, dry season (Ockenden); 1 ♂ from La Union, R. Huacama, Peru, 2000 ft., November 1904, wet season (Ockenden); 1 ♂ from Santo Domingo, Carabaya, Peru, 6500 ft., December 1902, wet season (Ockenden); 2 ♀♀ from R. Colorado, Peru, October 1902 (Watkins).

This species seems widely distributed in Peru, but appears to be undescribed; it is most nearly allied to *P. mniophilaria* Guen.

230. *Physocleora bicolor* spec. nov.

Forewing : whitish as far as outer line, with a slight grey tinge at base; marginal third lilac-grey, with a rust-coloured band beyond outer line, the submarginal line paler between darker shades; the inner and median lines are rusty-grey and indistinct, both bent in cell, then oblique inwards parallel to outer margin; the outer line is black, slightly toothed on the veins, and angled outwards on vein 6; marginal spots black; cell-spot small, before the median line; fringe grey.

Hindwing : without basal line.

Underside pale grey; middle and outer lines dark grey; marginal area smoky blackish, darkest in forewing.

Vertex and thorax pale grey; face and palpi dark brown (abdomen broken).

Expanse of wings : 17 mm.

1 ♀ from Valencia, Venezuela.

231. *Physocleora conspersa* spec. nov.

Forewing whitish, speckled with olive-grey; the three lines at even distances apart and all curved parallel to one another, starting from dark costal spots; the outer line darker than the other two, marked with black dots on veins, and followed by a dull rusty shade, a slight tinge of the same colour preceding first line; submarginal line ill-defined, but preceded and followed by a dark grey shade; the inner shade starting from a fourth dark costal spot; marginal dark spots between veins; fringe grey, spotted with darker; cell-spot inconspicuous.

Hindwing : similar, but without first line.

Underside paler; forewing with all the lines and shades thick and blackish; costa blackish at base; cell-spot black; hindwing with the lines finer.

Head, thorax, and abdomen pale grey tinged with rusty.

Expanse of wings : 17 mm.

1 ♀ from Santo Domingo, Carabaya, Peru, 6500 ft., October 1902, dry season (Ockenden).

From the upperside alone this might be taken for a pale form of *ferruginata*, but the undersides are totally unlike.

232. *Physocleora ferruginata* spec. nov.

Forewing : whitish, thickly speckled with dark grey; the first line preceded and the outer followed by a rusty band, the median vein and all the nervules towards outer margin also of the same hue; all three lines are indistinct; the

submarginal is pale and wavy, the lunules filled up with grey; cell-spot and marginal spots black; fringe rusty grey.

Hindwing: without basal line, the other two distinct, blackish; marginal lunules black.

Underside luteous grey; forewing with a blackish cloud before cell-spot, and the marginal area black beyond outer line; fringe brownish grey spotted with black; hindwing with both lines and the cell-spot blackish and a slight submarginal shade.

Head, thorax, and abdomen grey; basal segments of dorsum rusty; face and palpi dark brown.

Expanse of wings: 16 mm.

1 ♀ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Oekenden).

Easily distinguished by the rusty grey coloration.

233. *Physocleora flaviplaga* spec. nov.

Exceedingly like *P. bella* described above, differing as follows: the lines are finer, and the grey submarginal shades more concise; instead of the dark fuscous blotch across veins 3 and 4 beyond the outer line there is a dull yellow blotch, and vein 6 is slightly marked with yellow. In the hindwing the postmedian line and shade are nearly straight instead of being strongly outcurved round the cell-spot; the cell-spots are much smaller; lastly, the dorsal segments of abdomen have much darker rings.

Expanse of wings: 21 mm.

1 ♂ from La Union, R. Huacamayo, Carabaya, Peru, 2000 ft., November 1904, wet season (Oekenden).

This agrees well with the description of *P. tascaria* Schaus from Brazil, as regards the upperside; but the undersides are quite different.

234. *Physocleora flexilinea* spec. nov.

Forewing: pale grey, dusted with darker; costa black-dotted, and with black spots at the beginning of the lines; first and second lines thick and blurred on costa, the first curved inward to touch the fovea, the second enclosing the cell-spot, but more or less obsolete beneath; there are also traces of two short lines from costa close to base; outer line blackish, at two-thirds, vertical to vein 4, then bent inwards to submedian fold, thence again vertical, followed by three olive-brownish blotches, one on the submedian interval, one between 3 and 4, and one on vein 6; between and beyond the last two the praesubmarginal shade forms a double blackish blotch, while the shade following the line is interrupted between 3 and 4; large black marginal spots between veins connected by a black line; fringe pale grey, mottled with dark.

Hindwing: without basal line; cell-spot black.

Underside dingy grey, with dark cell-spot and outer line; basal half of wing and marginal area dull fuscous; hindwing paler grey, with all the lines thick and dark.

Head, thorax, and abdomen dingy grey; face blackish.

Expanse of wings: 26 mm.

1 ♂ from Limbani, Carabaya, Peru, 9000 ft., February and March 1904 (Oekenden).

235. *Physocleora grisescens* spec. nov.

In markings agreeing almost precisely with *P. bella*, but the wings, instead of being chalk-white, are whitish grey, densely covered with darker grey striae; the lines and shades all dark grey; only the outer line being marked with black dots on veins; fringe mottled dark and light grey.

Underside like that of *bella*. The dorsal segments of abdomen are much darker grey.

Expanse of wings: 22 mm.

3 ♂♂, 2 ♀♀ from Santo Domingo, Carabaya, Peru, 6000 ft., November—December 1902, wet season (Ockenden); and 1 ♂ from R. Inambari, Carabaya, Peru, 6000 ft., November 1901, wet season (Ockenden).

236. *Physocleora pulverata* spec. nov.

Forewing: whitish dusted with grey, most thickly along costa and outer margin; lines starting from dark grey costal spots at even distances apart, and curving parallel to one another, marked by dark grey spots on veins, and generally interrupted below middle; cell-spot dark grey; submarginal line pale grey, very obscure; black marginal dots between veins and an interrupted fine black marginal line; fringe chequered pale and dark grey.

Hindwing: with the lines and cell-spot plainer.

Underside of forewing clouded with dark smoky grey for two-thirds; the marginal border blackish, preceded by a pale curved space; fringe white; cell-spot blackish; hindwing white, with the apex narrowly dark; cell-spot small, black.

Head, thorax, and abdomen whitish; forelegs fuscous in front.

Expanse of wings: ♂ 22 mm.; ♀ 24 mm.

1 ♂, 1 ♀ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

The ♀ is rather more plainly marked, showing the outer line double, and the white of the underside clearer.

237. *Physocleora pygmaeata* spec. nov.

Forewing: dirty whitish, irregularly dusted with blackish atoms; lines very indistinct, marked in places by black dots on veins and rising from grey costal spots; cell-spot blackish, distinct; outer line followed by a slight rusty brown shade; submarginal line diffuse, preceded in costal half only by a dark grey shade, the marginal area beyond it dark grey throughout; marginal spots black; fringe dark grey.

Hindwing: with the lines rather plainer; the marginal area scarcely darker.

Underside of forewing dark grey from base to beyond cell-spot, followed by a pale grey interval before the dull black marginal border; hindwing pale, with the marginal border narrower; cell-spots blackish; fringes pale.

Head, thorax, and abdomen whitish, speckled with dark.

Expanse of wings: 12 mm.

1 ♂ from La Union, R. Huacamayo, Carabaya, Peru, 2000 ft., November 1904, wet season (Ockenden).

238. *Physocleora subochrea* spec. nov.

Forewing: cream-colour, tinged with ochreous; the lines very faint, pale brown, starting from grey spots on costa, the outer line marked also by grey spots on veins 1, 3, and 4, and followed by a pale brown shade; cell-spot and marginal spots grey; fringe ochreous.

Hindwing: with cell-spot darker; the outer shades somewhat plainer.

Underside of forewing greyish ochreous, of hindwing cream-colour, without any markings except the grey cell-spots.

Head, thorax, and abdomen like wings; face and palpi dark brown; a brown spot on anal segment of dorsum.

Expanse of wings: 19 mm.

1 ♂ from Castro, Parana, S.E. Brazil, October 1902 (E. D. Jones).

239. *Physocleora taeniata* spec. nov.

Forewing: white, towards base and along costa tinged with smoky fuscous, and with a few dark speckles; basal line curved, blackish, sometimes interrupted; median line marked only by a blackish spot on costa above the black cell-spot; outer line black, with black teeth on veins, outcurved from vein 7 to submedian fold below cell-spot, and followed by a broad brown outwardly dentate and dark-edged band; submarginal line white, irregularly waved, preceded by a row of contiguous black wedge-shaped spots between veins and followed by a dark grey shade which is partially interrupted between 3 and 4; marginal spots black; fringe dark grey, flecked with pale.

Hindwing: without first line; cell-spot black and large.

Underside of forewing diffusely black to cell-spot; marginal area beyond the black outer line black; space between white: hindwing white with round black cell-spot; a slight dark antemedian line, and macular postmedian and submarginal lines; veins towards hindmargin dark, blotched towards apex.

Face, palpi, and forelegs blackish; vertex, thorax, and abdomen dark grey, the abdomen ringed with blackish; anal tuft ochraceous and fuscous.

Expanse of wings: 22 mm.

1 ♂ from Santo Domingo, Carabaya, Peru, 6000 ft., March 1902, wet season (Ockenden), type: 1 ♂ from La Oroya, R. Inambari, Carabaya, S.E. Peru, 3100 ft., October 1904, wet season (Ockenden).

Larger, darker, and more strongly marked than *P. punctilla* Schaus, to which it is nearly allied.

240. *Stenalcidia castaneata* spec. nov.

Forewing: pale pearly grey; costa finely dotted with blackish, and with black spots at the rise of the lines; lines black; first from one-fourth of costa, sharply angled on subcostal vein, then curved inwards to inner margin close to base; outer line from beyond two-thirds of costa to three-fifths of inner margin, lunulate-dentate, angled on vein 6, then curved parallel to outer margin; the inner line is preceded below median vein, and the outer followed to vein 7 by a band of chestnut-brown contiguous blotches on a creamy ground; median line obscure and interrupted, starting from a dark costal spot and approaching outer line towards inner margin; submarginal line sharply toothed, the teeth above middle filled up

with black, indistinct below; black marginal spots between veins; fringe cream-colour, tinged with brown.

Hindwing: the same, without basal line, the brown fascia only reaching vein 6.

Underside of forewing uniform dark grey, of hindwing dull white with a dark grey costal stripe; marginal lines dark; fringes white; costa of forewing ochreous dotted with black.

Head, thorax, and abdomen grey; face black above, pale below; palpi black with white tips; metathorax and second and third segments of dorsum chestnut brown; anal segment with a black spot.

Expanse of wings: 32 mm.

4 ♂♂ from Ococoneque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

The colouring is like that in *Isandria venusta* Warr., but the tints are differently disposed.

241. *Synecta latilinea* spec. nov.

Forewing: chalk-grey, with a slight bluish tinge; lines thick, dark slaty grey; first from one-fifth of costa, bent in cell, incurved to close to base of inner margin; median from costa just before middle to one-third of inner margin, outcurved above, angled below vein 2, where it all but touches outer line, then inwardly oblique; outer line from nearly three-fourths of costa to three-fifths of inner margin, sinuous, angled outwards on vein 4 and again on vein 1, above which it is insinuate; submarginal line interrupted from 3 to 4; apical region slightly tinged with slate-colour; fringe slaty grey.

Hindwing: without basal line; the antemedian straight; the rest as in forewing.

Underside dull smoky cinereous, the basal half slightly paler.

Face and palpi black edged with yellowish; vertex, collar, shoulders, and basal segment of dorsum yellow; patagia pale; thorax and abdomen slaty grey; antennae grey; legs luteous grey; hair pencil of hindlegs luteous.

Expanse of wings: 26 mm.

1 ♂ from Cananche, Cundinamarca, Colombia, June 1903 (de Mathan).

Remarkably like *Physocleora caprura* Schaus from Brazil in several points, but altogether different in others.

242. *Stenotrachelys excurvaria* spec. nov.

Forewing: dirty whitish, in the basal and marginal regions suffused with fuscous mixed with pale ferruginous, and with the central field merely speckled with fuscous and washed with brownish along costa; lines blackish; first from before one-third of costa, sharply angled inwards above and outwards below the subcostal vein, then curved inwards to one-fifth of inner margin, preceded by a fuscous line; outer line from beyond two-thirds of costa to two-thirds of inner margin, angled outwards on vein 8 and inwards on vein 7, then outcurved parallel to outer margin to submedian fold, followed by a dark line; median line cloudy, running outside the dark cell-spot and approximated to outer line from below vein 3; submarginal line lunulate, the lunules filled up with darker fuscous, the line itself very faint; veins pale ochreous towards outer margin; marginal line black, crenulate; fringe fuscous, spotted with black beyond veins.

Hindwing : similar, but without first line.

Underside duller and greyer; cell-spots and outer lines blackish; marginal area darker, especially towards apex of forewing.

Head, thorax, and abdomen like wings; face and palpi black.

Expanse of wings: ♂ 44 mm.; ♀ 50 mm.

2 ♂♂, 1 ♀ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockeuden), and 1 ♀ from Agualani.

SUBFAMILY SELIDOSEMINAE.

243. *Callipseustes bivittata* spec. nov.

Forewing : dark olive; the costa with faintly paler and darker striae; a black obscure cell-spot; two pale converging bands, the inner from one-fourth of costa oblique outwards to one-third of inner margin; the outer from beyond three-fourths of costa oblique inwards to three-fourths of inner margin; the first band whitish in outer half, buff in the inner, with a darker line between; the outer band reversely coloured, the buff half wider; marginal area above anal angle paler and greyer, with a double black blotch above it along vein 4; submarginal line white and fine, visible only at costa and above inner margin; fringe concolorous.

Hindwing : dull luteous whitish, tinged with greyish olive at base, with a dark cell-spot, a dark straight olive line from above anal angle to vein 6, with dots on veins, and some dark anal striae; fringe olive-grey.

Underside of forewing olive-fuscous, with the pale bands showing through from below costa, especially the outer one: hindwing olive-ochreous speckled with blackish, with outer line of vein-spots; cell-spots black in both wings.

Head, thorax, and abdomen deep olive; anal tuft ochreous.

Expanse of wings: 30 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

244. *Callipseustes convergens* spec. nov.

♂. *Forewing* : brownish grey, with darker speckles and striae; first line straight and oblique, from before one-third of costa to quite two-fifths of inner margin; second from two-thirds of costa to three-fifths of inner margin, the two lines converging; the space between dark fuscous, containing a black cell-spot, and edged on each side by a narrow white line, the outer followed by a broad whitish space; submarginal line pale, indistinct, bluntly angled on vein 4 and preceded by a dark brown shade; lower half of marginal area pale, edged inwardly by dark brown, and separated from the dark upper half by a dark fuscous conical streak along vein 4; fringe shining brownish.

Hindwing : whitish, tinged with grey-brown along inner margin, and slightly along outer margin; a dark outer line from above anal angle to vein 6 preceded by a dark cell-spot; a short dark streak at anal angle; fringe glossy grey.

In the ♀ the forewing is more unicolorous grey-brown, the central area hardly darker than the rest, and much broader on inner margin, its outer white edge not followed by a pale space: the hindwing more thickly sprinkled with grey-brown.

Underside duller, with the markings obscure; the outer line followed by a series of dark spots on veins.

Head and thorax concolorous with forewing; abdomen paler, like hindwing.

Expanse of wings: ♂ 26–30 mm.; ♀ 34 mm.

3 ♂♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Oekenden); 1 ♀ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Oekenden).

245. *Callipseustes hocina*.

Edicrinia hocina Dogn., *Ann. S. E. Belg.* xliii. p. 252, ♂ (1899).

Three ♂♂ of this species from Oconeque, Carabaya, Peru, collected by Oekenden in July 1904, and 2 ♂♂ from Cushi, Huánuco, Peru, collected by Hoffmanns, have lately been received. Along with them came 2 ♀♀ from Limbani, Carabaya, Peru, 9500 ft., collected by Oekenden in May of the same year, which differ from the ♂♂ in having the forewing more unicolorous grey-brown, with the central area hardly darker than the rest of the wing and much broader on inner margin, its outer white edge not followed by a pale space; the hindwing is also more thickly sprinkled with grey-brown.

These Peruvian examples would seem to be somewhat larger than the typical; the ♀♀ expand 33 mm., the ♂♂ varying from 26—30 mm. M. Dognin gives 22 mm. for his ♂♂ from Ecuador.

246. *Callipseustes latiorata* spec. nov.

Forewing: like *pullaria* Dogn. in coloration and markings, but the dark fascia is twice as wide, its outer edge starting from beyond middle of costa, with a less prominent, more broadly rounded, projection below middle, the dark cell-spot being contained in the fascia and not standing beyond its outer edge; the basal area is nearly as dark as the central, especially in the ♂♂, which have the marginal area in both wings paler grey, with strong fine black striations, forming in the hindwing a cloudy submarginal shade.

Expanse of wings: ♂ 25 mm.; ♀ 26—32 mm.

3 ♂♂, 2 ♀♀ from R. Colorado, Peru, 2500 ft., August—September 1902 (Watkins); and 1 ♀ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Oekenden).

247. *Callipseustes peninsulata* spec. nov. and ab. *continens* nov. and ab. *conferta* nov.

Forewing: pale olive-green, striated with black; these striations are more abundant in the basal and lower marginal areas; costal striae denser and more regular; an irregular dark olive fascia just before middle, with a continuous white edging; the edges start from costa at one-third and one-half, and unite above middle of inner margin; the inner edge forms a slight indentation into the fascia above and below median vein; the outer is indented in cell and projects strongly on vein 4, bisinuate inwards below; the inner edge is preceded and the outer followed by a broad pale flesh-coloured band; basal patch represented by an indefinite dark olive blotch on inner margin; an interrupted pinkish white submarginal line followed by three black blotches above veins 2, 3, and 4, with patches of black striae beyond them; fringe olive-green, darker beyond veins; cell-spot blackish, placed on the outer edge of fascia.

Hindwing: cream-colour, speckled with grey, below the costal area washed with olive-ochreous; a dark grey cell-spot, crenulate outer line not reaching above

vein 6, and submarginal series of spots on veins: some dark grey striae along inner margin; fringe dark grey.

Underside olive-ochreous, with a more or less uniform fawn-coloured tinge, and speckled with fuscous; an outer row of dark vein-dots on both wings and distinct black cell-spot on hindwing, the dark fascia of forewing showing through; fringe greenish fawn, with dark chequering.

Head, thorax, and abdomen olive-green, the abdomen greyer, the dorsum darker, and anal tufts ochreous.

Expanse of wings: 28 mm.

2 ♂♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns), type, both in perfect condition; and 1 ♂ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Ockenden), somewhat faded, with all the pale markings whiter, the fascia rather broader, touching inner margin, and without the white linear edging.

ab. *continens* nov.

Differs in having the fascia much broader, especially above, the inner edge straight below median, the outer evenly lunulate; no white edging line, but the flesh-coloured band well marked; submarginal line marked with pale only at costa.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

ab. *conferta* nov.

Still darker than *continens*; the flesh-coloured bands almost obscured by the deep olive suffusion and dark striae; hindwing wholly dark fuscous olive, with dense dark striae; the outer line visible, and edged with paler.

Underside fawn-colour only along costa of forewing, the rest olive-ochreous, densely packed with olive-fuscous striae.

Head and thorax olive; abdomen fuscous-olive.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

The range of aberration in this insect appears considerable, and may possibly include even the very differently marked and distinct-looking *bicittata* described above.

248. *Callipseustes semifimbriata* spec. nov.

Forewing: remarkably resembling that of *C. peninsula* ab. *continens*, but the fascia still broader, and paler olive in colour, the dark striations and cell-spot showing through it, the basal and submarginal areas being nearly as dark olive.

Hindwings: smooth, olive-ochreous grey, black-speckled towards base only, except in one instance, where the speckling is general and an outer line is present; the wing has a thick fleshy appearance, the outer margin showing a tendency to curve underneath, and being entirely destitute of fringe.

Underside of forewing olive fawn-colour, with a bent postmedian ochreous-yellow band between veins 6 and 2, edged by the black dots of outer line above middle: hindwing clothed throughout with olive-ochreous or rufous mealy scales, slightly black-speckled near base, and with a black cell-spot.

Head, thorax, and abdomen olive-green.

Expanse of wings: 32—34 mm.

4 ♂♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

249. *Callipseustes trisecta* spec. nov.

Forewing: pale greenish ochreous (perhaps olive-green when fresh) with darker olive striations; a dark olive central fascia, occupying on costa the middle third of the wing, its inner edge oblique and nearly straight to beyond middle of inner margin, its outer parallel to inner edge as far as vein 4, there bent nearly at right angles and running vertically to inner margin at three-fourths: the fascia is finely edged on each side with whitish; two dark horizontal marks before outer margin on each side of vein 4; fringe (worn) greenish.

Hindwing: pale greenish ochreous, greener in basal area before the dark flexuous outer line; cell-spot dark grey.

Underside dingy ochreous speckled with olive, with outer series of dark vein-spots, and a dark cell-spot on each wing, the fascia showing through.

Head, thorax, and abdomen dull olive, the anal tufts ochreous.

Expanse of wings: 22 mm.

1 ♂ from Ciudad de Tucuman, April 1903 (Mouetti).

250. *Ischnopteris albipennis* ab. *obumbrata* nov.

Differs from the type form in having no white scales whatever in forewing; the basal and marginal areas wholly dull grey-green; the central area filled with dull red-brown, which tint also extends over the lower half of the marginal area and is sometimes mixed with green.

In the hindwing the inner margin below median vein and vein 2 is smoky black, and the marginal border thicker and blacker, containing on its inner edge a distinct curved black line; the veins black in the white area.

Head, thorax, and abdomen pale green; anal tuft yellowish.

Expanse of wings: 39 mm.

2 ♂♂ from La Oroya, R. Inambari, Peru, 3100 feet, September 1904, dry season (Oekenden).

Smaller than the type and differing in both wings: it may be a distinct species.

251. *Ischnopteris discolor* Warr. ♂.

The ♀ only was described in *Noe. Zool.*, xi. p. 557; the ♂ differs as follows:

Forewing: dark mossy green in basal and marginal areas; central area, except along costa, dark purplish fuscous; a broad band before submarginal line diffusely purplish red; first line from one-fifth of costa to one-third of inner margin, angled outwards on subcostal vein and submedian fold and again close above inner margin, preceded by a line of greenish white scales; outer line from three-fifths of costa to two-thirds of inner margin, sinuous, oblique outwards and broadly rounded at vein 5, deeply insinuate in submedian interval, and again outwardly rounded on submedian vein, followed by a pale green line, mixed with whitish scales below; submarginal line pale green, forming zigzags at costa, and an upright whitish mark at anal angle, interrupted between; marginal lunules black; fringe mossy green; cell-spot black; before it from middle of costa a thick dark median line can be seen, angled outwards on median and approaching outer line on inner margin.

Hindwing: ochreous, tinged with grey, gradually darkening to outer margin; cell-spot obscure, followed by a dark curved postmedian line, bent in on vein 4;

a diffuse dark submarginal shade ; marginal line black, lunular ; fringe olive-yellow.

Underside exactly like that of the ♀.

Head, thorax, and abdomen dark green, on basal half of abdomen mixed with reddish grey ; beneath, the basal half is pale yellow-ochreous, the anal half dark fuscous ; antennae ferruginous, green at base.

Expanse of wings : 52 mm.

1 ♂ from Limbani, Carabaya, Peru, 9500 feet, April 1904, dry season (Oeckenden).

252. *Ischnopteris inconspicua* spec. nov.

Forewing : dull grey-green, dusted with darker ; markings darker, but all very obscure ; first line oblique outwards from one-fifth of costa to one-third of inner margin, angled sharply outwards on subcostal vein and submedian fold ; median line at one-third and outer just beyond and before middle, both oblique outwards and crenulate to middle of wing, then oblique inwards, but their lower course is very much obscured ; submarginal line whitish, waved, with a darker green shade preceding it, and forming a white spot on costa ; fringe worn, grey-green.

Hindwing : dull smoky grey, with dark cell-spot and dark curved postmedian and submarginal shade.

Underside pale luteous, dusted with grey-green, with grey submarginal shade and cell-spot.

Head, thorax, and abdomen grey-green ; dorsal tufts blackish ; forelegs dark fuscous, with the joints ochreous.

Expanse of wings : 40 mm.

2 ♂♂ from Sapucay, Paragnay, October 1904 (Foster).

Intermediate between *I. scylinata* Guen. and *I. zarra* Dogn., agreeing with the former in markings of forewing, and with the latter in the coloration of hindwing.

253. *Ischnopteris ornata* spec. nov.

Forewing : moss-green at base, moss-green mixed with pink in marginal half ; a broad fascia before middle olive-fuscous ; its inner edge oblique outwards from one-fourth of costa to one-third of inner margin, angled below median ; outer edge from middle of costa to middle of inner margin, indented in cell, and projecting in middle, edged by a pale green line, and on costa by a white spot ; cell-spot black ; submarginal line whitish, diffuse, indented from 5 to 3, preceded by darker blotches at costa, beyond cell, and above inner margin ; the pink coloration is mainly disposed along the two folds and immediately beyond the submarginal line ; large dark marginal spots between veins ; fringe olive flecked with pink ; in the outer half of the dark fascia there is visible a still darker thick median shade.

Hindwing : yellow ; inner margin below median vein dark olive, ending in a large blackish green anal blotch reaching vein 6, containing traces of a dark postmedian line, marked in one case on costa as well ; fringe yellow in upper half of wing, fuscous in lower.

Underside yellow ; forewing with costa and apex dull reddish ; an oblique median and broader subapical blackish band ; a small yellowish marginal blotch below apex ; inner margin lustrous grey ; hindwing black-speckled, with cell-spot and diffuse narrow submarginal band.

Head, thorax, and abdomen green varied with darker green; tufts of metathorax and dorsum reddish grey.

Expanse of wings: 44—48 mm.

2 ♂♂ from Cuzhi, Huánuco, Peru, 1900 m. (Hollmauns).

Related to *I. chryses* Druce, but much handsomer.

254. *Ischnopteris stenoptila* spec. nov.

Forewing: very narrow and elongate, three times as long as broad, lilac-grey, the basal, apical, and anal areas ochreous darkened by olive-brown striations; basal area especially thickly dark speckled, edged by a blackish outwardly crenulate line from one-fifth of costa oblique to one-third of inner margin, above which it forms a dark point; outer line fine; blackish, from middle of costa, oblique outwards to vein 4 at three-fourths from base, then lunulate-dentate inwards to middle of inner margin, but interrupted between 4 and 2 by the lilac-grey ground, which runs out between those veins to outer margin; at costa and inner margin this line is followed by cloudings of olive-brown striae, continued diffusely to outer margin; no distinct submarginal line, but a black oblique streak from below apex to vein 6; a dark olive-brown spot on costa before middle and a blotch in middle of submedian interval indicate the median shade; veins generally dotted with dark olive-brown; dark marginal spots between veins; fringe concolorous.

Hindwing: deep orange, with a large irregular black blotch at anal angle ending squarely towards apex at vein 4; a slight dark mark on costa before apex and small cell-spot; fringe orange.

Underside of both wings orange; the hindwing marked as above, the forewing with a larger blotch from anal angle not reaching costa but preceded beyond cell by a short black streak, and with the black blotch in the submedian interval; costa and apex of forewing pinkish fawn-colour with dark striae.

Head, thorax, and abdomen like wings; legs fawn-colour, the tarsi mottled with black.

Expanse of wings: 52 mm.

1 ♀ from Onaca, Santa Marta, June—August (Engelke).

The outer margin of forewing is deeply crenulate, and the antennae are quite three-fourths as long as the wing. The long narrow wings will distinguish the species.

255. *Ischnopteris versipennis* spec. nov.

Forewing: almost precisely the same as in *I. projectata* Warr.; the basal patch, central fascia, and marginal third all dull reddish fuscous; the bands on each side of fascia, and the submarginal line, especially at its extremities, green; the outer edge of fascia forming the same outward projection below median vein.

Hindwing: like that of *I. chryses* Druce, black with a broad bright yellow apex.

Underside of both wings like that of *chryses*.

Head and thorax mixed blackish and dark green; abdomen dark cinereous, with the dorsal crests well marked; abdomen below dull ochreous; pectus greenish ochreous; legs mottled black and ochreous.

Expanse of wings: 52 mm.

1 ♂ from La Oroya, R. Inambari, S.E. Peru, 3100 feet, October 1904, wet season (Ockenden).

Mimomma gen. nov.

Like *Oenoptila* Warr., but the forewing of the ♂ has a large triangular scale-covered fovea at base, the median vein being upcurved above it: in the type-species the inner margin of forewing is convex; the outer margin of hindwing bluntly elbowed at middle, the margin above the elbow convex, below it straight; the anal angle squared; the costa at base is shouldered, covering the fovea.

Antennae filiform, scarcely pubescent; palpi porrect, slender, like those of *Mimoprora* Warr., but shorter; hindtibiae much swollen, containing a pencil of hairs, with two short terminal spurs and one, rather longer, middle one: a peculiarity, as far as I know, unique among the *Selidoseminae*.

Neuration: forewing, cell longer than half of wing; discocellular vertical, faintly concave; median and subcostal veins both slightly inflexed at extremity; first median nervule at one-half, second at seven-eighths; lower radial from a little above middle of discocellular, upper from upper end of cell; 7, 8, 9 stalked from the bend in subcostal; 10 and 11 apparently out of 12; at all events, in the unique specimen I cannot detect a trace of either rising from cell and anastomosing with 12: hindwing, costal and subcostal approximating so closely at middle of cell as to appear to anastomose; 3 and 7 from just before end of cell.

Type: *Mimomma ochriplaga* spec. nov.

The type-species superficially resembles *Petelia purpurea* Warr.

256. **Mimomma ochriplaga** spec. nov.

Forewing: ochreous, much suffused with brown, the basal and subcostal regions palest; costa distinctly brown; first line outcurved above and below median vein, from one-fourth of costa to one-third of inner margin; outer line from three-fourths of costa to two-thirds of inner margin, angled outwards on vein 4, inwards on vein 2, thence vertical, marked by black pale-tipped spots on veins; lower half of the central space brown, containing an obscure central shade, which is plainer in the paler costal half, beyond the distinct round black cell-spot; marginal area brown, except at apex, and just beyond outer line on inner margin; small black marginal spots at the ends of the veins; fringe brown.

Hindwing: brown, with the apical fourth ochreous, except at the actual apex, which is brown; cell-spot round and black; outer line as in forewing.

Underside ochreous; the cell-spots large and black; outer line marked in forewing only; outer margin brown, complete in forewing, restricted to apex in hindwing; fringe brown.

Head, outside of palpi, and antennae brown; thorax ochreous; abdomen ochreous, with the dorsum brown.

Expanse of wings: 23 mm.

1 ♂ from Tinguri, Carabaya, Peru, 3400 feet, August 1904, dry season (Ockenden).

257. **Numia timandrata** spec. nov.

Forewing: dull grey-green, speckled with dull purple, especially the costal edge; an outer straight darker green oblique line from three-fourths of costa to three-fifths of inner margin; a brown spot near base of cell; cell-spot white; fringe deeper green.

Hindwing: with white cell-spot and central dark line.

Underside paler green, with outer lines marked darker, but curved, and not corresponding to those of upperside.

Head, thorax, and abdomen dull green; face and palpi with a slight rufous tinge; basal joint of antennae white, the shaft and plumes black and white.

Expanse of wings: 26 mm.

1 ♂ from between S. Cruz de la Sierra and S. José de Chiquitos, Bolivia, end of July 1904 (Steinbach).

258. *Enoptila radiata* spec. nov.

Forewing: dull orange-fulvous, almost wholly obscured by lilac-brown suffusion and with coarse scattered black scales; the suffusion is deepest along the margins and along the course of the three lines, and the space between veins 3 and 4; the orange-fulvous ground-colour being restricted to the cell and space beyond, and a submarginal band; first line at one-fourth, vertical, outwardly angled above and below median, the inward angles on the veins marked by black spots pale-tipped towards base; outer line from three-fourths of costa to four-fifths of inner margin, outcurved in middle, marked by distinct black vein-spots outwardly white-tipped, followed by a thick lilac-brown shade; a thick, nearly vertical lilac-brown shade dentate-lunulate outwards, beyond the large black cell-spot; fringe lilac-brown in basal half, paler in outer half, formed of long-stemmed tritid-pointed scales.

Hindwing: similar, without inner line, with the fulvous ray through cell to margin conspicuous.

Underside paler and duller, with a dark submarginal shade and black cell-spots.

Head, thorax, and abdomen like wings.

Expanse of wings: 48 mm.

1 ♀ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Ockenden).

Near to *E. subconfusa* and *subfasciata* Warr., but larger.

259. *Enothalia auropurpurata* spec. nov.

Closely resembles *E. nummifera* Warr., but always smaller; in the forewing the large yellow spot below the cell in the submedian interval and the smaller one above anal angle are quite wanting; in the yellow blotch beyond cell, which is round and well-defined, the outer line in its passage through it forms a central dark spot; on the underside the yellow areas are ampler; in the forewing the costal space above median vein is yellow for two-thirds from base; in the hindwing the whole basal two-thirds is yellow.

Expanse of wings: 28 mm.; *E. nummifera* expands 40 mm.

3 ♀♀ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., October 1904, and March 1905, dry season (Ockenden).

No ♂♂ have as yet been received.

260. *Enothalia nigriceps* spec. nov.

Forewing: dingy fawn-colour, with fine and dense dark striations; the costa narrowly black-brown; the two lines marked merely by black white-tipped spots on the veins; the inner at one-fourth, the outer from costa just before apex

to two-thirds of inner margin, angled outwards on vein 4 : the white spots on vein 1 are enlarged ; that in the outer series reaching inner margin ; cell-spot and marginal spots small and black ; fringe concolorous.

Hindwing : similar, but without first line.

Underside greyish white, paler in hindwing ; dark diffuse submarginal shades, containing an obscure outer line ; cell-spots black.

Thorax and abdomen concolorous with wings ; head, palpi, and antennae black, shoulders whitish.

Expanse of wings : 26 mm.

1 ♂ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1905, wet season (Ockenden).

Distinguished by the black head and dark costa ; otherwise it is much like *E. inornata* Warr. from Brazil.

261. *Sphacelodes brunneata* spec. nov.

Forewing : pale lilac-grey, suffused, except along outer margin, with dull purplish grey, and covered with fine and long dark striations, which in places become partially confluent ; lines dark olive-brown, thick ; first from before one-fourth of costa to one-fourth of inner margin ; second from two-fifths of costa to middle of inner margin, slightly bent outwards ; third from three-fourths of costa to shortly before anal angle, incurved below costa and straight from below 6, followed by a paler line ; cell-spot olive-brown ; beyond the pale line some irregular olive-brown shades with ragged edges expanding above vein 6 and running into apex ; a fine dark marginal line : fringe grey, with the tips and a basal line paler.

Hindwing : olive-brown, with some dark striae and two slightly paler diffuse bands of dull flesh-colour, postmedian and submarginal ; outer margin deeper brown ; marginal line interrupted at veins ; fringe brown with pale base ; cell-spot white.

Underside bluish grey, speckled with fine black atoms ; the forewing iridescent blue below median vein ; a broad purplish-brown marginal border ; fringe and extreme outer margin of forewing bluish grey ; fringe of hindwing brown.

Head and abdomen pale grey ; thorax purplish grey ; antennae and (apparently) vertex white ; pectus, legs, and abdomen beneath cream-coloured.

Expanse of wings : 44 mm.

1 ♀ from Santa Lucia (Branch).

Quite distinct from any of the forms of *Sph. vulnerraria* Hüb.

262. *Thysanopyga brunneonotata* spec. nov.

Forewing : pale grey, thickly striated with dark grey ; the lines dull reddish-brown, thick and diffuse, indistinct above subcostal vein ; first slightly curved at one-fourth ; second before middle nearly straight, with a slight bend on median ; third waved from two-thirds of costa to three-fourths of inner margin ; marginal area broadly red-brown ; a waved blackish line from costa before apex to below vein 6, the space included with some whitish scales ; cell-spot black ; fringe grey-brown.

Hindwing : without inner line, and with the cell-spot white and distinct.

Underside dull pale grey, with a diffuse darker border to both wings.

Head, thorax, and abdomen reddish brown; the patagia mixed with grey; anal segments of abdomen and underside grey; fillet and antennae white.

Expanse of wings: 39 mm.

1 ♀ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., October 1904, wet season (Ockenden).

263. *Thysanopyga strigata* spec. nov.

Forewing: pale stone-grey, with rust-coloured transverse striae, which are darker and more fuscous along costal edge; the inner and median lines are very obscure, consisting only of aggregations of striae; the first, at one-fourth, is angled in cell; the median passes over the black cell-spot; outer line sinuous, black, from three-fourths of costa to two-thirds of inner margin, indented on each fold, and followed by an interrupted brown cloud; submarginal line pale, but ill-defined; beyond it the striae are more fuscous; marginal dots black; fringe grey.

Hindwing: with an inconspicuous pale cell-spot; the marginal area and the median shade rust-coloured; outer line dark only on inner margin.

Underside dull creamy-whitish; cell-spots black; traces of cloudy submarginal bands.

Head, thorax, and abdomen pale grey; antennae fuscous.

Expanse of wings: 30 mm.

1 ♂ from Ciudad de Tucuman, Argentina, April 1903 (Monetti).

SUBFAMILY SCOTOPTERYGINAE.

264. *Catascia terranea* spec. nov.

Forewing: whitish-brown, dusted with darker in marginal fourth, suffused with dull brownish fuscous in the basal three-fourths, and striated with darker, the striae clearer along costa; an indistinct brown shade outcurved at one-third, and traces of another nearer base; edge of the dark area from costa at three-fourths, straight and vertical to vein 4, there angled and incurved to four-fifths of inner margin; the space between the two shades somewhat deeper fuscous and with a large cloudy cell-mark; a submarginal shade from costa before apex to vein 6; obscure marginal dark spots between veins; fringe concolorous.

Hindwing: paler, with a diffuse curved line at three-fourths, the marginal area still paler; a small dark cell-spot.

Underside pale greyish ochreous, speckled with fuscous, with the outer line thick and lunulate on both wings; the submarginal shade represented on costa of forewing; cell-spots grey.

Head and thorax dark fuscous; abdomen paler.

Expanse of wings: 40 mm.

1 ♂ from Chermavaca, Mexico, September 1904 (Dr. Galow).

A dingy-looking insect, recalling *kydenata* of North America.

SUBFAMILY FIDONINAE.

Hemicopha gen. nov.

Forewing: broad; costa straight, curved only at base and before apex; outer margin curved, as long as inner margin.

Hindwing: triangular: in ♀ with apex rounded and anal angle squared; in

♂ aborted, quite narrow, with a semi-cleft sinus in outer margin and the venation distorted.

Antennae of ♂ thickened, with two rows of tuberculated fascicles of cilia, of ♀ simple; palpi shortly perfect, thick and blunt, rough-scaled; tongue and frenulum present; forehead prominent.

Neuration: forewing, cell less than half the length of wing, broad; discocellular biconcave outwards; first median nervule at four-fifths, second from close to third; lower radial from the angle of discocellular, above its middle, upper from upper angle of cell: 7, 9, 10, stalked, 8 apparently missing: 11 free, approximating to and sometimes touching 12 at a point; hindwing of ♀ with costal anastomosing with subcostal for nearly whole length of cell; 6, 7 stalked; medians as in forewing; no radial; of ♂ with costal and subcostal anastomosing to three-fourths of wing, where they separate into two down-curved nervules; median vein straight to the marginal sinuation, which is almost a cleft, no median nervules visible, nor discocellular; submedian fold well developed; vein 1 short.

Type: *Hemicopha xanthomelaena* spec. nov.

This partial abortion of the neuration in hindwing is, I believe, unique in the *Fidoniinae*.

265. *Hemicopha xanthomelaena* spec. nov. and ab. *praefulvata* nov.

Forewing: dull fulvous; the basal third, the inner margin, and the outer margin beyond outer line purplish-black, the apex itself dull fulvous; in the basal dark area is a curved dark line, and another parallel to it in middle, beyond a dark cell-spot; in the ♂ this dark suffusion is much reduced and thinner, being confined to the inner margin and a narrow shade beyond outer line, and the three lines are clear, waved, and brown, the cell-spot remaining black; fringe dark beyond the dark shading, fulvous towards apex.

Hindwing: wholly dull purplish black with two darker waved lines beyond middle, and a dark cell-spot; in the ♂ these are hardly visible.

Underside dull black; forewing with two bright yellow spaces, one fascia-form in middle, not reaching inner margin, the other at apex; the yellow area is larger in the ♂, extending along costa nearly to base; hindwing in ♂ dusted with yellow.

Head, thorax, and abdomen all dark; the palpi, base of antennae, and collar fulvous-tinged, more conspicuously in ♂.

Expanse of wings: ♂ 22 mm.; ♀ 24 mm.

2 ♂♂, 3 ♀♀; the ♀♀ and 1 ♂ from R. Huacamayo, Carabaya, June 1904, and 1 ♂, much worn, from La Oroya, R. Inambari, S.E. Peru, September 1904, all in the dry season at 3100 ft. (Ockenden).

ab. *praefulvata*

Along with the five examples referable to the typical form came two which must be considered as an aberration, *praefulvata*; in these the whole of the forewing beyond middle line except along inner margin, which remains dark to the anal angle, is dull fulvous, with all the lines, and especially the outer line, distinct; on the underside the whole outer two-thirds of wing is deep orange-fulvous with a black conical projection from the anal angle.

Expanse of wings: 27 mm.

2 ♀♀ from R. Huacamayo, Carabaya, Peru, taken at the same time and height as the type-specimen (Oeckenden).

In some of the ♀♀, both of type and aberration, the underside of the hindwing shows traces of a pale curved middle band with some fulvous striae.

Mesobomba gen. nov.

Forewing: costa straight, strongly convex at apex, which is depressed and bluntly produced; outer margin strongly sinuate, gibbous between 2 and 4, and insinuate beyond each fold; anal angle distinct.

Hindwing: with outer margin at middle strongly gibbous with a sinus on each side; antennae of ♀ simply pubescent; tongue and frenulum present; palpi short; hindtibiae with four spurs.

Neuration: forewing, cell less than half of wing; discocellular, apparently, vertical; first median nervule close to end of cell, second and third stalked; the two radials close together from upper end of cell; 7, 8, 9, 10 stalked; 11 anastomosing, and becoming coincident with 12; hindwing, costal and subcostal anastomosing for three-fourths of cell; 3, 4, and 6, 7 stalked; no radial.

Type: *Mesobomba flavifascia* spec. nov.

The type-species is not at all unlike the description of *Phaludia jancira* Schauss, from Rio Janeiro, which I have not seen; but the diagnosis of the genus does not tally at all.

266. *Mesobomba flavifascia* spec. nov.

Forewing: violaceous purple; the markings broad and diffuse, deep brown-black; basal area purplish, containing a deeper curved inner line, running in towards base of inner margin; a diffuse pale yellowish fascia across middle of wing with some dark striae on its outer edge, forming a kind of outer line; a broad submarginal dark fascia, edged in parts with ochreous scales; marginal line and fringe dark purple.

Hindwing: with the three bands more distinct; some yellowish scales between first and second.

Underside dull brownish purple; the yellow fasciae clear; that of forewing broad at costa and quite narrow on inner margin; that of hindwing constricted in middle; base of hindwing yellow.

Face and collar yellowish; head and thorax purplish; abdomen missing.

Expanse of wings: 19 mm.

1 ♀ from La Union, R. Huacamayo, Carabaya, Peru, 2000 ft., November 1904, wet season (Oeckenden).

Pygmaeopsis gen. nov.

Forewing: elongate-triangular; costa straight; apex depressed, bluntly rounded; outer margin obliquely curved; anal angle distinct.

Hindwing: small; outer margin rounded; anal angle square; inner margin incurved and slightly furrowed.

Antennae quite three-fourths as long as forewing, thick, pubescent; palpi short, porrect; tongue and frenulum present; hindtibiae thickened, with four spurs.

Neuration: forewing, cell quite half as long as wing; discocellular vertical; first median nervule at five-eighths, second close before third; lower radial from above centre of discocellular, upper from upper end of cell; 7, 8, 9, 10, 11 stalked

from one-half, 10 and 11 coincident, anastomosing, and becoming coincident with 12: hindwing, with costal and subcostal approximating shortly near base; 3 and 7 from before angles of cell; no radial.

Type: *Pygmaeopsis purpurea* spec. nov.

267. *Pygmaeopsis purpurea* spec. nov.

Forewing: purplish grey; the lines and shadings velvety brown-black; base brown-black, its edge curved at one-fourth; a median sinuous line a little beyond middle; outer line at three-fourths, followed by a broad shade widening to anal angle, with diffuse edge; brown-black marginal dashes between the veins; fringe purplish grey; costa fulvous red, dotted with black, and with black spots at origin of lines; some fulvous scaling in the disc.

Hindwing: with only the marginal area purplish grey, all the rest brown-black, with traces of a dark median line and fulvous band.

Underside dark purplish grey, with the lines thick and darker; a submarginal line also present, which is scarcely visible above.

Thorax and abdomen dark purplish grey; face and palpi velvety black with fulvous red edging.

Expanse of wings: 16 mm.

1 ♂ from La Oroya, R. Huambari, S.E. Peru, 3100 ft., March 1905, wet season (Ockenden).

268. *Tephrinopsis atomosaria* spec. nov.

Forewing: ochreous, densely dusted with grey-brown atoms, the thickening of which forms three cross-lines; the first curved, at one-fourth, indistinct, especially towards costa; the second in middle, parallel to outer margin; the outer at three-fourths, also parallel; this is edged outwardly, as the first is inwardly, by a paler, unspotted line; marginal line hardly darker; fringe concolorous, with darker middle line.

Hindwing: with two outer lines only, both indistinct.

Underside paler, with outer line only visible, and minute dark cell-spots.

Head, thorax, and abdomen concolorous.

Expanse of wings: 26 mm.

1 ♂, 2 ♀♀ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

The ♂ is darker than the ♀♀.

269. *Tephrinopsis lugubris* spec. nov.

Forewing: dull slaty grey, dusted with olive; the lines thick, olive, swollen on costa, which is narrowly ochreous, dotted with black; first line at one-fifth, second at two-fifths, preceding the dark cell-spot, both bent below costa, then vertical; outer line at two-thirds, bent on vein 6, then parallel to outer margin, followed by a shade of brownish olive before the very indistinct submarginal line; dark marginal spots; fringe concolorous, with pale base, especially at apex.

Hindwing: without first line; inner margin short.

Underside much paler, with grey striations; marginal area dark purplish grey; the lines indistinct; costa of forewing yellow, with sparse striae.

Thorax and abdomen concolorous with wings; head and palpi dark brown.

Expanse of wings: 26 mm.

1 ♂ from R. Colorado, Peru, 2500 ft., August—September 1902 (Watkins).

Forewing with large fovea; antennae of ♂ with segments ending in tuberculate fascicles of cilia.

SUBFAMILY ENNOMINAE.

270. *Acrotomodes leprosa* spec. nov.

Forewing: liver-colour at base and along margins, rather bright brown in the disc, throughout thickly strewn with grey flakes, and crossed by two brown lines, median and postmedian, both angled acutely outwards below costa, then oblique inwards, irregularly crenulate between veins: a brown blotch on costa before apex; the outer line is followed by an irregular series of black spots edged with pale scales, of which two are large and conspicuous; one elongated, velvety black, above vein 7, the other round and black on submedian fold; a brown patch between 3 and 4 contains two or three black spots; fringe dark brown.

Hindwing: liver-colour, without the brown tinge; costal area pale; the two lines basal and antemedian.

Underside reddish fawn, black-speckled; costal area of forewing paler, lilac-grey, shading into ochreous; inner margin white; no distinct outer line, but the two black spots both marked; marginal area fulvous-red.

Face, palpi, forelegs, and antennae red-brown; vertex, thorax, and abdomen lilac-grey, the dorsum flaked with grey scales.

Expanse of wings: 33 mm.

1 ♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Oekenden).

Also from Ucayali, Peru, and San Ernesto, Bolivia.

In this species the forewing has no fovea.

271. *Anisoperas cervinicolor* spec. nov.

Forewing: pale fawn-colour, crossed by two olive-grey lines; first from one-fourth of costa to one-fourth of inner margin, bracket-shaped, preceded by some pale scales; outer line from five-sixths of costa to three-fourths of inner margin, roundly projecting at middle, followed by some pale scaling; marginal area somewhat paler; fringe fawn-colour; cell-mark brown, linear, closely followed by a slight brown median shade which nearly touches outer line on inner margin.

Hindwing: with outer line only.

Underside much paler, whitish-brown, with rufous speckling; outer line indistinct.

Head, thorax, and abdomen like wings.

Expanse of wings: 44 mm.

1 ♀ from Ciudad de Tucuman, Argentina, January 1902 (Dinelli).

The ♂, of which I have seen an example in M. Doguin's collection, is rather smaller in point of size (36 mm.), paler, more ochraceous in colour, and with the black lines shaded on each side with grey.

272. *Apicia colorifera* spec. nov.

Forewing: cream-colour, washed with pale green and towards outer margin with flesh-colour, speckled and striated throughout with olive-green; basal patch suffused and striated with slaty grey, edged by an irregular line of purple scales,

angled outwards on the veins ; cell-spot black, distinct, beneath an oblique purplish costal streak ; a quadrate purplish spot beyond it at fourth-fifths, from which the olive-brown outer line arises, running out along vein 7, acutely angled before apex, then straight and oblique to three-fifths of inner margin ; it is preceded by a mossy-green shade, thick and diffuse above middle, thinning out towards inner margin ; externally the line is finely edged with pale, and followed by a dull suffusion of flesh-colour, varied with long olive-green striae towards outer margin ; the apex with darker scaling ; fringe greenish, paler at base and tips.

Hindwing : similar, but with the costal area whitish, and no dark basal patch ; the line straight and central, from vein 6 to inner margin ; cell-spot black.

Underside densely striated ; forewing yellow to outer line, then dull reddish brown, grey at apex and inner margin ; hindwing less yellow ; the line at two-thirds, curved parallel to outer margin ; cell-spots black.

Head, thorax, and abdomen cream-colour, speckled with greenish fuscous ; face and shoulders greenish ; vertex whitish.

Expanse of wings : 44 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., December 1902, wet season (Oekenden).

Forewing with apex shortly produced ; outer margin bluntly elbowed at vein 4 ; hindwing with outer margin curved.

273. *Apicia fusilinea* spec. nov.

Forewing : dull yellow, coarsely speckled with fuscous, along the course of outer line and in apical area tinged with rufous ; first line at one-third, thick, bluntly angled outwards on median vein ; cell-spot black ; outer line black, from three-fifths of inner margin straight towards apex, angled on vein 7, and retracted to costa, preceded by a broad vinous fuscous shade, and followed by a less conspicuous and irregular grey shade, beyond which are dark spots below veins 2, 4, and 6 ; fringe darker.

Hindwing : with the line central, thick, vinous fuscous, not extending above vein 7 ; marginal area with a rufous flush.

Underside like upper, but paler and duller.

Head, thorax, and abdomen concolorous with wings.

Expanse of wings : 35 mm.

1 ♀ from Salta, Argentina, April—November 1903 (Steinbach).

Evidently related to the species described further on as *A. leprosa* from Paraguay ; but larger, yellower, and more coarsely marked.

274. *Apicia ? lacteata* spec. nov.

Forewing : cream-white, speckled with black atoms ; lines fine, blackish, mainly composed of confluent speckling ; first at one-third, bent in cell, then curved inwards, plainest on inner margin, where it is preceded by a slight brownish shade ; outer line from five-sixths of costa, shortly oblique outwards, angled on vein 7, then oblique inwards to three-fifths of inner margin, slightly and unevenly curved, followed by a grey shade ; a minute blackish cell-spot ; extreme outer margin and fringe pale brown.

Hindwing : with outer line sinuous, parallel to outer margin ; inner line faint, straight, preceding the small cell-spot and approaching outer line on inner margin.

Underside similar; cell-spots and outer lines only marked, the latter accompanied by dark dashes on veins.

Head, thorax, and abdomen like wings; collar, face, and palpi brown-speckled.

Expanse of wings: 35 mm.

1 ♀ from Limbani, Carabaya, Peru, 9500 ft., May 1904, dry season (Ockenden).

Apex of forewing acute; outer margin hardly bent at vein 4.

Of doubtful position till the ♂ can be compared.

275. *Apicia leprosa* spec. nov.

Forewing: fawn-colour, coarsely dark-speckled; first line obscure, from one-fourth of costa to one-third of inner margin, bluntly angled on median vein; cell-spot black; an oblique dark costal streak above it; outer line dark, thin, oblique and straight from three-fifths of inner margin towards apex, acutely angled on vein 7 and retracted to costa, followed by a pale and then a darker line; beyond the line and close to it is an irregular grey shade swollen into projecting spots below veins 2, 4, and 6, these spots in some cases blackish; above the angle of the line is a black double costal spot; the black speckling is stronger towards anal angle; veins sometimes paler; marginal half of wing generally tinged with darker.

Hindwing: with the line central, not marked above vein 7; the costal area pale; cell-spot black.

Underside yellowish white, thickly speckled, darker towards outer margin, especially in hindwing, where the ground-colour is whitish; outer line and submarginal shade marked in forewing.

Head, thorax, and abdomen speckled ochreous.

Expanse of wings: 30 mm.

3 ♀♀ from Sapucay, Paraguay, September 1901, July 1902, and October 1904 (Foster).

276. *Bassania annulifera* spec. nov.

♂. *Forewing*: yellowish olive; the space between the two lines paler, with a faint lilac-grey tinge towards outer line; the lines darker olive; first from one-third of costa, outcurved above, then inwardly oblique to one-fourth of inner margin, obscurely edged inwardly with paler; outer line from middle of inner margin, oblique and slightly crenulate between veins, towards apex, close before which it is curved to costa, followed throughout by a paler line; cell-spot round and whitish with a dark centre; submarginal line hardly visible; fringe rust-coloured.

Hindwing: with the costal and outer marginal areas more lilac-grey; the yellowish-olive tinge confined to the inner marginal area and the hairs that clothe the base; fringe broadly rust-coloured.

Underside of hindwing, the cell, and costal area of forewing beneath pale brick-colour, slightly speckled with grey; rest of forewing pearly white; outer margin and apex of forewing olive; outer line marked by a short black line from costa before apex; fringe reddish.

Thorax, patagia, and abdomen olive like wings; head, shoulders, and pectus bright fulvous; forelegs speckled, olive-grey and white; antennae white.

♀. *Forewing*: coloured like the ♂ of *B. fortis* Warr.; reddish chestnut taking the place of the yellowish olive of the ♂, the paler shades reddish grey; the outer line deep purple followed by a bluish-grey line; cell-spot ochreous with dark centre; fringe reddish.

Hindwing: darker, reddish grey.

Underside pale lilac-grey, dark-speckled; hindwing flushed with yellowish olive; forewing with the pale areas pinkish; fringe of forewing deep rust-colour, of hindwing lilac-grey.

Expanse of wings: 52 mm.

1 ♂ from Tingri, Carabaya, Peru, 3400 ft., August 1904, dry season (Oekenden), type; 1 ♀ from Limbani, Carabaya, Peru, 9000 ft., February—March 1904 (Oekenden).

In the ♂ the outer margin of forewing is evenly curved; in the ♀ more gibbous with the apex produced.

Distinguished from *fortis* Warr. by the pale scaled discal spot, and inwardly oblique first line of forewing.

277. *Bassania olivacea* spec. nov.

Forewing: pinkish ochreous, covered with fine olive striae; along the costa and at base and beyond the outer line the wing is suffused with olive, the marginal area being conspicuously dark but fading out before outer margin, which is again pinkish ochreous; the inner line is very faint, except at inner margin; the outer, distinct, sinuous, and obscurely double, rises from just beyond middle of inner margin and above the cell is curved on to costa; submarginal line or shade rarely plain; fringe pinkish ochreous; cell-spot black in a small clear space.

Hindwing: pale ochreous, tinged with yellow towards abdominal margin, the marginal third olive-tinged and speckled with black; a straight postmedian line and slight submarginal shade are sometimes visible, but generally very faint.

Underside shining pale ochreous, the upper half of wing suffused with dull olive, except a pale patch beyond the cell, containing the small cell-spot; outer line marked only in costal half: hindwing dull pinkish ochreous, tinged with olive and dark-speckled; cell-spot black, distinct.

Head, thorax, and abdomen like wings, the thorax rufous-tinged.

Expanse of wings: 56 mm.

2 ♂♂ from Oconeque, Carabaya, July (Oekenden).

Nearest to the type-species *amethystata* Wlk. in shape of wing, but at once distinguished by the dark olive shade beyond outer line and the underside of wing, as well as by the sinuous and stronger line; *meropia* Druce has the line crenulate, the wings shorter and broader, and all the markings darker.

278. *Certima rufula* spec. nov.

Forewing: dark reddish fawn-colour, without markings; a blackish cell-spot; costa obscurely speckled with darker and tinged with purplish; fringe concolorous.

Hindwing: the same.

Underside much paler, except along outer margins; cell-spots black.

Head, thorax, and abdomen like wings; abdomen beneath, pectus, and legs like underside of wings; forelegs fuscous.

Expanse of wings: 35 mm.

1 ♂ from Dominica (E. A. Agar).

The antennae are more thickly lamellate than usual; the palpi thickened and flattened, rather longer than usual; outer margin of both wings uniformly curved, without crenulation.

Crypsicrocis gen. nov.

Like *Acrotomodes* Warr., but distinguished by the presence, on the underside of the forewing of ♂ at base, of a tuft of yellow hairs, as in the genus *Lygria* in the *Hydriomeninae*.

Type: *Crypsicrocis marcida* spec. nov.

279. **Crypsicrocis marcida** spec. nov.

Forewing: yellow ochreous, tinged with darker in places, and speckled with brown; lines very obscure; a curved brownish shade at one-fourth; a slight ocelloid cell-mark; outer line from two-thirds of inner margin oblique towards apex, before which it is sharply retracted to costa and marked with red-brown; an interrupted grey submarginal band followed by dark specks; fringe yellowish.

Hindwing: with the ochraceous line straight, just before middle; submarginal shade grey on costa, then ochraceous.

Underside yellow; forewing with a red-brown marginal border speckled with black; hindwing with the edge only of the band, reaching just below middle; tuft at base of forewing yellow.

Head, thorax, and abdomen yellowish ochreous.

Expanse of wings: 32 mm.

1 ♂ from La Union, R. Huacamayo, Carabaya, Peru, 2000 ft., November 1904, wet season (Oekeuden).

Dasystole gen. nov.

Forewing: costa straight; outer margin obliquely curved, crenulate.

Hindwing: with outer margin crenulate.

Vertex, face, and pectus roughly haired; shoulders ample; patagia long, reaching beyond thorax; palpi porrect, hairy beneath, not reaching in front of face, the terminal segment short and smooth; antennae simple, ligulate; tongue and frenulum present.

Neuration: forewing, cell longer than half of wing; discocellular vertical; first median nervule at two-thirds, second at seven-eighths; lower radial from a little above centre of discocellular, upper from upper end of cell; 7, 8, 9 stalked from bend in subcostal; 10 and 11 free; 11 approximating to but not touching 12; 10 anastomosing with 8, 9; hindwing, costal and subcostal approximating near base; 6, 7 from top end of cell; no radial; medians as in forewing. Scaling thick and coarse.

Type: *Dasystole thoracica* Wlk. (*Homoptera*).

Akin to the Australian genus *Gastrina* Guen., one species of which Walker also described among the *Noctuidae* as *Xylina serrata*, misled, no doubt, by the stout build and shaggy scaling.

Two other species must be transferred to this genus: *Azelina murina* Dogn., *Ann. S. E. Belg.* xlv. p. 233 (1900) and *Azelina albisecta* Warr., *Noct. Zool.* xi. p. 566 ♂ (1904).

280. **Dasystole crenulata** spec. nov.

Forewing: pale grey, dusted in ♀ with rather coarse olive-green scales, and suffused from base to outer line with a dull pinkish-brown tinge; first line from one-fourth of costa to one-fourth of inner margin, forming a deep outward curve on each side

of the median vein, dark olive-green, but in ♀ only plain at extremities, the curves filled in with whitish scales; outer line oblique and regularly lunulate-dentate, dark olive-green, from costa shortly before apex to four-fifths of inner margin, edged outwardly by a white line and preceded by a series of dark olive-green lunules, separated by the veins; extreme outer margin pinkish grey, like the fringe, the base of which is narrowly whitish, both strongly lunulate-dentate; cell-spot annular, greenish, with a whitish centre.

Hindwing: dingy whitish grey, speckled with greenish grey in ♀, brownish grey in ♂; a diffuse grey cell-spot with dark grey nucleus; outer line grey, dentate-lunulate, beyond which the marginal area is greyer.

Underside whitish in ♀, ochreous in ♂, suffused with rufous-olive and thickly speckled with dark green; cell-spots large, dingy green in ♀, blackish in ♂; outer line of forewing followed by a band of reversed greenish-grey lunules enclosing pale centres; veins rufous towards outer margin; inner line double; lunules before outer line greenish grey; the underside is altogether darker in the ♂.

Thorax, face, and pectus very woolly, greenish grey; the face whiter with a black line above; second and third segments of palpi black; antennae speckled black and white; abdomen pinkish white, coarsely black-mottled; legs whitish with coarse fuscous greenish mottling; hind femur in ♂ with dense tuft of ochreous and black hairs.

Expanse of wings: ♂ 48 mm.; ♀ 52 mm.

1 ♂ from Agualani, Carabaya, Peru, 9500 ft., August 1904, dry season (Oeckeden).

1 ♀ from Limbani, Carabaya, Peru, 9500 ft., April 1904, dry season (Oeckeden).

281. *Dasystole thoracica*.

Homoptera thoracica Wlk., *Het.* xiii. p. 1067, ♂ (1857).

A single ♂ example of this species has been received from Ecuador expanding 34 mm.

282. *Dectochilus tristis* spec. nov.

Forewing: greyish brown, slightly speckled with dark; the lines black and fine; first from one-fourth of costa, oblique outwards and obtusely angled in cell, then vertical or outwardly oblique to one-third of inner margin; outer from four-fifths of costa, oblique outwards and angled on vein 7, then slightly flexuous and sometimes marked with pale spots on veins, to three-fourths of inner margin; both lines are preceded by a diffuse dark-brown shade; cell-spot black; submarginal line brownish grey, zigzag; fringe concolorous.

Hindwing: paler; with outer line only, nearly straight, from two-thirds of costa to three-fourths of inner margin; cell-spot blackish.

Underside greyer brown, more uniform in colour, with dark speckling; outer line and cell-spots distinct in both wings; a submarginal cloud at costa of forewing.

Head, thorax, and abdomen like wings. Face, palpi, pectus, and femora all very woolly.

Expanse of wings: ♂ 44 mm.; ♀ 48 mm.

2 ♂♂, 1 ♀ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

The ♀ is paler, with less brown admixture throughout.

283. *Drepanodes flavibasis* spec. nov.

Forewing: deep purple-brown; the basal third deep dull yellow, filled with purple-brown spots; costal edge bright orange-red; outer line red-brown, apparently running from apex to middle of inner margin, but really the line is angled on 7 and retracted to costa, where it is marked by a small but distinct white spot; from apex to midwing this line is followed by a pinkish-ochreous streak, which from middle runs more broadly and duller to anal angle; outer margin beyond this pale area olive-brown, its inner part purple-brown; the space beyond outer line on inner margin also purple-brown; the whole of the space beyond outer line below vein 4 dull lustrous; fringe olive-brown; cell-spot obscure, blackish.

Hindwing: with basal third dull yellow, and costal area white; the apex broadly dull fulvous, striated with purple; rest of wing purple; the red-brown line central, touching the black cell-spot; a waved submarginal band, distinct only in lower part of wing; fringe olive-brown.

Underside of forewing ochreous overlaid with olive-brown and striated with black; hindwing paler, with less striation; cell-spots black; outer line marked in both wings by black spots on veins; marginal border dull purple; fringe olive-brown; apex of forewing slightly lilac-grey.

Face, palpi, forelegs, vertex, and collar dull purple; thorax yellowish; abdomen ochreous, yellower along dorsum, which is also blotched with purplish.

Expanse of wings: 38 mm.

1 ♀ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Oeckenden).

Underneath, this ♀ can scarcely be separated from a ♀ of *meticulata* Guen. from Paraguay, but the upperside is utterly different. Moreover, the apex of forewing is much more shortly produced, and slightly directed upwards, the costa not being convex at apex.

284. *Euclysia intermedia* spec. nov.

Forewing: pale stone-grey, suffused, when fresh, with olive as far as the outer line, before which the suffusion deepens, and covered throughout with slender dark striae; costal edge paler; inner line hardly marked, from about one-fourth of costa to one-third of inner margin, the basal area within it somewhat paler; outer line obscure, slightly paler, forming a curve concave outwards from four-fifths of costa to anal angle, with a deeper olive shade on each side of it, darker before middle, and externally forming two semi-oval brown or reddish dark-edged blotches on veins 2 and 3; a small black cell-spot; fringe paler.

Hindwing: with the whole outer half, except the margin above middle, suffused with a deep olive shade containing traces of a submarginal zigzag outer edge; fringe pale; cell-spot small, black.

Underside pale stone-colour, slightly speckled, with a broadish wavy-edged olive submarginal band on both wings, and an olive-grey cloud on margin of forewing at the angle.

Vertex, face, and palpi olive; thorax and abdomen pale stone-colour.

Expanse of wings: 52 mm.

1 ♂ from Tinguri, Carabaya, Peru, 3100 ft., August 1904, dry season (Oeckenden).

Outer margins without crenulation. Intermediate between *restricta* Warr. and *maculata* Warr.

Euphemia gen. nov.

Forewing: costa nearly straight, convex just before apex; inner margin convex; outer margin irregular; bluntly toothed at 6, insinuate beyond cell and at submedian fold, gibbous between, more or less vertical from apex to 3, then strongly oblique.

Hindwing: with outer margin well rounded; insinuate beyond the folds and bent at 6; the inner margin amplified into a flap.

Antennae (δ) simply lamellate; palpi porrect, rough-haired, the terminal segment depressed and smooth; tongue present; frenulum long and slender; femora hairy; hindtibiae with four long spurs.

Neuration: forewing, cell half as long as wing; discocellular vertical; first median nervule at two-thirds, second shortly before third; lower radial from a little above middle of discocellular; upper from upper angle; 7, 8, 9, 10 stalked from two-thirds; 11 free; hindwing, with costal and subcostal shortly approximated at base; veins 6, 7 from upper angle; vein 2 not far before 3 and 4.

Type: *Euphemia mollis* spec. nov.

The genus does not seem to bear any immediate affinity with any other.

285. **Euphemia mollis** spec. nov.

Forewing: slaty grey, with fine transverse darker striae; costa paler, broadly dull yellowish; basal and marginal areas deeper grey, ill-defined; basal line diffuse, from one-third of costa to one-half of inner margin, projecting outwards in submedian interval; outer line waved, parallel to outer margin, from three-fourths of costa to three-fourths of inner margin; the intervening space pale grey, subtransparent, with a black cell-spot; a yellow spot on costa before apex; extreme outer margin narrowly and interruptedly pale; fringe dark grey, whitish beyond the two folds.

Hindwing: wholly dark grey, with a deeper thick line curved from beyond middle of costa to inner margin above anal angle, towards which it is deflexed; fringe and extreme outer margin pale yellow, the fringe chequered with dark.

Underside like upper, but duller.

Thorax and abdomen pale grey; head, palpi, and antennae ferruginous.

Expanse of wings: 30 mm.

2 $\delta\delta$ from La Oroya, R. Huambari, S.E. Peru, 3100 ft., March 1905, wet season (Ockenden).

286. **Eusenea nucleata** spec. nov.

This species is very much like *E. rotundata* Warr. from Venezuela. The larger white cell-spot, pyriform in shape, with a black dot in centre, will always distinguish it. The outer line is more oblique and straight; along the outer margin is a broad brown cloud; the margin itself shows slight elbows at veins 3 and 6; a single white submarginal dot above vein 6. The hindwing is dark brown, with a darker postmedian shade, but no distinct line; one white dot above vein 6.

Underside fulvous-brown; inner half of forewing shining white; cell-spot with the black centre larger; a dark, straight outer line from costa to vein 4 in forewing, waved and crossing the hindwing to a paler patch above anal angle; an obscure pale cell-spot.

Head, thorax, and abdomen fulvous; legs fulvous, with white joints; antennae and a very fine frontal line white.

Expanse of wings : 44 mm.

4 ♂♂ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., October 1904, wet season (Ockenden).

287. *Eustenophasma constricta* spec. nov.

Resembles *E. fuscata* in coloration, but smaller ; the first line fine and dark, slightly bent outwards at costa and inwards at inner margin, preceded by a paler band tinged with purplish grey ; the outer line in its sinus between 1 and 3 approaching more closely to inner line, so that the central dark olive-fuscous fascia is there much constricted ; costal area beyond outer line whitish grey to apex, containing a bilobed brownish blotch, which is scarcely visible in *fuscata* : in the hindwing the outer line is irregular, starting from inner margin further from anal angle, forming a sinus inwards with obscure denticulation to vein 4, vertically projecting between 4 and 6, and again curved inwards to costa ; cell-spot distinct.

Underside much paler, more lilac-grey, especially in the hindwing, darker along the margin, with the lines regularly lunulate-dentate and nearer outer margin than above.

Head, thorax, and abdomen olive-fuscous.

Expanse of wings : 26 mm.

1 ♂ from Cushi, Huámco, Peru, 1900 m. (Hoffmanns).

288. *Eustenophasma fuscata* spec. nov.

Differs from *E. violacea* in being without any violaceous tints.

Forewing : olive-fuscous ; first line placed as in *violacea* but quite simple, pale ochreous, slightly bent outwards at costa ; outer line shaped much as in *violacea*, but edged with whitish at costa and marked by white dots on the veins, the inward sinus between veins 1 and 3 entire, not broken by a tooth at vein 2 ; space between the lines darker fuscous ; an oblique pale streak from costa before apex towards angle of outer line ; a darker cloud at anal angle ; fringe concolorous, with dark basal and dividing lines ; cell-spot black.

Hindwing : with a dentate-lunulate outer line, much as in *violacea*, but at anal angle nearer the outer margin ; basal three-fourths darker than the marginal area ; a slight dark cell-spot ; costal area whitish.

Underside dull speckled fuscous ; the margins darker, especially at apex of forewing ; the outer line marked in forewing, not corresponding to that of upperside, dotted with white on veins ; a whitish oblique streak from costa before apex.

Head, thorax, and abdomen all fuscous.

Expanse of wings : 33 mm.

1 ♂ from Unshi, Huámco, Peru, 1900 m. (Hoffmanns).

289. *Eustenophasma violacea* spec. nov.

Forewing : blackish at base, the central area olive-brown, the outer olive-brown varied with dull lilac-grey ; basal patch and central fascia with inwardly oblique parallel edges, the intervening space lilac-grey, traversed by a thick brownish line ; outer edge of central fascia oblique outwards from three-fourths of costa to vein 6, then bluntly angled and sharply oblique inwards, lunulate-dentate, to just beyond middle of inner margin, with a fine lilac-grey edging, followed by a thick olive-brown shade ; the inner edge of central fascia and the cell-spot darker brown than the rest of fascia ; a flattened costal blotch before apex, margined with bluish white

and bilobed externally; marginal area with a double diffuse lilac-grey cloud, the two united at vein 6; the extreme margin olive-brown with a very fine lilac-white marginal line; fringe with basal half olive-brown, outer half paler.

Hindwing: from base to the lunulate-dentate outer line dull brown, thickly covered with black, coalescent, striae; the costa narrowly whitish; the outer line is at three-fourths, and projects in upper part of wing; the marginal area restricted, otherwise like that of forewing; fringe of inner margin whitish.

Underside olive-brown peppered with bluish-white scales; the dentate outer lines and cell-spots only marked.

Head, thorax, and abdomen above dark olive-fuscous; anal tuft and abdomen beneath grey.

Expanse of wings: 35 mm.

2 ♂♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

290. *Eutomopepla uniformis* spec. nov.

Forewing: olive-brown, finely freckled with darker; costa finely yellowish ochreous, dotted with dark; a black cell-spot; submarginal line indicated by a black costal blotch before apex and a fine dark shade at anal angle; fringe above middle concolorous, below pale ochreous, brown-chequered beyond veins.

Hindwing: with broad purplish-black shade along outer margin from anal angle to middle tooth, and very faint traces of darker median and submarginal lines; costa grey; fringe ochreous from apex to tooth, then rufous, with the tips pale; inner margin and fringe white.

Underside dull bluish white, the outer half of both wings mouse-colour.

Head and abdomen mouse-colour; basal segments of abdomen and thorax olive-brown; shoulders pale ochreous; legs ochreous, broadly mottled with purplish fuscous.

Expanse of wings: 44 mm.

2 ♂♂ from Sapucay, Paraguay, August 1901, and September 1904 (Foster).

Goniocampa gen. nov.

Forewing: costa straight, slightly curved at base and just at apex, which is produced; outer margin concave from apex to vein 4, thence sinuous to the distinct anal angle, before which it is somewhat indented.

Hindwing: strongly angled in middle; the apical and anal angles both well marked.

Abdomen short; antennae of ♂ with triangular segments, ending in tuberculate fascicles of cilia; of ♀ subserrate; palpi porrect, very slender, basal segment rough-haired; tongue and frenulum present; hindtibiae thickened, as far as can be seen without a pencil of hairs, and with two pairs of approximate spurs.

Nervation: forewing, cell half as long as wing; discocellular vertical above, oblique below; first median nervule at one-half, second close before third; lower radial from slightly above middle of discocellular; upper normal; 7, 8, 9, 10 stalked from before end of cell; 11 free just before them, anastomosing with 12, 10 anastomosing also with 11; hindwing, costal and subcostal approximating shortly along base of cell; 3 and 7 before angles of cell; no radial.

Type: *Goniocampa fallax* spec. nov.

291. *Goniocampa fallax* spec. nov.

Forewing : bone-colour, with a rufous-grey tinge, and speckled with olive and purple; costal edge, fringe, and marginal line dark purple, this last swollen between veins, and preceded by slight purple patches beyond cell and at end of vein 2; cell-spot purple; the only line visible is submarginal, starting obliquely from costa at three-fourths, bent below 6, and continued to inner margin parallel and close to outer margin, marked only by dark dots on veins; beyond it below vein 6 is a double purplish spot, touching the upper patch.

Hindwing : with marginal line purple and thick; fringe purplish; outer line marked by dots on veins, angled parallel to outer margin.

Underside white; the forewing, except on inner margin, speckled with fuscous; both wings with a purple marginal band, in some cases complete, in others interrupted; in one case with only the dark marks of the upperside represented.

Head dull purple; thorax and abdomen white dusted with darker; the abdomen with pairs of dark spots on each segment.

Expanse of wings: ♂ 22 mm.; ♀ 27 mm.

1 ♂, 3 ♀♀ from La Union, R. Huacamayo, Carabaya, Peru, 2000 ft., November 1904, wet season (Oekenden).

The species somewhat resembles certain of the genus *Haemulea*.

292. *Gynopteryx immaculata* Warr

Hitherto I have seen only the solitary ♂ from which the description was originally made, *Nor. Zool.* iv. p. 493 (1897); I can now describe the ♀ from a single, but quite perfect specimen. As usual, the apex of forewing is more prominent than in the ♂; the yellow ground-colour is somewhat deeper, and the marginal area darkened with grey-brown; a dark shade from the outer line at vein 4 runs to inner margin before anal angle, with a slight blackish mark between 3 and 4 and again between 1 and 2; this submarginal shade is slightly visible in the paler hindwing; from the costa of forewing at three-fifths an obscure grey-brown line runs to outer line at vein 4.

Beneath, the wings are bright deep yellow: the marginal area in forewing only being brown, containing a pale ochreous-grey patch at apex; in the hindwing the cell-spot and two lines are present as in the ♂, but very faint.

Face, palpi, and antennae dark brown; thorax and abdomen like wings.

Expanse of wings: 37 mm.

Dominica.

293. *Gynopteryx nazadaria* ab. *inapicata* nov.

This form stands to *nazadaria* Wlk. in the same relation as *seriaria* Guen. does to *gladiaria* Guen.; that is to say, the lines are marked by series of round dark-brown spots, the lines themselves being dark marked on the underside and merely suggested above; but it is distinguished from all other forms by the absence of the apical blotch; the outer line of spots ending in a somewhat larger spot on vein 8, and vein 7 being without one. The hindwing has the middle line and cell-spot much fainter; the submarginal shade variable in clearness, marked by darker points on veins and irregularly zigzag between.

The outer margin of both wings is curved.

Of the two specimens one is ochreous cream-colour as in *nazadaria*, the other washed with yellowish; both are alike beneath, ochreous, washed with pale brownish, as far as the submarginal lines; the lines continuous, black, and distinct. Palpi, antennae, and forelegs brownish; face and vertex, especially the latter, whitish.

Expanse of wings: 40 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru (Böttger).

294. *Hypagyrtis pallidaria* spec. nov.

Forewing: pale dull ochreous, thickly fuscous-speckled, tinged in parts with pale olive-brown; lines indistinct, brownish; first quite close to base, outcurved; second, median, at two-fifths, oblique outwards to top of discocellular, there sharply angled, and running vertically to middle of inner margin; outer line from two-thirds of costa, bent on vein 6, then incurved to two-thirds of inner margin, sometimes partially double; a diffuse olive-brown shade from end of cell to outer margin, where it reaches from apex to below middle; an oblique dark shade from apex, containing white spots between veins, the upper three distinct; a dark-grey blotch beyond outer line between veins 3 and 4; fringe pale, varied with dark.

Hindwing: paler, less speckled; with a large grey cell-spot and waved outer line.

Underside similar; the lines plain only at costa, where the apical dark shade and white spots are conspicuous: hindwing with large oval blackish cell-spot and traces on margins of an inner as well as the outer line.

Head, thorax, and abdomen pale ochreous with dark speckling.

Expanse of wings: 44 mm.

1 ♂ Pozuzo, Huánuco, 800—1000 m. (Hoffmanns).

In forewing vein 5 rises from top end of discocellular, and vein 6 is stalked with 7, 8, 9. The species is certainly a *Hypagyrtis*, and in fact is not unlike some specimens of the North American *subatomaria*.

295. *Isochromodes ferruginea* spec. nov.

Forewing: ferruginous ochreous, striated with dark; the lines thick, dark brown; placed much as in the following species, *I. siennata*, but the outer line not so oblique, starting from costa further from apex; costa broadly brown-black; basal and marginal areas almost wholly filled up with brown-black, the space between 2 and 4 with a grey-black blotch as in *siennata*; cell-spot black; a dark crenulate marginal line; fringe brown, darker beyond veins.

Hindwing: with basal and marginal areas brown-black; central space narrowly ferruginous ochreous; a yellow spot on inner margin beyond outer line.

Underside dull ochreous, suffused with dull grey; outer line distinct, dark grey; the marginal areas dark grey, the apex of forewing pale.

Head, thorax, and abdomen brown-black.

Expanse of wings: 28 mm.

1 ♂ from La Oroya, R. Inambari, S.E. Peru, 3100 ft., March 1905, wet season (Oeckenden).

296. *Isochromodes siennata* spec. nov.

Forewing: wood-brown, brighter in the ♂, thickly strigulated with fuscous; the lines dark brown; first outcurved above median vein, then straight; outer sinuous from four-fifths of costa to two-thirds of inner margin; marginal area with a dull greyish-black blotch between veins 2 and 4; cell-spot small; fringe pale brown with dark chequering beyond veins.

Hindwing: with outer line only, inbent beyond cell and outcurved below, followed on inner margin by a bright white spot.

Underside pale ochreous, slightly dark speckled; outer line blackish; marginal area in forewing grey; the ♀ is yellower ochreous with denser speckling.

Head, thorax, and abdomen like wings.

Expanse of wings: 30 mm.

1 ♂, 2 ♀♀ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

297. *Melinodes ignea* spec. nov.

Forewing: yellow, thickly speckled with fulvous orange; the veins finely brown; lines black-brown; first from one-fourth of costa to one-third of inner margin, bent at right angles on subcostal vein; outer from three-fourths of costa to two-thirds of inner margin, obtusely angled on vein 6, then straight; the first line is preceded and the outer followed by a brownish-grey shade containing white dashes on veins, the outer broader and running straight to apex; submarginal line marked by a series of black spots on veins; cell-spot black; fringe concolorous, with pale tips.

Hindwing: with outer line only, slightly curved; costal area broadly white; cell-spot and submarginal spots as in forewing.

Underside very pale yellow freckled with greyish ochreous; the lines marked by thick greyish shades, not reaching in forewing below submedian fold; outer shade accompanied by a series of black vein-dots; cell-spots deep black.

Head, thorax, and dorsum yellow varied with fulvous; abdomen beneath, pectus, and legs pale yellowish; palpi externally and forelegs brownish.

Expanse of wings: 32—34 mm.

3 ♂♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

298. *Melinodes reversa* spec. nov.

Forewing: deep yellow, dappled with olive-grey; the lines accompanied by irregular tawny-brown shades, and marked by black dashes on veins, those of the inner line white-tipped basewards, those of the outer externally, that on vein 1 always expanded into a conspicuous white dash; the outer line is sinuous, excurved above and incurved below, the tawny shades of the lines becoming confluent below vein 2; submarginal line marked by olive-grey blotches on the veins; the tawny shade of outer line is produced externally on inner margin, between veins 3 and 4, and above vein 6, where it extends to the submarginal costal blotch; fringe dull yellow, flecked with olive; cell-spot diffuse, olive-grey.

Hindwing: with outer line only and the submarginal line of spots; costa pale yellow.

Underside paler yellow, with the markings duller.

Head, thorax, and abdomen yellow, varied with olive-grey.

Expanse of wings : 36—38 mm.

3 ♂♂ from Cuzhi, Huánuco, Peru, 1900 m. (Hoffmanns).

Closely resembling *M. mero* Druce, but the course of the outer line is different.

299. *Melinodes subapicata* ab. *latimargo* nov.

Distinguished from the type-form by the much broader dark marginal area, the outer line being nearer the centre of wing and more strongly curved.

2 ♀♀, one from Pozuzo, Huánuco, Peru, 800—1000 m. (Hoffmanns), type ; the other from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

This will, I think, most probably prove to be a distinct species.

300. *Melinodes subspurcata* spec. nov.

Forewing : pale yellow, densely speckled with olive tawny, the basal area and marginal area of both wings somewhat tinged with tawny ; the veins tawny ; costa of forewing speckled with brown on basal half ; lines dark brown ; first from one-third of costa to one-third of inner margin, bent on subcostal vein, then straight, slightly oblique outwards ; outer line from four-fifths of costa to two-thirds of inner margin, bent on vein 6, marked, like inner line, with darker dashes on veins, and followed by white acute points ; cell-spot obscure, dark ; traces of darker submarginal blotches suggesting a line, especially below costa ; space between veins 3 and 4 filled in with olive-grey ; fringe olive-grey.

Hindwing : with the line just beyond middle, slightly bent outwards in middle.

Underside dull greyish ochreous, speckled, especially in forewing, with greyish fuscous ; the lines dull grey-brown.

Head, thorax, and abdomen like wings ; vertex pale ochreous : face and palpi externally grey-brown, lower half of face paler.

Expanse of wings : 30 mm.

3 ♂♂ from Charaplaya, Bolivia, June 1901 (Simons).

301. *Meticulodes amniculata* spec. nov.

Closely resembling *M. periculosaria* Oberth. and differentiated mainly by the outer line of forewing and by the underside. In Oberthür's species the outer line is fine and flexuous ; in *amniculata* it is evenly curved parallel to the outer margin, and forms a regular succession of lunules between the veins ; the angle of the inner line in cell is not so close to the white cell-mark as in *periculosaria* ; the marginal line in the present species is thick and black, the fringe dark grey, with a paler base ; in *periculosaria* the marginal line is fine, and the fringe dull grey-brown. In the hindwing the outer line in *amniculata* is straighter, and preceded on inner margin by some white streaks.

Underneath the present species is thickly suffused and strigulated with blackish, the inner margins on both wings paler and the markings indistinct ; in *periculosaria* the forewing is pale grey above the median with the cell clouded dark grey and a black marginal blotch from below apex to vein 2, the inner half of wing from base to margin much whiter ; and the hindwing is tinged with brown.

Expanse of wings : 48 mm.

1 ♂ from Cuzhi, Huánuco, Peru, 1900 m. (Hoffmanns).

302. *Meticulodes consimilis* spec. nov.

Forewing: pale grey, dusted with darker; the basal area, costal half of central area, and the outer marginal border darker grey; first line from one-fourth of costa oblique outwards and bluntly bent in cell, starting again from median vein at one-fourth and oblique outwards, as in *fraterna* Warr., to middle of inner margin, edged outwardly with black; outer line from three-fourths of costa, parallel in the main to outer margin, forming slight humps between the veins, that on submedian fold the largest and that between 3 and 4 projecting, edged inwardly thickly with deep black; the interval between the lines below median vein very dark purplish grey, almost black; a whitish oval space on discocellular containing two minute superimposed black dots; the inner half of marginal area pale whitish grey (in one specimen with a darker grey cloudy line beyond the outer line), the outer half with its inner edge slightly darker and crenulate; a small white submarginal dot above vein 6, and a black one above 2; fringe luteous grey, denticulate at veins.

Hindwing: pale grey with a darker grey, pale-edged outer line, elbowed on submedian fold, preceded by a darker grey shading; fringe and outer margin dark grey.

Underside dark brown-grey with a faint rufous tinge; forewing with outer line double, blurred; inner marginal half glossy whitish; cell-spot white; hindwing more speckled throughout, but the inner half whitish; a black white-centred cell-spot, and black white-edged outer line.

Head and thorax dark grey; abdomen paler grey.

Expanse of wings: 44 mm.

2 ♂♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

Differs from *scitaria* Oberth. and *fraterna* Warr. by the absence of the ferruginous tints of the underside and of the yellow or fulvous spot beyond cell of forewing on upperside, and by the pale grey, not blackish, fringe.

303. *Meticulodes fraterna* spec. nov.

Very near *M. scitaria* Oberth., from which it may be distinguished by the following points. The inner line below the median vein is outwardly, not inwardly, oblique, running out to middle of inner margin; the outer line at vein 6 has no inner arm continued straight as a black line to inner margin; the outer arm runs as in *scitaria*, except that the projections above vein 4 and on the submedian fold are more rounded, less angular, than in *scitaria*; in *fraterna* again the space beyond cell to outer line is bronzy fulvous; in *scitaria* only the narrow space between the two arms of the outer line is pale yellowish; on the underside the coloration is less bright, the ferruginous apical areas paler, and the outer line is single.

Expanse of wings: 44 mm.

1 ♂ from Pozzo, Huánuco, Peru, 800—1000 m. (Hoffmanns), type; 1 ♂ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Ockenden); and 1 ♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

304. *Meticulodes hoffmannsi* spec. nov.

Closely allied to *M. castraria* Schans from South Brazil, but larger, and the costa of forewing is straight throughout, whereas in *castraria* it is visibly inflexed beyond the middle. In the forewing the inner line is much more obscure and in its lower course obsolete, so that the interval between the two lines cannot be called V-shaped, and remains of the brown-grey ground-colour; the outer line is fine, preceded by a slight tawny shade, concave outwards from costa to median and again below, the submedian interval being marked by a rounded protuberance, but otherwise without lunules between the veins; the pale streak, which in *castraria* fills the whole cell to outer line, is here restricted to the cell itself, at the end of which is an oval white spot containing two minute black dots one above the other; in the hindwing the outer line is not uniformly curved, with a white line following it, but elbowed on submedian fold and above vein 4 waved, and merely edged throughout with whitish.

Beneath the markings are much duller, especially the ferruginous costal tints.

Expanse of wings: 44 mm.

1 ♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

305. *Microgonia mexicata* ab. *incolorata* nov.

Forewing: with the ground-colour very pale lilac-grey, instead of deep lilac as in the type; the marginal area olive-tinged.

Hindwing: olive-ochreous, sometimes distinctly yellowish.

The lines in both wings are finer, and the white spot on inner margin beyond outer line of forewing generally dull and inconspicuous.

Underside of forewing tinged with yellow from base to outer line, not merely yellow towards apex only; marginal areas shining pearly whitish.

Thorax and abdomen cream-colour; head and shoulders pale yellowish.

5 ♂♂ from Sapucay, Paragnay, August and October 1901, and December 1902 (Foster).

In colour approaching *M. gilva* Schans; as far as I have seen, a southern form only.

306. *Microgonia mundata* ab. *crassior* nov.

Guenée's type of *mundata* was from Brazil, and, as far as I have seen, southern specimens generally agree in being quite pale, with fine lines and no markings except towards anal angle of hindwing. Examples from Peru and Ecuador and other more northern localities differ in size (56 mm. instead of 46 mm.) and in colour, being suffused with ochraceous fawn-colour, thickly and coarsely speckled with darker, instead of being pale biscuit-colour with almost invisible striae; the lines are diffuse and thick, instead of slender, the outer line in both wings being sometimes double with a pale centre; the marginal area in both wings is traversed by a thick zigzag submarginal shade; in one strongly marked instance of this the pale underside bears also an irregular blackish submarginal band.

This form, which at first sight appears quite distinct, I propose to call aberr. *crassior*,

307. *Microsema flexilinea* spec. nov. and ab. *nubilata* nov.

♂. Forewing: pale ochreous, generally covered with fine linear brownish striae and dusted with coarse black speckling; lines brown-black; first at one-third, bracket-shaped, angled in cell before the black cell-spot, and again on submedian fold; the extreme base sometimes rather darker; outer line from costa just before apex to two-thirds of inner margin, always with a slight bend outwards in middle and edged by a fine pale line; fringe concolorous.

Hindwing: with costal area paler; the line central, just beyond cell-spot.

Underside whitish ochreous, with sparser speckling; lines as above, but thick; that on hindwing faint, joined on inner margin by a fine dentate-lunulate line running to costa before apex.

Head, thorax, and abdomen like wings.

♀ paler; the outer line triple, the line itself fine and marked by dots on the veins, preceded by a brown line and followed by a pale one as in the ♂.

Expanse of wings: ♂ 30—33 mm.; ♀ 40 mm.

The aberration *nubilata* has the central area beyond inner line filled in with a diffuse fuscous-brown cloud.

5 ♂♂, 1 ♀ from Sapucay, Paraguay, July—December 1901—1904 (Foster).

Of these 2 ♂♂ represent the aberration.

308. *Mimosema venata* spec. nov.

Forewing: pale fawn-colour, speckled with fine dark atoms; the veins all finely dark; costal edge red; lines thick, red-brown; first oblique outwards from about one-fourth of costa to middle of inner margin; outer straight from three-fourths of costa to four-fifths of inner margin; a red-brown oblique streak on discocellular; marginal line finely dark; fringe concolorous, red at base.

Hindwing: with the outer line only, from three-fourths of costa to anal angle; discal mark as in forewing.

Underside dull whitish, speckled with grey, most thickly in costal half of forewing and towards apex; outer line and cell-spots hardly marked.

Head, thorax, and abdomen like wings.

Expanse of wings: 36 mm.

1 ♀ from Limbani, Carabaya, Peru, 9500 ft., April 1904, dry season (Oeckenden).

309. *Mychonia brunnea* spec. nov.

Forewing: rufous ochreous, speckled with grey; costal edge white with black dots; lines brown; first at one-third, bent below costa and slightly oblique outwards; outer from three-fourths of costa to two-thirds of inner margin, forming a bluntly rounded projection above vein 6 towards outer margin, as in *M. flexilinea*, then incurved and slightly waved, parallel to outer margin; at costa edged with black scales, which extend along vein 7 to costa before apex, forming a rough semicircle; fringe dark brown with pale tips; cell-spot blackish.

Hindwing: paler, with the outer line only, sinuous, parallel to outer margin.

Underside paler, especially in hindwing, the speckling darker; the lines all marked: the outer line blackish at costa of forewing.

Head, thorax, and abdomen like wings; abdomen beneath whitish.

Expanse of wings: 35 mm.

1 ♀ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

310. *Mychonia cervina* spec. nov.

Forewing: reddish fawn-colour, palest in the marginal area, darkest in the central; lines deeper fawn-colour, marked by brown spots on veins; first from quite one-third of costa to two-fifths of inner margin, bent on subcostal vein, then vertical, edged by a faintly paler line towards base; outer line from five-sixths of costa, oblique outwards and bluntly angled above vein 6, then incurved but nearly straight to two-thirds of inner margin, edged outwardly by a distinct whitish line; a faint brown cell-spot; costa dotted with pale and dark; submarginal line marked by a white line from costa to angle of outer line; fringe with basal half reddish fawn, tipped with whitish.

Hindwing: quite pale fawn-colour, with a faint outer line, dotted on veins, before which the inner margin is rather darker.

Underside paler, speckled with fuscous; the outer lines and cell-spots marked.

Face, palpi, and vertex dark brown; thorax concolorous with forewing, abdomen with hindwing.

Expanse of wings: 29 mm.

1 ♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden).

As in the Oconeque specimens of aberrations *lutea* and *flexilinea* of *corticinaria* H. S., the outer margin of forewing is hardly elbowed; so that, though I have described the example as a separate species, owing to the difference in the lines and the coloration, it may eventually prove to be only a form of *corticinaria*.

311. *Mychonia corticinaria* H. S. and ab. *lutea* nov., *flexilinea* nov., and *nigromaculata* nov.

This species is evidently very variable, not only in coloration and markings, but even in the shape of the wings. The type is recorded from Brazil; this has the excision in the outer margin of forewing well marked. I have seen 2 ♂♂ from Loja, Ecuador, agreeing well in this respect. On the other hand, nearly all the Peruvian examples seen are not only larger on the average, but show the excision much less deep, and in some cases entirely absent, the vertical distance from apex to vein 4 appearing greater. This Peruvian form I distinguish as ab. *lutea*. The species described by me as *Aestra ustularia*, *Nor. Zool.* xi. p. 132, ♂ (1904), from Chulumani, Bolivia, is, I find, merely a synonym of *corticinaria*. *Aestra albitamida* Warr., *Nor. Zool.* vii. p. 208, ♂ (1900), from Loja, Ecuador, is certainly an aberration. *Perusia superstes* Warr., *Nor. Zool.* xi. p. 166, ♂ (1904), from Santo Domingo, Carabaya, Peru, described from a specimen without perceptible elbow at vein 4, is another aberration, in which the lines are continuous instead of being represented by vein-spots, and the ground-colour is lemon yellow.

Another form, for which I propose the name *flexilinea* ab., agrees with *superstes* in having continuous lines, but the ground-colour is creamy ochreous, and the lines sometimes end on inner margin in brown blotches as in *superstes*, or in white ones as in *albitamida*.

Of the typical *corticinaria* H. S. and the ab. *albitamida* Warr. I have seen ♀♀ corresponding exactly with the ♂♂; a third very distinct form, of the ♀ only, has the ground-colour warm ochreous, thickly black-speckled, with both lines thick and black at their extremities on costa and inner margin.

The types of this, which I have named *nigromaculata*, are from Jimbani, Carabaya, Peru. Those of ab. *lutea* are from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns), three examples, also a single example from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden), differing from the Cushi specimens in having scarcely an elbow at vein 4.

Of ab. *flexilinea* the type, a ♂, is from La Oroya, R. Inambari, Carabaya, Peru, 3100 ft., September 1904, dry season (Ockenden), the lines ending in brown shades; 2 ♂♂ from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Ockenden), have the lines ending in white blotches as in *albitamida*, while other two, one from Oconeque and one from Cushi, have the lines simple, the Cushi example agreeing with the examples of *lutea* from the same place in having the elbow at vein 4 much stronger.

312. *Mychonia melanospila* spec. nov.

Forewing: dark fawn-colour, with two dark cross-lines; first at one-third angled in cell before the black cell-spot, then oblique inwards; outer line from five-sixths of costa, bluntly angled on vein 7, then oblique to two-thirds of inner margin, brown edged by a pale line; the middle space tinged with brown; a diffuse blackish blotch at anal angle reaching vein 4; fringe brown.

Hindwing: with the line central, beyond the black cell-spot.

Underside paler, dirty whitish, with thick speckling, more or less suffused with pale brown; cell-spots black; outer lines marked by black vein-spots; marginal area purplish grey; inner margin of forewing white.

Head, thorax, and abdomen brown.

Expanse of wings: 28 mm.

3 ♂♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Ockenden).

Near *M. excisa* Warr. from Mexico.

313. *Mychonia violacea* spec. nov.

Forewing: greyish flesh-colour; the lines, formed by spots on the veins, dark purplish, edged on costa with white, and ending at inner margin in obscure pale yellowish blotches; basal half of fringe deep violet-brown, outer half white tipped with grey; cell-spot fuscous.

Hindwing: whitish, with an outer row of spots; fringe whitish with purple base.

Head, thorax, and abdomen like wings.

Underside paler, speckled with fuscous, with the outer lines marked.

Expanse of wings: 30 mm.

A second specimen is olive-grey instead of flesh-colour: the lines becoming obsolete before inner margin; the inner line marked by a vertical purplish-brown shade; the costa strongly dotted white and purple; fringe at base rust-colour.

Both examples are ♂♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

In this species the excision below apex of forewing is deeper even than in typical *corticinaria* H.S.

314. *Nematocampa interrupta* spec. nov.

Forewing : bone-colour, covered with rust-red speckling, more strongly in the ♀; costa and lines red-brown; first line at one-third, thick, vertical; outer line oblique outwards from two-thirds of costa to vein 5, where it touches a small submarginal spot, which is again connected with a red-brown spot on outer margin; the line ends at two-thirds of inner margin as a short curved streak to vein 2; between 2 and 5 the line is obsolete, except in the ♀, where there are faint traces of it only; a dark black-brown submarginal blotch before anal angle touching another from outer margin; marginal line thick, black-brown; fringe reddish brown; cell-spot minute.

Hindwing : with marginal line black-brown, and crenulate; a black cell-spot, followed by a sinuous red-brown outer line, which is distinct only in the ♀.

Underside suffused throughout in the ♀ with pale brownish, in the ♂ only in costal half of forewing; cell-spots and marginal lines dark brown; fringe pale brown; costa of forewing in ♂ brown at base; a deeper rusty cloud at two-thirds of costa before a distinctly white apical blotch.

Head, thorax, and abdomen like wings; dorsum with a double red-brown stripe.

Expanse of wings; ♂ 20 mm.; ♀ 24 mm.

2 ♂♂, 1 ♀ from Tinguri, Carabaya, Peru, 3400 ft., August 1904, dry season (Oekenden).

Belongs to the group including *benescripta* Warr. from Chiriqui, *confusa* Warr. from Peru, and *falsa* Warr. from French Guiana.

315. *Paracomistis analiplaga* nom. nov.

Cabira lignicolor Warr., *Nov. Zool.* xi. p. 125 (1904).

Since the description of this species was made I have seen several other examples, and am satisfied that the original reference to *Cabira*, of which *ochropurpuraria* H.S. is the type, was wrong. The transfer to its proper genus *Paracomistis* will necessitate an alteration in its specific name as well, the original type-species of that genus being already named *lignicolor*.

316. *Paracomistis orbiferata* spec. nov.

Forewing : pale ochreous, with fine brown speckling; costa sometimes dark in basal third; inner line hardly marked, except by black dots on median and submedian veins; outer line smoky grey, marked throughout by rather prominent black vein-spots, those on veins 5 and 6 much displaced basewards, from five-sixths of costa to just beyond middle of inner margin; a large round black cell-spot, followed by a very obscure brownish median shade, which approaches outer line on inner margin; black dots at end of veins on margin; fringe ochreous.

Hindwing : without basal line; the median shade rather stronger, preceding cell-spot.

Underside paler, with brown speckling towards costa of forewing, where the outer line forms a blackish smudge; cell-spots smaller and black; marginal spots black.

Head, thorax, and abdomen ochreous; legs ochreous, externally, like the palpi, fuscous; antennal pectinations fuscous, the shaft annulated dark and light.

Expanse of wings : ♂ 25—28 mm.

2 ♂♂, one from Oconeque, Carabaya, Peru, 7000 ft., July 1904, dry season (Oekenden), type; the other from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Oekenden).

The type is the larger and paler of the two.

317. *Paragonia densicornis* spec. nov.

Extremely like *P. longidens* Warr., but the ground-colour paler, greyer, more speckled with dark; the lines more distinct; the subapical costal spot not white, but of the ground colour, with slightly paler edging. The two points in which, however, it differs especially are, first, that the outer margin of hindwing is crenulate from apex to middle, instead of being straight; and secondly the tuberculate processes of the antennae of the ♂ are much shorter, though capped with a similar curved bristle; the antennal shaft also appears darker.

Expanse of wings : ♂ 52 mm.

1 ♂ from Sapucay, Paraguay, September 1904 (Foster). I have seen several others from the same locality, but passed them by in mistake for *longidens*, which comes from Ecuador and Peru.

318. *Paragonia inornata* spec. nov.

Forewing : dull greyish brown, speckled with fuscous, the costal area above subcostal vein somewhat paler; the lines lunulate-dentate, the lunules in part filled in with dull olive and whitish scales; first line vertical from one-third of costa to one-fourth of inner margin, faint towards costa; a small black cell-spot of raised scales, followed by an obscure, nearly vertical, brownish median shade; outer line from three-fourths of costa, obliquely curved outwards to vein 7, there angled and oblique inwards to two-thirds of inner margin, interrupted entirely between veins 2 and 4; submarginal line marked by black spots on the veins; costal area between outer line and apex darkened with olive and grey scales, but these do not form a definite blotch; fringe concolorous.

Hindwing : with cell-spot and three slightly marked darker shades, median, postmedian, and marginal.

Underside pale dull brownish ochreous, speckled with grey; a broad submarginal slightly browner band; marginal area dull lilac-grey.

Thorax and abdomen like wings; shoulders paler and brighter; head and collar grey-brown.

Expanse of wings : 52 mm.

1 ♀ from R. Cayapas, N.W. Ecuador (Flemming & Miketta).

The outer margins of the wings are without crenulations, as in *occiduata* Guen. and *planimargo* Warr.; the forewing shortly falcate, and both wings angled at vein 4; the ♂ of *planimargo*, which it most resembles, is paler and has a large white costo-apical blotch.

319. *Paragonia pubicornis* spec. nov.

Also, like the preceding species *densicornis* extremely like *P. longidens*, not differing in colour or markings; but as in *densicornis* the outer margin of hindwing is crenulate above middle; and secondly the antennae differ still more

strongly, being simply subserrate and pubescent, with shorter and straighter bristles.

The single ♂ is from Pozuzo, Huáncayo, Peru, 900 m. (Hoffmanns), whence also four examples of typical *longidens*.

320. *Pergama delauta* spec. nov.

Like *P. speciosata* Guen., but very much smaller and paler; the ground-colour beyond the dark central fascia being white; an olive patch on outer margin from vein 7 to 4 and a smaller one at anal angle, the two united by an outwardly curved shade beyond which the margin is yellowish; a short dark olive cloud oblique inwards from before each patch, the upper reaching vein 4, the lower touching vein 2; fringe olive.

Hindwing white, washed with yellowish and faintly grey-speckled; no distinct outer line, but a curved grey streak from apex towards anal angle and a short brown one from the angle to vein 3; a distinct blackish line of marginal lunules.

Underside without any reddish fulvous marginal blotches, the white ground-colour being merely washed with yellowish and striated with fuscous in the hindwing, the two streaks dark brown, the curved one with an inner pale edge; in the forewing the costa is concisely white, the rest of the wing blurred white with the dark markings showing through; apex whitish preceded by three connected olive streaks pointing basewards, the upper and middle one limiting a yellow brown-streaked patch, the middle and lower a white blotch; the margin below middle also yellow.

Head white or whitish grey; thorax and abdomen olive-ochreous; shoulders grey.

Expanse of wings: 36 mm.

1 ♂ from La Union, Cauca River, October 1902 (Klages).

In the British Museum are two ♀♀ from Guatemala, from the Godman and Salvin collection, rather larger than this ♂, but certainly the same species and not differing in colour from the ♂; the ♀ of *speciosata* (*decora* Butler) differs decidedly from its ♂.

321. *Pergama dissimilis* ab. *perfusa* nov.

Typical *dissimilis* Warr., has the basal two-thirds of forewing dark leaden fuscous, and the marginal third pale ochreous: in the aberration the whole wing is pale leaden grey, with the two brown lines alone marked.

The hindwing and the underside of both wings remain as in the type.

Head, thorax and dorsum pale grey like the forewing, without any dark admixture.

Expanse of wings: 36—42 mm.

4 ♂♂ from Sapucay, Paragnay, November 1904 (Foster), accompanied by others of the typical form, and by three ♀♀, which correspond, except in their smaller size, with typical ♀♀ of *pumaria* Feld. (= *amanda* Druce).

322. *Pero coracina* spec. nov.

Like *P. clysiaria* Feld. in markings, but the ground-colour much darker, deep olive-fuscous; the pale triangular space on costa of forewing smaller, clouded with grey striae and brownish-tinged, except round the white discal spot, where

it is yellow; the outer line preceded by a brown shade; submarginal dots black and white; hindwing also much darker; the white hyaline cell-spot large and conspicuous, followed by a small dull yellow patch; the line more strongly dentate.

Underside grey uniformly striated with darker, without any tinge of brown; the marginal and submarginal blotches blacker.

Expanse of wings: 40 mm.

1 ♂ from Sapucay, Paraguay, November 1904 (Foster).

The smaller size and deeper ground-colour distinguish the species at once.

323. *Pero inferna* spec. nov.

Forewing: deep purple-black, except the marginal area beyond outer line below the apical black patch, which is dull grey-brown, thickly striated with dark brown; the two lines, shaped nearly as in *xylovaria*, are edged, the first outwardly, and the second inwardly, with deep velvety black; cell-spot small, formed of pale yellow scales; a purplish black apical shade from costal end of outer line to end of vein 3; fringe purplish black, below 3 brownish.

Hindwing: black; the outer line visible, and marked above anal angle by an angled streak of tawny scales, some of which spread along margin and basewards along vein 1; a yellow submarginal dot above vein 6.

Underside dull purple black; cell-spots white, small in forewing, larger, with black centre, in hindwing; outer line traceable in both wings, on costa of forewing marked by a small pale spot; a whitish submarginal cloud between veins 2 and 3; a white submarginal dot in hindwing above vein 6.

Head, thorax, and abdomen all black; tibiae and farsi ochreous, those of the forelegs only mottled with dark.

Expanse of wings: 52 mm.

1 ♂ from Limbani, Carabaya, Peru, 9500 ft., April 1904, dry season (Oeckenden).

324. *Pero lactelineata* spec. nov.

Forewing: pale grey, tinged with fulvous in basal area, paler, more pinkish grey in the marginal, the central field dark brown; first line from one-fourth of costa to one-third of inner margin, shortly oblique outwards and rounded at end in cell, then vertical with two faint curves; outer line from three-fourths of costa to three-fifths of inner margin, incurved from vein 4 to 2, and outcurved on submedian fold; costal portion of inner line followed by a dull yellow costal patch bounded outwardly by an oval white cell-spot; in the sinus of outer line a dark grey cloud; apex marked with a brown and grey triangle; a slight fulvous cloud before anal angle, edged on each side with paler; fringe grey below vein 6, brown above it; a black white-tipped dot before margin on each side of 6.

Hindwing: dark grey, the costal area whitish; a straight white line beyond middle inwardly dark-edged; a dull blackish cell-spot; anal area fulvous; a black submarginal dot on each side of vein 2, and a black-and-white one above 6.

Underside pale grey, washed with fulvous and speckled with black; inner margin of forewing glossy white; cell-spot and outer line, which is straight, white; costa black-speckled; apex blackish; hindwing with a broad irregularly waved white line, inwardly dark-edged, expanding into a white blotch on inner margin; cell-spot black; submarginal black-and-white dots on both wings.

Head and thorax pale fulvous grey ; abdomen brown above, pale grey beneath ; anal tuft white ; legs mottled pale and grey-brown.

Expanse of wings : 38 mm.

1 ♂ from Pozuzo, Huánuco, Peru, 800—1000 m. (Hoffmanns), type. Also from Paleazu, Peru, and from French Guiana.

Forewing with a slight blunt tooth at vein 6, rounded below ; hindwing rounded ; antennae pubescent.

325. *Pero maculicosta*.

Aelium maculicosta Warr., *Nov. Zool.* iv. p. 488, ♂ (1897).

The ♀ of this species is wholly dark wood-brown, speckled with darker ; the usual pale costal patch of the ♂ scarcely lighter than the rest of the wing : the outer margin of the forewing forms an acute tooth at apex, a prominent one at vein 6, and a large nasiform projection beyond 4 and 3, below which to vein 2 it is incised. The hindwing likewise has a much more prominent tooth at vein 3 than the ♂. The outer line of forewing, instead of being blackish, is marked by a fine whitish line.

The example from which this description is taken came with two typical ♂♂ from Sapucay, Paraguay (Foster), the ♀ dated October 1900, the ♂♂ September 1902 and October 1904.

326. *Pero? simplex* spec. nov.

Forewing : uniform greyish fawn-colour, dusted with dark atoms ; the veins finely darker ; lines brown ; first thin and hardly visible, forming three outward curves, of which the upper one projects, as usual, beyond the others towards an indistinct dark cell-spot ; outer line slightly curved, from three-fourths of costa to two-thirds of inner margin, edged outwardly by a fine pale line and inwardly by a broad brown shade of uniform width ; some black submarginal dots ; fringe colorous ; the central area is slightly browner than the rest of wing.

Hindwing : with the outer line less distinct.

Underside paler, greyer brown, dusted with black ; the outer line marked only below costa of forewing.

Head, thorax, and abdomen like wings.

Expanse of wings : 42 mm.

2 ♀♀ from Sapucay, Paragnay, October 1901 and January 1905 (Foster).

Apex of forewing acute : outer margin strongly bulged below middle ; a very slight tooth at vein 6 : hindwing rounded.

327. *Perusia prasina* spec. nov.

Forewing : whitish green, thickly brown-speckled ; costa rufous and fuscous, bright ferruginous at base ; crossed by two lines of brown spots on veins ; first from two-fifths of costa to middle of inner margin, consisting of five spots, one on subcostal, median, and submedian veins and one on vein 2 and inner margin, the spots below middle slightly connected by grey shading ; outer line from an oblique brown costal streak at five-sixths to close before anal angle, the spots more ferruginous, the two on veins 6 and 7 nearer margin than the rest, and none at all on vein 5 ; beyond the costal streak are two brown costal spots ; fringe green.

Hindwing : with slight brown cell-spot, and a submarginal row of dark spots parallel to outer margin.

Underside whiter green; forewing with costal area striated with brown, and with a brown apical blotch on costa; both wings with large brown cell-spots and submarginal series of spots, these last often obsolete in whole or in part.

Head and antennae brownish; back of crown, thorax, and abdomen green.

Expanse of wings: 30—35 mm.

4 ♂♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

328. *Perusia viridis* spec. nov.

Forewing: bright green, sparsely speckled with ferruginous; costal edge fuscous with grey speckles, in one example bright ferruginous; crossed by two rows of spots, as in *prasina*, but much less prominent and often absent; the first generally represented only by a spot on subcostal and submedian; the outer row, instead of going to anal angle, is bent inwards, so that the lowest spot on vein 1 is close to the corresponding spot of the inner series; the costal blotches before apex smaller and duller; fringe yellow.

Hindwing: without cell-spot; the submarginal series represented by spots on costa and at anal angle.

Underside pale yellow, with cell-spots and submarginal spots brown; these generally obsolete in forewing, except at costa; costa of forewing brown-speckled towards base; the inner margin whitish.

Head, thorax, and abdomen green; anal segment and tufts, abdomen at sides and beneath, legs, and palpi greenish drab; forelegs brown in front; collar fuscous like costal streak; bright ferruginous in the example with ferruginous costa.

Expanse of wings: 30—35 mm.

4 ♂♂ from Cushi, Huánuco, Peru, 1900 m. (Hoffmanns).

The occurrence of two green *Perusia* from the same locality is interesting; the two species are palpably distinct.

329. *Polla albipuncta* Warr.

This species was described from a ♂ (*Proc. U. S. Nat. Mus.* xxx. p. 554 (1906)).

The ♀ has the blunt elbows in the outer margin of both wings developed into strong angulations, that in the hindwing almost forming a tail. The apex of forewing is produced, and the margin beneath it concave. The white dots of the outer lines are scarcely visible, and the white markings on costa before apex of forewing less obvious.

1 ♀ from Sapucay, Paraguay, September 1900 (Foster).

330. *Polla inquinata* spec. nov.

Forewing: dark reddish-fawn, darkest towards anal angle; costa dotted with black; inner line shown only on inner margin near base, where an oblique curved black streak runs to base of vein 2, marked on the three veins by faint white dashes; cell-spot black; from two-thirds of costa an oblique bluish-white streak runs to vein 7, is there sharply angled, and continued as a sinuous series of white spots on veins to just beyond middle of inner margin, the spots on veins 3, 2, 1 followed by black blotches; from just before apex a bluish-white line runs inwards to the angle of outer line, is then interrupted, and reappears on veins 3, 2, 1 as three large submarginal black blotches, in the ♀ united to form a zigzag black marking; inner margin with scattered black striae; fringe concolorous.

Hindwing: darker; with a blackish shade close to base, a diffuse blackish central shade, marked by white dashes on veins, following the black cell-spot, and developing into a large black patch on inner margin; a zigzag black submarginal marking from anal angle.

Underside duller, paler, the hindwing with a faint bluish-white flush, both black-speckled; a brown marginal border on both wings, in the forewing with the black zigzag anal streak shown, and a black mark on costa before the slightly paler apex; cell-spots black.

Face brown; vertex whitish; shoulders, patagia, and thorax very pale ochreous; abdomen brown, with the basal and anal segments of dorsum blackish marked.

Expanse of wings: 44 mm.

1 ♂, 1 ♀ from La Oroya, R. Inambari, Carabaya, Peru, 3100 ft., September 1904, dry season (Oekenden).

♂ with outer margin of both wings curved; ♀ with it strongly angled at middle, and the apex of forewing acutely produced, as in *Polla albipuncta* Warr.

331. *Polla nigriseriata* spec. nov.

Forewing: greyish brown, thickly sprinkled with black striae; lines very obscure; first oblique inwards, to one-fifth of inner margin, with a dark mark on costa at one-third, below which it is angled; a brown streak at two-thirds, oblique outwards, angled on vein 7, then oblique inwards to middle of inner margin; an inwardly oblique white streak from costa just before apex emitting fine white lines along veins 7, 8, 9, and marked by small white dots on veins 6 and 5, below which two divergent series of black spots on veins run to inner margin, the outer one to anal angle, those of the inner row sometimes minutely tipped with white; cell-spot black; fringe concolorous.

Hindwing: with the two series of black spots and an antemedian dark line from inner margin, all obsolete above vein 4; cell-spot black; costa whitish grey.

Underside paler; outer line marked by bluish-white vein-dashes on forewing, and becoming distinctly lunulate-dentate on hindwing; marginal area beyond it browner with traces of a submarginal series of white dashes in hindwing, less distinct on forewing, but connected at anal angle by a black zigzag line; cell-spots black.

Head, thorax, and abdomen concolorous with wings; shoulders and base of patagia pale ochreous; legs mottled fuscous and whitish.

Expanse of wings: 38 mm.

2 ♂♂ from Sapucay, Paraguay, November 1903, and October 1904 (Foster).

Evidently allied to *P. voraria* Schaus from Brazil; perhaps a dark form of it.

332. *Polla olivacea* spec. nov.

Forewing: dull olive-green on a dark iron-grey ground, which shows up in proportion as the olive scales are abraded; costa finely streaked with black; inner line visible only as an iron-grey oblique streak from one-half of inner margin to the origin of vein 2: two white costal streaks before apex, meeting on vein 7; the inner, representing outer line, marked with dark at costa, angled on vein 7, and produced to middle of inner margin as a sinuous row of white vein-dots, which are plainer above middle; fringe olive-green; cell-spot black.

Hindwing: much more striated with blackish; a streak at base and the cell-spot black; costa iron-grey; no distinct line; fringe rufous.

Underside dull lilac-grey, the marginal border darker; cell-spot black; fringe rufous.

Head blackish; shoulders and patagia pale ochreous; dorsum iron-grey, the third and fourth segments and anal tuft olive; abdomen below paler; legs mottled fuscous and ochreous.

Expanse of wings: 40 mm.

1 ♂ from La Oroya, R. Inambari, Carabaya, Peru, 3100 ft., September 1904, dry season (Oekenden).

333. *Pyrinia angulimargo* spec. nov.

Forewing: pale ochreous, suffused with olive; costa with dark-brown striae; a purplish-brown blotch at end of cell, with the discocellular marked by pearl-grey scales along its centre; a smaller brown spot on the submedian fold, obliquely below it, preceded by a faint oblique shade; outer line thick and diffuse, purple-brown, from two-thirds of inner margin towards apex, interrupted at vein 5, and retracted to costa at four-fifths; this line lies in a purplish shade, the inner edge of which is marked by a pale line; on the costa the line is edged externally by a slight lustrous streak; marginal area dark chestnut-brown, containing a fine submarginal line, swollen into black spots on veins 4, 3, 2 and 1, the last much larger and edged with pale scales; fringe purple-brown.

Hindwing: with a double purple-brown central line, with some pearly scales in the middle, and a purplish shade beyond; outer area tawny brown, darker at apex.

Underside yellow, striated with reddish; the two middle spots of forewing and middle band of hindwing red-brown; marginal border of forewing deep red-brown, forked at inner margin; of hindwing pale brick-red.

Head and palpi red-brown; thorax and abdomen pale ochreous, the anal half browner.

Expanse of wings: 26 mm.

1 ♂ from La Oroya, R. Inambari, Peru, 3100 ft., September 1904, dry season (Oekenden).

The outer margin of hindwing is truncate from apex to vein 6, thence straight to anal angle.

The antennae are armed with tuberculate fascicles of cilia.

334. *Sicya obscurissima* Th.-Mg.

Sicya obscurissima Th.-Mg., *Bull. S. E. Fr.* p. 92 (1894).

Pseustoplaca diversicolor Warr., *Nov. Zool.* ii. p. 154 (1895).

This species is a true *Sicya*, though differing so much in colour from others of the genus, and my genus *Pseustoplaca* was quite unnecessary.

THE ELAND OF BRITISH EAST AFRICA.

By R. LYDEKKER.

(Plate I.)

IN *The Field* newspaper for 1906 (vol. cviii. p. 579) I gave a brief description of the head of an eland killed by Lieut.-Colonel J. H. Patterson on the Laikipia plateau, in British East Africa,* for which I proposed the name *Taurotragus oryx pattersonianus*. This head, forming the subject of Plate I., together with the body-skin, Colonel Patterson subsequently presented to the British Museum (Natural History), the former being now exhibited in the West Corridor of the Building in the Cromwell Road.

Taking as a basis of comparison the two specimens of the striped eland shot by Mr. F. C. Selous in Mashonaland, and exhibited in the same corridor, under the name of *Taurotragus oryx livingstonei*, I stated that the eland of British East Africa was distinguished by having "an incomplete white chevron similar to, although rather smaller than, the one found in the Sudan eland (*T. derbianus gigas*), while only a narrow stripe in the middle line of the face, above and between the eyes, is dark brown, the sides of the forehead being rufous. On the lower part of the face there is a larger dark brown area than in the ordinary striped eland, although there is a rufous fawn-coloured patch on each side above the nostril." At the time of writing this passage I was unaware that Mr. Selous † had already recorded the occurrence of an incomplete white chevron in some of the elands from the south of the Zambesi, as exemplified by the two male heads from Mashonaland, figured in Plate I., figs. 1 and 3, of the first of the two works cited in the footnote. Further details are therefore necessary to demonstrate the distinctness of the British East African race. So far as my present information goes, the races and species (?) of eland may be arranged as follows:—

1. The Southern race, *T. oryx oryx* ‡: Whole body and limbs pale fawn-coloured, without white stripes on the body, no white chevron on the forehead, or dark knee-bands or dorsal stripe; face of old bulls wholly brown, with a large "bush" of blackish-brown hair on the forehead; in the cows the middle line of the face brown, and the sides paler.

Although extinct in Cape Colony (the type locality), this race, according to Mr. Selous, survives in the South Kalahari Desert, and in East Africa apparently extends about as far north as lat. 23° S.—that is to say, Matabeleland.

North of lat. 23° S., according to the same observer, certain individuals in a herd show more or less distinct white body-stripes and dark knee-bands, thus passing into—

2. The Zambesi race, *T. oryx livingstonei*, of which the type locality is

* Owing to erroneous information, it was stated that the locality was Portuguese East Africa; the mistake was corrected in the next issue of *The Field*.

† *J. Hunter's Wanderings in Africa*, p. 206 (1890), and in Bryden's *Great and Small Game of Africa*, p. 126 (1899).

‡ I prefer the name *T. oryx typicus*, but this is inadmissible in *Nomenclator*.

Sesheke, north of the Victoria Falls of the Central Zambesi,* which presents the following characteristics: Body-colour a deeper fawn on the back, marked with eight or nine vertical white stripes, more conspicuous in young than in aged animals, a dark dorsal stripe, and dark brown bands above the knees, which tend to fade with age; forehead of old bulls with a dark brown "bush," and typically no white chevron (*teste* the plate in Livingstone's *South Africa*).

This race apparently extends southwards of the Zambesi to Mashonaland, as exemplified by the mounted male and female in the British Museum (Natural History). It is noticeable, however, that the bull now shows no dark knee-bands; but probably they have faded out. In Mashonaland, as exemplified by the two bulls already referred to as being figured in Mr. Selous's book, an imperfect white chevron may coexist with a dark brown "bush" on the forehead, thus leading on to—

3. The British East African race, *T. oryx pattersonianus*, which has the following characteristics (so far as these can be determined from a single specimen): Body pale rufous fawn, marked with three distinct white stripes on the withers, and faint indications of other stripes farther back; small dark knee-bands and dark dorsal stripe; forehead of adult bulls without a "bush" of long hair, a narrow stripe in the middle line of the forehead above and between the eyes black, the sides of the forehead bright rufous, and an incomplete white chevron below the eyes; lower part of face dark brown, with a fawn patch on each side above the nostril.

[Here it may be well to mention that an eland-head from Portuguese East Africa—apparently an adult bull—in the possession of Mr. P. B. Vander Byl, has the face coloured similarly to that of the British East African race, but without the white chevron, although lacking the frontal "bush." I am informed, however, by Capt. Stevenson Hamilton that two young elands recently caught in Portuguese Africa had the white chevron. It may be added that a few of the bull elands at Woburn Abbey show a chevron, which is, however, buff instead of white.]

From the country between British East Africa and the Bahr-el-Ghazal province of the Sudan no specimens of eland are available; but it seems quite probable that in this district a race may exist in some degree connecting *T. o. pattersonianus* with the one provisionally known as—

4. The Sudan Eland, *Taurotragus derbianus gigas*, of which a head is figured by Mr. Rothschild in vol. xii. Pl. XII. of this journal. The leading characteristics of this head, in addition to the large size of the horns and the broader ears (as contrasted with those of all the races here classed as *T. oryx*) are the following: Forehead of adult bulls wholly chestnut, and without a "bush"; an incomplete white chevron below the eyes, and the rest of the front of the face blackish brown, with the exception of a white patch over each eye, including the eyelid; lips white, sides of face fawn, with a band of chestnut running from between the horn and the ear to the throat, and a white gorget in the middle of the lower part of this band. Sides of fore-part of neck fawn, followed posteriorly on each side by a broad oblique blackish band narrowing towards the chest, with a narrow line of white near its hind border; a black stripe along the middle line of the neck and another on the throat. Body-striping unknown.

* In his original description of *Taurotragus livingstoni* (*Proc. Zool. Soc. London*, 1864, p. 104), Dr. Selater refers first to elands from Usagara, German East Africa, and then to others obtained by Sir J. Kirk just north of the Zambesi. I consider it, however, admissible to take as the type of this form the elands obtained by Livingstone at Sesheke, as has already been done by Mr. Selous.

5. The Senegambian Eland, *Taurotragus derbianus*. According to Mr. Rothschild (*op. cit.*) there are no characters by which the head of the Sudan eland can be distinguished from the typical *T. derbianus* of Senegambia, and it is therefore highly probable that both should be included under the present name. The body of *derbianus* is characterised by the bright chestnut ground-colour of the coat and the profuse white striping, the number of stripes being usually fourteen or fifteen, so far as is known. Black knee-bands are present.

So far as the races included under the specific title of *T. oryx* are concerned, it will be clear from the above that there is complete gradation in the matter of colouring from the Cape to the British East African animal—a gradation which ought to be met with in all cases where we have to deal with races or subspecies, although it has often been eliminated by differentiation. If, as suggested, something approaching a similar gradation will eventually be found to connect the British East African with the Sudan eland, it may be advisable to regard *T. derbianus* merely as a race of the southern species, with the designation of *T. oryx derbianus*.

Whether or no such a gradation, or partial gradation, really exists, it is quite apparent that elands (which were probably once a northern type, since their remains occur in the Pliocene of Southern Europe and India) show a modification from a broad-eared, chestnut-coloured, forest-dwelling animal, profusely marked on the body with white stripes, white streaks on the face, a black neck, and black-gartered legs, to one in which the whole colour (with the exception of the face) is pale tawny while the ears are narrow, this latter type being evidently adapted to a semi- or complete desert existence. In the matter of gradation (with one gap) from one type of colouring to another as we proceed from north to south (irrespective of whether this gradation is or is not complete), elands present us with a condition exactly paralleled by that which occurs respectively in the cases of the giraffe and the bonte-quagga. Three such parallel instances occurring in the same country are assuredly sufficient to demonstrate that protection is the main factor in the evolution of the colouring of great game animals.

EXPLANATION OF PLATE.

Head and neck of the type specimen of *Taurotragus oryx pattersonianus*, from the Laikipia plateau, British East Africa, preserved in the British Museum (Natural History).

TWO NEW INDIAN *SPHINGIDAE* IN THE BRITISH
MUSEUM.

BY SIR GEORGE HAMPSON, BART., F.Z.S., ETC.

1. *Marumba microta* spec. nov.

Foretibia with long curved claw at extremity.

♂. Head and thorax red-brown, the head rather paler, except palpi; antennae whitish; abdomen red-brown. Forewing grey-brown suffused with purplish rufous and with slight dark irroration; a black and rufous subbasal spot on vein 1; an oblique brown medial line, diffused on outer side; postmedial area somewhat greyer; an indistinct slightly curved subterminal line with two conjoined red-brown spots on it at inner margin; a small dark brown spot on termen below apex defined by a grey lunule on inner side and with a very indistinct triangular brown shade below it from termen to the subterminal line; cilia dark brown. Hindwing purplish red-brown with indistinct darker shade on termen near tornus; cilia dark brown with slight whitish tips towards tornus; the underside rather redder, with indistinct oblique medial line and curved postmedial line.

Expanse, 44 mm.

Hab. Godavery District, Madras (Hearsey).

1 ♂.

2. *Marumba poliotis* spec. nov.

Foretibia with large curved claw at extremity.

♂. Head and thorax grey-white, the head and tegulae tinged with rufous; metathorax with two slight tufts of blackish scales; tarsi ringed with black; abdomen grey-white dorsally suffused with rufous except at base and with fine black dorsal line expanding into a small spot on penultimate segment. Forewing grey suffused with reddish brown and irrorated with black; the basal and terminal areas browner and the postmedial area whiter; some blackish suffusion before the whitish antemedial line, which is defined by blackish on outer side, oblique from costa to median nervure, angled inwards in submedian fold, then excurved and angled inwards to inner margin; a dark medial line excurved from costa to median nervure, then incurved to near antemedial line; a small pale rufous discoidal spot, slightly defined by blackish; postmedial line dark; excurved from costa to vein 5, then incurved and sinuous; subterminal line indistinctly double, excurved below costa, then oblique, dentate and with small somewhat dentate black marks on its outer edge, the mark below costa extending as a streak to termen and the mark at vein 4 larger; slight black marks on termen at the extremities of the veins. Hindwing grey suffused with brown; postmedial line excurved and indistinct from costa to vein 4, then incurved and with whitish patch beyond it in submedian interspace, ending at tornus; the underside whitish irrorated with fuscous, the postmedial line fine, a curved dentate subterminal line with slight brownish band beyond it becoming terminal below vein 4.

Expanse, 54 mm.

Hab. Ganjam.

1 ♂.

NEW ZYGAENIDAE IN THE BRITISH MUSEUM.

By SIR GEORGE HAMPSON, BART., F.Z.S., ETC.

1. *Artona pluristrigata* spec. nov.

♀. Head and thorax black and fulvous yellow; abdomen with the basal part black, with two orange bands, the terminal part orange; wings black. Forewing with yellow fascia from base below costa, two in intermedian interspace and one on inner area; two streaks in end of cell and streaks between the veins of terminal area. Hindwing with the basal half yellow traversed by the black veins; the terminal area black with short yellow streaks between the veins of apical half.

Expanse, 24 mm.

Hab. Pulo Lant (Doherty).

1 ♀.

2. *Nesace virescens* spec. nov.

♂. Antennae of male with long branches; forewing long, the apex produced. Greenish black; abdomen with fulvous lateral tufts on proximal segments; wings semihyaline.

Expanse, 22 mm.

Hab. Petropolis, Brazil (H. Doer).

1 ♂.

3. *Caementa glaucotis* spec. nov.

Pampa mystica Druce (nec Wlk.), *Biol. Centr. Am.*, *Het.* i. p. 40 (1884).

♂. Antennae of male with the branches short; hindwing with the costa excised before middle, the discocellular between veins 6 and 7 very oblique. Head, thorax, and abdomen blue-black; wings semihyaline black, with a grey-blue tinge, the veins black.

Expanse, 20 mm.

Hab. Vera Paz, Guatemala (Champion).

1 ♂.

SOME NEW SIPHONAPTERA.

BY THE HON. N. C. ROTHSCHILD, M.A., F.L.S.

Thaumapsylla gen. nov.Allied to *Ischnopsyllus* Westw. (1833).

Head semicircular, being very short. Maxilla triangular and pointed in side-view (Fig. 1). Prothorax, apart from comb of teeth, extremely short. Mesonotum long; metanotum short, with a comb of short and widely separate teeth. Abdomen broad, resembling *Pulex*. Hindcoxa very long, without distinct

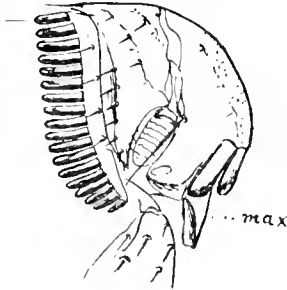


Fig. 1.

apical excision behind. The short bristles at the edge of the tibiae of even size, as in *Ctenopsyllus musculi*, etc.

A very remarkable bat-flea, which, in the pointed maxilla, is a connecting link between the genera *Ischnopsyllus* and *Ctenopsyllus*.

1. **Thaumapsylla breviceps** spec. nov.

Head.—The labial palpus consists of five segments, reaching to half the length of the forecoxa. The forehead bears one long bristle at the antennal groove and numerous very tiny hairs along the frontal edge (Fig. 1).

Thorax.—The comb of the pronotum projects downwards over the sternite, and consists of thirty-two teeth. The mesonotum bears numerous short bristles, which are stout like most of the bristles on the body, besides a postmedian row of five longer ones on each side; before the apex there are two or three thin spines close together. The metanotum bears two rows of bristles and a few additional hairs on the back, with a comb of six to eight short spines at the apex. The epimerum of the metathorax bears numerous short stout bristles.

Abdomen.—The first tergite bears a comb like the metanotum, and two rows of bristles, the other tergites having only one row.

Legs.—The forecoxa is very densely covered with short stout bristles, one bristle at the hinder edge being much prolonged. The hindfemur bears four or five ventral bristles from the base to the middle. There are four long bristles on the hinder side of the hindtibia. The fifth tarsal segment is short and triangular.

Modified Segments.—♂. The clasper is ovate, the finger small, halfmoon-shaped, the manubrium tapering, being nearly straight and directed obliquely downwards.—♀. The eighth tergite bears four bristles beneath the stigma and about sixteen farther down. The stylet is very short.

Length: ♂ 2 mm.; ♀ 2.2 mm.

We have a series of this species taken off spirit specimens of *Rousettus collaris* from Cape Colony, and another series off *Rousettus stramineus* from Knysna, Cape Colony.

2. *Ctenophthalmus ansorgei* spec. nov.

♀. This species is similar to *C. caucasica* Tasch. (1880). The rostrum is rather short, being about two-thirds the length of the forecoxa. There are three genal spines. The pronotal comb consists of sixteen teeth. The mesonotum bears two rows of bristles and numerous short hairs on the back. There are three rows on the metanotum, besides an abbreviated fourth row. The epimerum of the metathorax bears six to eight bristles. The abdominal tergites have three rows of bristles, the first row consisting of a few hairs only, except on the first tergite, the row on this segment extending nearly as far down as the second row. The seventh tergite bears three apical bristles, the upper one being two-fifths and the lower one two-thirds of the length of the central one. The sternites of segments 3 to 6 bear one row of bristles and ventrally a small number of hairs in front of this row, these additional hairs being arranged in a row on the posterior sternites.

The legs are the same as in *C. caucasica*.

Modified Segments.—♀. The seventh sternite (Fig. 2) has a deep but rather narrow sinus, the upper lobe being much narrower than in *C. caucasica*. The

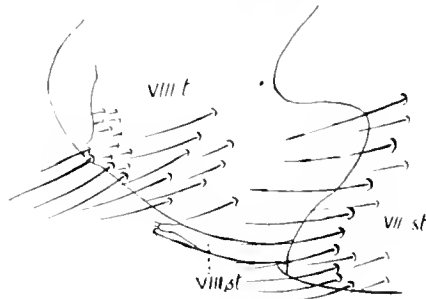


Fig. 2.

eighth tergite bears six or seven long bristles and several short ones, as shown in the figure. The anal sternite bears four bristles on each side.

Length: 2.8 mm.

We have two ♀♀ taken off *Georchus bocagei* by Dr. W. J. Ansorge at Bihé, Angola, on November 21st, 1904.

3. *Ctenophthalmus triodontus* spec. nov.

♂♀. Distantly related to *C. caucasica* Tasch. (1880); distinguished by the modified segments of the abdomen, the tarsi, and the bristles of the abdomen.

Head.—There is a comb of three spines at the ventral edge of the gena. The frontal portion of the head bears two rows of bristles, the anterior row containing four bristles and the second row three long ones.

Thorax.—The pronotal comb consists of sixteen spines. The metathoracic epimerum bears from eleven to thirteen bristles.

Abdomen.—There are two rows of bristles on the tergites, the first tergite bearing in addition a few dorsal bristles representing a third row, the following tergite also bearing one or two additional bristles. The seventh tergite has three

bristles at the apex. The sternites of segments 3 to 7 bear a row of long bristles and several shorter hairs in front of this row.

Legs.—The third segment of the foretarsus and the fourth of the hindtarsus are nearly as broad as they are long. The first hindtarsal segment is two-thirds the length of the tibia.

Modified Segments.—♂. The elasper (Fig. 3) is produced into a large rounded-triangular process bearing several long bristles at the ventral edge and near the

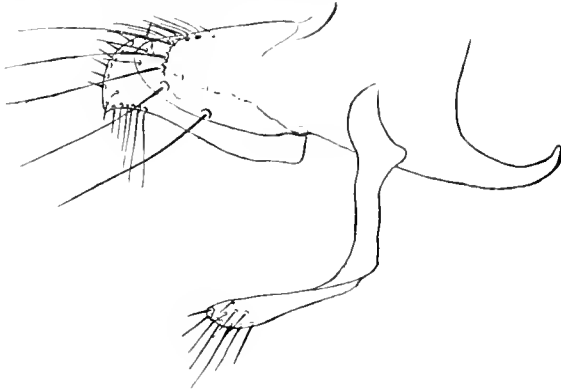


Fig. 3.

apex; the finger is unusually long and slender, being apically rather abruptly but not strongly dilated.—♀. The seventh sternite of the ♀ is deeply sinuate, the upper lobe being rather narrow (Fig. 4, vii. st.). There are no bristles above the stigma of the eighth tergite (viii. t.). The stylet is very slender.

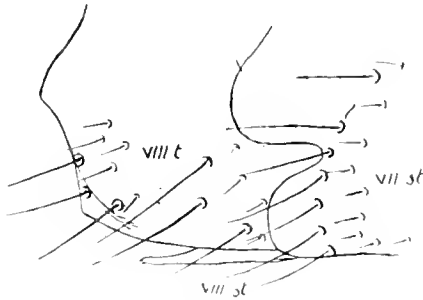


Fig. 4.

Length: ♂ 2.8; ♀ 3.2 mm.

One ♂, two ♀♀ in the British Museum. The locality and host are not known, the writing on the label being obliterated by the alcohol. Probably an African insect.

4. *Ctenophthalmus congener* spec. nov.

♂. The rostrum reaches very little beyond the centre of the forecoxa, being much shorter than in *C. assimilis* Tasch. (1880). There are three genal spines. The pronotal comb consists of eighteen teeth. The mesonotum bears two rows of bristles, and on the back many additional small hairs. The metathorax and abdominal tergites each bear two rows of bristles. The epimerum of the metathorax bears six bristles (3, 3). The 7th tergite has three apical bristles, the lower being

one-half and the upper two-fifths the length of the middle one. The fifth hindtarsal segment bears a subbasal pair of bristles on the ventral surface and four lateral pairs, the third being very small.

Modified Segments.—♂. The upper edge of the clasper bears a number of long bristles. The process (P) of the clasper (Fig. 5) is short, being almost

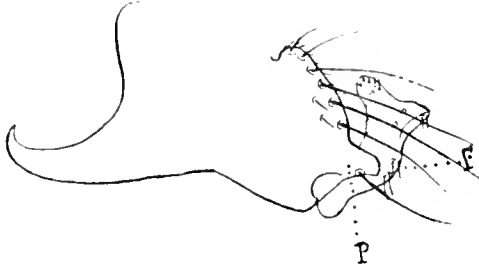


Fig. 5.

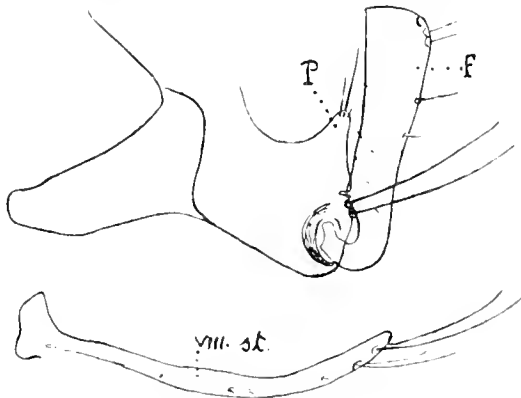
square and bearing one bristle at the joint with the finger. The finger (F) is long, being widest at the apex; its hinder edge is bisinuate. The ninth sternite resembles that of *C. assimilis*; the apex of the ventral arm, however, is more square.

Length: ♀ 2.6 mm.

We have one ♂ collected by Mr. W. Baer at Niesky, Silesia, on February 24th, 1899, off *Hypudaeus glarcolus*.

5. *Ceratophyllus anisus* spec. nov.

♂. This species is similar to *C. sciurorum*. The rostrum is somewhat shorter than in that species. There is no long bristle immediately behind the base of the antenna. The mid- and hindfemora each bear a subventral row of three or four bristles on the innerside, besides a subapical pair. The short hairs on the ventral surface of the tarsi are less numerous than in *C. sciurorum*. The first hindtarsal



Figs. 6 and 7.

segment bears on the anterior side four pairs of bristles inclusive of the apical pair.

Modified Segments.—♂. The greatest difference between this species and *C. sciurorum* is shown in these segments. The eighth sternite is very long and

slender, being slightly curved and bearing ventrally at the apex two pairs of bristles (Fig. 7, viii. st.). The eighth tergite bears eight bristles above and two below. The process P of the elasper is narrow, being almost pointed (Fig. 6). The finger is broader at the apex than in *S. sciurovorum*. The bristles are also different. The inner arm of the ninth sternite is strongly curved. The bristles on the central widening of the horizontal arm are numerous.

Length : 2.5 mm.

We have one ♂ from Yokohama, Japan, taken off *Felis sp.* by Mr. Allan Owston on June 28th, 1902.

FURTHER NOTES ON *MACROPUS MAGNUS*.

By THE HON. WALTER ROTHSCHILD, Ph.D.

WHEN I described, from a living animal in my collection, what I believed to be *Macropus magnus* of Owen (cf. *Nor. Zool.* xii. p. 509, 1905), I stated that until the death of the animal we could not be certain if it was really *M. magnus*. This reservation has turned out to be very wise. In the early part of this year I received an adult pair of kangaroos much resembling large *Macropus rufus*, but the female was of the same colour as the male, both being of a bright reddish buff with blue-grey faces, and the undersides much paler whitish buff. The fur is short and woolly, as in *M. rufus*, but even softer and more silky to the touch. These animals, like the previously mentioned supposed *M. magnus*, were sent from some portion of Northern or North-Western Australia. When this winter began all three unfortunately died, and the examination of the skulls, now that the animals have been prepared, has at last cleared up the long-standing mystery of *Macropus magnus*. The formerly described animal turns out to be a new species, while the pair received afterwards belong to the true *M. magnus*. In the male skull the palatal foramina, owing to captivity, have become abnormal, the left one being filled up by an osseous thickened mass, while the right one is divided in two by an osseous septum; but the high and sharply developed cusps of the molars are more strongly developed than in the type, and the other distinctive characters separating *M. magnus* from *M. rufus* are very conspicuous.

I have now received a second specimen of the kangaroo I formerly wrongly identified with *M. magnus*, and, as the skull proves it to be distinct, I have much pleasure in naming it after Mr. Karl Hagenbeck, from whom I received the pair of true *M. magnus*, as follows :

Macropus hagenbecki sp. nov.

Macropus magnus Rothschild (nec Owen), *Nor. Zool.* xii. p. 509 (1905).

Hab. Some portion of Northern or North-Western Australia.

ON THE BRITISH SUBSPECIES OF *CARABUS*
VIOLACEUS.

By ERNST HARTERT, PH.D.

Carabus violaceus is one of the most interesting species of the fascinating genus *Carabus*, because it presents a great many local forms, especially in the Alps, and in its distribution from east to west.

Carabus violaceus violaceus has the upper surface of the elytra uniformly covered with fine granulations, without any striations, and the margins of the elytra are of a beautiful reddish violet. This form inhabits North-Eastern Germany, eastwards apparently to Russia and Austria, Denmark and portions of Scandinavia. Numerous other forms are spread over the more south-eastern countries and over the Alpine districts.

In the west, in the plains of West Germany and of the greater part of France, *C. v. violaceus* is replaced by forms of a totally different appearance; in these the elytra are sharply striated with about a dozen elevated lines, between which granulations are visible. This is *Carabus violaceus purpurascens*. One is, at first sight, inclined to think that *violaceus* and *purpurascens* are two different species, as they differ so strikingly, and because, according to Erichson and other authorities, in certain parts of South-West Germany both occur in the same localities. Moreover, the forceps of the male is straighter and more blunt in typical *violaceus*; more pointed, tapering, and more curved in *purpurascens*. We are, however, assured by Paul Born and other specialists that various forms present complete intergradation between the two extremes, and that their distribution is not the same; it is quite possible that, in this and other cases, single occurrences of one or the other form in the area of a different subspecies is due to involuntary transportation (with moss, vegetables, etc.), or that such specimens are atavistic aberrations, and we may, for the present, accept the dictum that *violaceus* and *purpurascens* are representative subspecies of each other.

A very fine form, close to *purpurascens*, but with a greenish golden border to the elytra, is not rare on the French side of the Pyrenees. Mr. Rothschild and I caught it under stones near Canterets (Hautes Pyrénées), and about 1500 metres high, near the Hospice de Luchon (Haute Garonne), and Roudou sent it me from Gèdres.

In England we would expect a form like or near *purpurascens*, but this is not the case; British specimens are widely different from the striated forms, and closely resemble *violaceus*. From the latter (a series from Silesia, North Germany, and Austria, examined) they differ, however, by the elytra being less finely, more roughly, and somewhat more irregularly granulated, thus appearing much less smooth. The forceps of the male is blunt as in German *C. v. violaceus*, not so much pointed and curved as in *purpurascens* and *fulgens*. The size of the British form is rather variable. Other constant differences I have, so far, not noticed. I name the British form:

Carabus violaceus sollicitans subsp. nov.

Type: ♀. Ashridge near Tring, 8. viii. 1906, caught by Arthur Goodson; in my collection.

In addition to the type I have examined, specimens from Ashburne in Derbyshire (C. F. R. Jourdain), Oxford (Shipp), Cowley in Oxfordshire (Shipp), Knighton, Colchester, Dursley (Shipp), Wilstone near Tring (A. Goodson), Euston (Karl Jordan), Wells in Somerset, and the Forth district in Scotland (W. Eagle Clark). All these examples showed the same characters.

MISCELLANEA ORNITHOLOGICA.

CRITICAL, NOMENCLATORIAL, AND OTHER NOTES, MOSTLY ON
PALAEARCTIC BIRDS AND THEIR ALLIES.

By ERNST HARTERT, PH.D.

PART IV.*

MUSCICAPA MUGIMAKI Temm.

UNFORTUNATELY, ornithologists have universally employed the specific name *luteola* for a well-known Flycatcher nesting in East Siberia, from the mouth of the Amur to Lake Baikal. Evidently nobody took the trouble to examine critically the original description of *Muscivapa luteola* Pallas (*Zoogr. Rosso-Asiat.* i. p. 470), or he would have seen that the bird described there is the Red-breasted Flycatcher, or its Siberian representative, *Muscivapa parva albicilla*. The bird hitherto known as *M. luteola* must henceforth be called *M. mugimaki* Temm. (cf. *Vögel pal. Fauna*, i. pp. 487, 492).

**Notes on the genera CRYPTOLOPHA, ABRORNIS, TICKELLIA and
PHYLLOSCOPUS.**

Though always inclined to "lump" genera—the use of genera being to enable us to find our way through the otherwise chaotic mass of forms, but not to make our studies more intricate and difficult—I believe that we are justified in separating the genera *Cryptolopha* and *Abrornis*; these two genera are easily distinguished by their tails, *Cryptolopha* having twelve rectrices, *Abrornis* only ten. Moreover, the bill in *Abrornis* is comparatively much shorter and wider, the rectal bristles are longer and stronger, and its members lay—as far as it is known—spotted eggs, while the known eggs of the species of *Cryptolopha* are white, without spots. *Tickellia* should also be separated from *Abrornis*, with which it agrees in having only ten rectrices. The bill is, however, very different, being very broad and bluntly pointed, and the tail-feathers are long and narrow. Only one species, however, belongs to the genus *Tickellia*—i.e. *T. hodgsoni*. Dr. Bianchi (in a review of the genera *Cryptolopha*, *Abrornis*, and *Tickellia* in the *Bull. Acad. Impér. Sci. Petersburg*, ser. v. vol. xxiii. p. 65) includes in the genus *Tickellia* also *Abrornis*

* For Part I. see *Nov. Zool.* 1904, pp. 456-60; for Part II., *Nov. Zool.* 1905, pp. 497-593; for Part III., *Nov. Zool.* 1906, pp. 386-405.

albicularis and *fulvifacies*. It is inconceivable why this was done, as these last two forms are as typical *Abrornis* as *schisticeps* and *superciliaris*. Evidently Bianchi was not acquainted with these forms, and wrote about them not from autoptic knowledge and study, but only from what he had found in other books. This shortcoming is apparent in various instances in his article. Had he actually examined all these forms, such an experienced, keen-eyed and careful ornithologist could not have made such mistakes. It is, in my opinion, a grave error to write and to make firm statements about forms one does not know, unless this is unavoidable. Of course, when writing a monograph about a certain family, say a volume of the *Catalogue of Birds* or of the *Tierreich*, all named forms must be mentioned, and, although it is impossible to examine every one of them, some conclusion must be arrived at. Otherwise it is, as a rule, wiser not to say anything about a species not known to the writer.

A greater difficulty than the limitation of the genera *Abrornis* and *Tickellia* is the differentiation between the genera *Phylloscopus* and *Cryptolopha*. Both have twelve rectrices and the bills in both vary very much. Formerly the former genus was placed among the *Sylviidae*, the latter among the *Muscicapidae*. The result has been that certain forms, which are neither the most typical *Phylloscopi* nor very typical *Cryptolophae*, were partly placed in the one, partly in the other genus; this has been done frequently. Thus, to quote only one example, *Phylloscopus trochiloides* has always been placed in this genus (respectively *Acanthopneuste*, a subgenus not recognised by me); while a form merely differing by its much brighter coloration and perhaps slightly shorter wings, *ricketti* of Slater, has been described as a *Cryptolopha*, and has quietly rested in the latter genus until now. There are naturally several ways to get over our difficulty: either to form some more genera for the less typical and somewhat intermediate forms, or to unite *Cryptolopha* and *Phylloscopus*, if we cannot admit the *status quo*—I mean, if we cannot be content with the last-named two genera. I have considered all manners. Pleske, Oates, and Sharpe (*Handlist*, iv.) have taken the first-named course, distinguishing between *Phylloscopus*, *Acanthopneuste*, *Oreopneuste*, *Reguloides* and *Cryptolopha*. This arrangement is, however, unsatisfactory, because of great inconsistencies in it: for example, if all these genera are admitted, why then is *sibilatrix*, a bird quite as different from a Chiffchaff or Willow-wren as *borealis*, left in *Phylloscopus* s.s.? There are no sharp limits for these genera, and the inevitable result is that certain forms are placed by one writer in this, by another in another genus. Therefore, this way out of the difficulty is not advisable. If uniting *Phylloscopus* and *Cryptolopha*, on the other hand, we find most divergent extremes in such an assembly, and, I believe, we can still admit the two groups, as between the widest-billed *Phylloscopus* and the nearest *Cryptolopha* there is still a gap, the latter having, combined with a wider bill, stronger rictal bristles, and, as a rule, a longer first and shorter second primary, while the former has a narrower bill—though varying greatly from the narrow beak of a *Ph. tristis* to the wide one of a *magnirostris*, *occipitalis*, *trochiloides*, or of the small-sized *Reguloides* group—and usually a less-developed first and more prolonged second primary. Under this arrangement we have to place in the genus *Phylloscopus*, in addition to forty-one palaeartic forms treated of in my book, *Die Vögel der pal. Fauna*, i. p. 501 ff., the following forms: *Ph. ricketti*, *tricipitata*, *cantator*, *kinabaluensis*, *olicuca*, *presbytis*, *sarasinorum*, *floris*, *waterstradti*, *eccretti*, *gullianetti*, *falcicentris*, and *nigrorum*; while in *Cryptolopha* we place: *barkii*, *tephrocephalus*, *calentini*, *intermedia*, *affinis*, *xantho-*

schistos, *jerdoni*, *castaneiceps*, *sinensis*, *butleri*, *montis*, *floris*, *xanthopygia*, *grammiceps* and *poliogenys*.

Mr. Bianchi quite misunderstood the form called *tephrocephalus* by Anderson. He renamed it *Cr. burmanica* (in the review of *Cryptolopha* misspelt "*bramanica*"), though the original description, the figure in the "Yunnan Expedition," and the locality clearly indicate that the so-called *burmanica* is the bird named *tephrocephalus* by Anderson, and transferred the name *tephrocephalus* to a slightly different form inhabiting Southern Kansu, which we recently received from the Tsin-ling Mountains (Tai-pai-shan) in some numbers. The mistake could hardly have been made if full importance had been given to the distribution of *barkii*, *tephrocephalus* and *valentini*, as I have named the new form from Kansu and Tsin-ling-shan in my *Väg. Pal. Fauna* iv. p. 497, where I distinguished between *Cr. b. barkii*, *Cr. b. tephrocephalus* and *Cr. b. valentini*, which represent each other geographically and are therefore subspecies.

On p. 57 Mr. Bianchi renamed a bird *Cryptolopha harterti*, which I had described as *Acanthopneuste floris* (*Nor. Zool.* 1898, p. 114), because I had already distinguished a bird as *Cryptolopha montis floris*. I, however, do not consider this to be necessary, because my *Acanthopneuste floris* is a *Phylloscopus*, my *Cryptolopha montis floris* a *Cryptolopha*. Therefore, *C. harterti* is a synonym of *floris*. On p. 60 my *Cryptolopha utigaiensis* is again enumerated, although I have at length explained (*Nor. Zool.* 1903, p. 473) that the bird to which I gave that name is the *Gerygone neglecta* of Wallace. On the same page is distinguished my *butleri* from the Malay Peninsula, but it is erroneously spelt with two *tt*. As the last species of the genus *Cryptolopha* in Bianchi's review we find Oustalet's *dejeani*. This figure also among the *Cryptolophae* in Sharpe's *Handlist*, but it has nothing to do with these Flycatchers, being, in fact, the bird known from the Eastern Himalayas under the name of *Oligura castaneocentris* (Burton). I am greatly obliged to Messrs. Trouessart and Ménégau for sending me the type and various other specimens from Ta-tsien-lin. They agree perfectly with Himalayan examples, and therefore the range of *Oligura castaneocentris* extends from Sikkim eastwards to the mountains of Szetschwan.

The wrong position assigned to Oustalet's species shows again how unfortunate it is to write about birds with which one is not acquainted. In this case Professor Oustalet had, moreover, corrected his error, and placed his *dejeani* in the genus *Oligura* in 1901, in *Nour. Arch. Mus. Paris*, ser. iv. vol. 3, p. 286, where he also figured it on pl. xi. Judging from the description in *Cat. B.* vii., he still thought it different from *castaneocentris*, but in this conclusion he was again wrong.

Of the genus *Phylloscopus* (including *Acanthopneuste*, *Oreopneuste*, and *Reguloides*) we have two excellent memoirs—viz. the systematic monograph of this genus, by Seebohm, in vol. v. of the *Cat. B. Brit. Mus.* pp. 37–75, and the review of the forms inhabiting the Russian possessions, by Pleske, in the *Ornithographia Rossica*. Probably these works are the best of their respective authors. That of Seebohm is certainly the best in the *Cat. B.* v., and is free from those flights of fancy about development and origin which we find in most of the author's later works; while Pleske's review exhausts almost everything that can be said about Russian *Phylloscopi* up to the time of his writing, and contains very few errors indeed. There is also an excellent and useful review of the Indian species in Oates' *B. of India*, vol. i., as far as it goes.

The generic name of this genus is *Phylloscopus* Boie, 1826, and not "*Phyllo-*

pseuste," 1822, as Oberholser pretended, for Meyer (*Zus. & Ber. zu Meyer & Wolf's Taschenb.* i. p. 95) did not use this name at all in a generic sense.

The specific name of the Chiffchaff is *collybita*, Vieill. 1817, a name which, nevertheless, should grammatically read "*collybista*." This is another instance of the harm done by those who "correct" the spelling of names according to Latin or Greek orthography and grammatical rules—very often people who know less of ancient languages than others. The custom of "correcting" names leads to inconsistency and vacillation: everybody knows that "*rufigaster*" is bad and corrects it into "*rufiventris*" or "*rhodogaster*"—according to taste—and that names like *melanotos*, *rufiventris*, and others are incorrect; but very few know that *collybita* should really be *collybista*. It is the same with the unfortunate alteration of the gender of specific names: everybody knows that *Edolisoma* is a neuter, and it is an unpardonable blunder to treat it as a feminine; at the same time, however, an evident masculine, *Nacifraga*, has always been looked upon as a feminine, *Ammomanes*, undoubtedly a masculine, has been treated as feminine, and all through the *Catalogue of Birds* the gender of *Haleyon* is wrongly handled. Therefore, I contend that specific and subspecific names should in no way be altered, and especially should their gender not be made to correspond with that of the genera, if this had not been done by their author who invented them, or if associated with another generic name.

The Chiffchaff has mostly been called *Phylloscopus rufus*. Bechstein, however, did not create the name *Motacilla rufa* for this bird, but he erroneously referred Gmelin's "*Motacilla rufa et lotharingica*" here.

A strange muddle has been made by some ornithologists with the name *Sylvia sylvestris* Meisner, 1824. This name was given by Meisner to the Chiffchaff, which was correctly separated from the Willow-wren. The song of the Chiffchaff was also correctly described by him. In 1851 Pässler gave some nid- and oological notes about a bird he heard singing like a Willow-wren, but which attached to its song the "chiff chaff, chiff chaff" of its congener. This bird he called "*Silvia meisneri*," without obtaining or describing it. Apparently for no proper reason, our German brother ornithologists have frequently attached the name "*Sylvia sylvestris* Meisn." to such birds with "hybrid song," although the names "*S. meisneri*" and "*S. sylvestris*" were correctly quoted as synonyms by Seebohm in vol. v. of the *Cat. B. Brit. Mus.*

Two somewhat allied forms must bear the names *Phylloscopus affinis* (Tieckell, 1833) and *Ph. subaffinis* (Grant, 1900). Their distribution is apparently not sufficiently known, and, though they agree in structure, we could not at present say whether they represent each other geographically and can be called subspecies. The synonymy and nomenclature of these two forms has been wonderfully involved by Messrs. Sharpe and Bianchi. Almost at the same date as by Grant, *Ph. subaffinis* was described by Bianchi under the name of *Oreopneuste davidi*, but Grant's name has some months' priority. Without knowing whether the species is valid or not and where it belonged, Dr. Sharpe renamed Bianchi's *davidi*, calling it *Oreopneuste bianchii* (*Zool. Record*, xxxvii. *Aves*, p. 54, because an *Oreopneuste davidii* existed already as a synonym of *Phylloscopus armandi*, placed in *Oreopneuste* by Sharpe. Thus in the *Handlist*, vol. iv, p. 214, *Ph. subaffinis* appears under two numbers, with three names.

Another unquoted synonym of *Ph. subaffinis* is *Oreopneuste affinis* Oustalet (*Os. Chine*, p. 267), a name antedated by Tieckell's *affinis*. It is true that Oustalet

himself recently declared his *affinis* to be a synonym of Tickell's *Ph. affinis*, but this is quite an error. I have examined the type and other specimens from Tatsien-lin, and they certainly belong to *subaffinis*, and not to *Ph. affinis* Tick.

Among the synonyms of *Phylloscopus affinis*, in the *Cat. B. Brit. Mus.* v. p. 65, figures also *Abrornis acanthizoides* Verreaux (*Nouv. Arch. Mus. Paris, Bull.* vi. p. 37, 1870). This bird was placed in the genus *Orcopneuste* by David and Oustalet (*Ois. Chine*, p. 266). Unfortunately, it is neither an *Abrornis* nor a *Phylloscopus*, but an eastern form of *Horornis brunescens*. In fact, it is so closely allied to *H. brunescens* that many ornithologists will not hesitate in placing it as a synonym of the latter, but, at the same time, the bill is slightly smaller, and the under surface more tinged with lemon yellow in Chinese examples, than in true Himalayan *brunescens*, and therefore we must recognise two subspecies, *H. brunescens brunescens*, from the Himalayas, and *H. brunescens acanthizoides*, nesting in the Tsin-ling Mountains, and occurring—at least in the winter—as far south as Fokien.

Phylloscopus sirdianus is a very little known form, described by the painstaking and careful Brooks from winter-specimens obtained in Sind. Pleske referred also Caucasus examples to *Ph. sirdianus*, but in error. *Ph. sirdianus* is only with difficulty separable from *tristis*,* and is the form found in the Kwen-lün. The birds nesting in the Caucasus are *Ph. lorenzii* Lorenz (described from Sewertzow's MS.), and, having no yellow on the under wing-coverts, are considered by me as a subspecies of *neglectus*. I have long hesitated whether *neglectus* and *lorenzii* were not to be placed as subspecies of the *collybita* group, but it is said that a form of *collybita* (*abietina*), as well as one of *neglectus* (i.e. *lorenzii*), breed together in the Caucasus. This forbids our concluding that they represent each other geographically, and consequently I must adopt the course taken in my book, where I recognised the following forms :

Phylloscopus collybita collybita : Western and Southern Europe generally.

Phylloscopus collybita abietina : Scandinavia and East Europe generally.

Phylloscopus collybita tristis : Petshora, Ural and Siberia.

Phylloscopus collybita sirdianus : Kwen-lün Mountains.

Phylloscopus collybita canariensis : Western Canary Islands.

Phylloscopus collybita exsul : Lauzarote.

On the other hand :

Phylloscopus neglectus neglectus : Transcaспia, Buchara, and Persia.

Phylloscopus neglectus lorenzii : Caucasus.

* By an oversight *sirdianus* is, in my book, separated from *tristis* by two Canarian forms.

OBITUARIES.

BY ERNST HARTERT, PH.D.

HEINRICH KÜHN.

DURING the year 1906 we lost one of our most esteemed correspondents, the ardent and indefatigable collector Heinrich Kühn.

He was born on February 8th, 1860, in Erlbach, in Saxony, as the son of a "Bergrat" or mining councillor. He was always enthusiastically interested in zoology, and in 1882 he went to the Far East, in the company of Mr. Carl Ribbe, to collect zoological specimens. They visited the Aru Islands, New Guinea, Celebes, especially south and east Celebes, which was at that time very little known; but the most important work perhaps was done on the large island of Banggai or Bangkai. Kühn's early work was highly appreciated in Europe; and several butterflies—for example, *Pieris kühni*, *Hestia kühni*, *Jolaus kühni*, *Amblypodia kühni*—were named after their discoverer. Mr. J. Röber described the lepidoptera in volume i. of *Iris* (Dresden, 1884—1888), and in that same volume Mr. Kühn wrote three articles:

1. "Excursionen im ostindischen Archipel" (pp. 4—8).
2. "Instinct oder Ueberlegung?" (p. 118).
3. "Zur Kenntniss indischer Lepidopterenlarven" (pp. 179—183).

Probably Kühn did not reap the full benefit of his work, as he did not return to Europe, but remained in the East, while the collections which Ribbe and Kühn made were put on the market by Ribbe senior.

For a number of years nothing was heard of our friend as a naturalist, as he remained at Toeal, on the Key Islands, where he erected a sawmill and planted coconuts for commercial purposes; but this occupation seems not to have been too lucrative, and did not fully satisfy Kühn's tastes; he therefore offered his services as a natural history collector to Mr. Rothschild about ten years ago, and we have received from him the zoological results of many trips to little-known islands, together with valuable material from the Key Islands, where he resided.

Mr. Kühn visited the Aru Islands, and collected there most of the birds known from that group; he collected for the Tring Museum on the Timorlaut or Tenimber Islands, on Bauda, and on Dammer. He then explored systematically the long chain of islands known as the South-East Islands, which stretches from the Key Islands to Ceram, as well as the so-called South-West Islands, between Wetter and Tenimber. Several of the latter had never been visited by a European collector before, and are inhabited by fearless, lawless, and hostile tribes. The most interesting expedition, however, was probably that to the Tukang Besi Islands, south of Celebes, which had never been touched by a collector before, though the collections were less rich than we had expected, owing to these islands being very thickly populated and under cultivation. The birdskins and lepidoptera collected by Heinrich Kühn were frequently discussed, and formed important additions to our series. His name will often be found, among others, in the monograph of *Charaxes* and in the monograph of the *Sphinxidae* by Drs. Walter Rothschild and Jordan, and in the "Notes on Papuan Birds," by Dr. Rothschild

and myself, in *Novitates Zoologicae*. The following articles in our Journal are entirely based on Kühn's collections:—

1. "List of the *Geometridae*, *Epiplemidae*, *Drepanulidæ*, and *Thyrididæ* collected on the Key Islands by Mr. H. Kühn," by W. Warren (*Nov. Zool.* 1898, p. 421).

2. "The Birds of Dammer Island in the Banda Sea," by E. Hartert (*Nov. Zool.* 1900, p. 12).

3. "The Birds of the Banda Islands," by E. Hartert (*l.c.* p. 551).

4. "On the Birds of the Key and South-East Islands and of Ceram-Lant," by E. Hartert (*Nov. Zool.* 1901, pp. 1, 93; 1903, pp. 232).

5. "On a Collection of Birds from the Timorlaut Islands," by E. Hartert (*Nov. Zool.* 1901, p. 163).

6. "On the Birds collected on the Tukang-Besi Islands and Bnton, south-east of Celebes, by Mr. Heinrich Kühn," by E. Hartert (*Nov. Zool.* 1903, p. 18).

7. "The Birds of the South-west Islands Wetter, Roma, Kisser, Letti, and Moa," by E. Hartert (*Nov. Zool.* 1904, p. 174).

8. "On the Birds of the Island of Babher," by E. Hartert (*Nov. Zool.* 1906, p. 288).

9. "On the Birds of Luang," by E. Hartert (*Nov. Zool.* 1906, p. 302).

The following species and subspecies have been named in our Journal in Kühn's honour: Birds—*Gerygone kühni* Hart., *Dicrurus kühni* Hart., *Pitta kühni* Hart., *Dammeria henrici* Hart., *Geocichla peronii audacis* Hart., *Hypotaenidia kühni* Rothsch., *Myzomela kühni* Rothsch., *Pachycephala kühni* Hart., *Dicrurus kühni* Hart., *Calornis kühni* Hart. Lepidoptera—*Agathia kühni* Warr., *Chocrocampa kühni* Rothsch., *Phalaenoides kühni* Rothsch. Coleoptera—*Litocerus kühni* Jord., *Xenocerus kühni* Jord., *Xenocerus henricus* Jord.

Three years ago Heinrich Kühn came to Europe, visiting his aged mother in Germany, staying for a week in Tring, and at last marrying an English lady in London. He went out again to the sunny East, full of plans for future explorations. A tragic fate, however, carried him off at a comparatively early age. He, who had successfully and unflinchingly faced and resisted the dangerous climate of New Guinea, Wetter, and other places, and hostile native tribes, was attacked by a cancerous growth and succumbed to this treacherous disease in the hospital at Soerabaya on July 26th, 1906.

We have lost in Kühn a pleasant correspondent, and science one of its devoted followers, who would have done more valuable service to our beloved science had he lived longer.

GEORGE RICHARD OCKENDEN.

Another serious loss is the death of George Richard Ockenden, who died during an expedition in the Andes of Peru.

George Richard Ockenden was born at Brighton on March 25th, 1868. In 1900 he made an arrangement with Mr. W. F. H. Rosenberg, of London, to undertake an expedition to Peru for the purpose of collecting zoological specimens. Mr. Ockenden was one of the most painstaking and conscientious collectors, and one of the most successful hunters of moths who ever collected in tropical countries. The sight of his collections of moths, as they arrived by many thousands from Santo Domingo and other places in S.E. Peru, in the most perfect condition,

richer in species than any other collection from those countries and in grand series, was one never to be forgotten by a naturalist. The number of novelties is astonishing, and the new *Geometridae*, *Thyrididae* and *Uraniidae* have been described by Mr. W. Warren in *Novitates Zoologicae*, 1904 and 1905, while Mr. Rothschild named a new Hawk-moth, *Nyctophanes oekendeni*, in his honour.

In addition to lepidoptera Oekenden also collected successfully birds, mammals and reptiles. Mr. Boulenger has described from his collections six new batrachians, two lizards, and two snakes, and the female of the rare and curious frog *Ceratohyla bubalus*, which carries its egg on the back. The nursing habits of this species were not formerly known. Many valuable birdskins collected by Oekenden have enriched the series in the Tring Museum. Mr. C. E. Hellmayr has described already two novelties from his collections—viz. *Dysithamnus aroyae* and *Turdus fuscata oekendeni*.

During his last trip, marching eastwards from Tirapata, he was attacked by typhoid fever. For several days he continued his journey by easy stages, but at last he became so seriously ill that further progress was impossible. He and his wife were in a serious plight, in a solitary empty house, almost without the necessities of life, the luggage having gone in advance. Fortunately Mr. and Mrs. Brown, of the Inca Mining Company, hearing of Oekenden's position, kindly sent a vehicle and had them brought back to their house at Tirapata. Here everything in their power was done, but Oekenden's state became rapidly worse. As there were no doctors and no proper medicines at Tirapata, a special train was chartered to take the patient to the Puno Hospital. Neither the doctors nor the devoted nursing of his wife, however, could save him, and on March 25th, 1906, he passed away.

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DR. ERNST HARTERT, AND DR. K. JORDAN.

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NOVITATES ZOOLOGICAE.

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No. 2.

ON A COLLECTION OF BIRDS MADE BY MR. W.
HOFFMANNS ON THE RIO MADEIRA, BRAZIL.

By C. E. HELLMAYR.

(Plate III.)

AFTER leaving Teffé, Mr. Hoffmanns, whose name is already familiar to the readers of this journal, went to Humaytha, a small village on the left bank of the Rio Madeira, where he collected for about ten weeks. A fortnight was spent at Paraizo, on the opposite side of the river, but only a few birds were obtained. Mr. Hoffmanns then proceeded to Borba, on the right bank, farther down the Rio Madeira. Owing to bad health, however, he was obliged to give up his work after several weeks, and to return home. Although the collection of birds thus gained is far from being exhaustive, it contains much valuable material and several novelties, the most remarkable being the strikingly distinct *Anoplops hoffmannsi* Hellm. A large series of the charming *Pipra nattereri*, hitherto only known from a single male and some females in the Vienna Museum, was secured under considerable difficulties; and a number of other species discovered by Natterer and never obtained since, likewise fell to Mr. Hoffmanns' gun.

As far as I am aware, the only ornithological collecting ever done on the Rio Madeira is due to the late J. Natterer. This celebrated naturalist, when on his way from Matto Grosso to the Amazonas, stopped at several places on the upper part of that river (near Salto Girao, Ribeirão, etc.) and made a stay of more than six months at Borba, then the capital of a province. The results of his researches are embodied in Pelzeln's *Ornithologie Brasiliens*, a work which I had frequently to consult in the preparation of this paper.

As Mr. Hoffmanns has returned to his old hunting-grounds, we may soon expect further collections, which will afford us more ample material for the consideration of the zoogeographical position of the Rio Madeira, and I will confine myself to a few remarks on certain differences which seem to exist between the avifauna of Humaytha and that of Borba. Humaytha has a number of species widely distributed in North and East Peru and Eastern Ecuador, but not known from the Lower Rio Madeira. Such are: *Pipra caelesti-pilcata*, *Dendrocyttus devillei*, *Thamnomanes caesioides persimilis*, *Myrmotherula h. huxwelli*, *Anoplops salcini*, *A. melanosticta*, *Ramphastos cuciferi*, *Pteroglossus baubarnavessii*, *Galbula tobacea cyanescens*, *Prionirhynchus platyrhynchus pyrrolobus*, *Conurus weddellii*, *Pyrhura picta luciani*, *Crypturus bartletti*, etc.

In other cases the Upper Amazonian species found near Humaytha are replaced on the Lower Rio Madeira (Borba) by closely related forms. For this the following examples may be cited:

BORBA.

Turdus famigatus.
Dendrocnis guttata cator.
Thamnophilus punctuliger.
Scelateria schistacea leucostigma.
Hypocnemis myotherina ochrolaema.
Phlegopsis nigromaculata borbaui.
Formicarius ruficeps amazonicus.
Picumnus borbar.
Penelope superciliaris superciliaris.

HUMAYTHA.

T. hauxwelli.
Dendrocnis guttata guttatoides.
Thamnophilus polionotus.
Scelateria schistacea humaythae.
Hypocnemis myotherina melanolaema.
Phlegopsis n. nigromaculata.
Formicarius colma.
Picumnus aurifrons.
Penelope jacquacu.

In my former article (*ante*, p. 1) I said that Itaituba is a small village near Santarem. This, however, is a mistake, Santarem being situated on the River Amazons, while Itaituba is a place on the Rio Tapajós, about 250 kilometres from Santarem.

During his sojourn in Amazonia Mr. Hoffmanns met with much kindness from Europeans and Brazilians alike, and especially we wish to thank the Imperial German consul Mr. L. Nommensen, and Mr. Scholz, the owner of the well-known firm "Scholz & Co.," who have rendered much valuable service to our indefatigable traveller.

1. *Turdus hauxwelli* Lawr.

Cf. *suprà*, p. 40.

No. 1190. ♂ ad., Humaytha, 30. viii. 06. "Iris brown, feet grey, bill black."—Wing 114; tail 91; bill 19½ mm.

This bird is typical *T. hauxwelli*, and shows no approach to *T. famigatus*. It differs from our Tellé specimen solely by its rather darker upper parts and in being rather paler, less olive on the foreneck and sides of the breast. In both examples the middle of the belly is pure white, and the under tail-coverts are dark olive-brown with long white tips. In *Journ. f. Ornith.* 1902, p. 66, I have pointed out that the specimens of *T. famigatus* collected by Natterer in the interior of Brazil (at S. Vicente and on the Rio Guaporé in Mattogrosso, and near Borba, right bank of the Rio Madeira) are entirely typical; and as Mr. Hoffmanns now sends us *T. hauxwelli* from the left bank of that river, it cannot be considered as established that these two forms are really geographical representatives, though as yet they have not been found together at any locality.

The range of *T. hauxwelli*, thus far known, is as follows:

N.E. Peru: Pebas (Hauxwell; Castelnau & Deville*), Samiria (Hauxwell), Nauta, Chamienros, Santa Cruz on the Ucayali (Bartlett), Iquitos (Whitely). N.W. Brazil: Tellé (Hoffmanns); Rio Jurua (Garbe); Humaytha on the Rio Madeira (Hoffmanns). N.E. Bolivia: Reyes on the Rio Madeira (Rusby †).

2. *Turdus phaeopygus phaeopygus* Cab.

Cf. *Nor. Zool.* xiii, 1906, p. 353; Pelzeln, *Zur Ornith. Bras.* ii. (1868) p. 93 (Borba).

No. 1191. ♂ ad., Humaytha, 30. viii. 06. "Iris pale brown, feet grey, bill black."

* Specimens in the Paris Museum examined.

† *Merula fumigata hauxwelli* Allen, *Bull. Amer. Mus.* ii. 1889, p. 78.

Agrees well with skins from British Guiana. Natterer collected an adult bird at Borba, and Dr. Rasby procured specimens near the falls of the Rio Madeira in Bolivia.

I have shown in *Journ. f. Ornith.* 1902, pp. 63-5, 69, and in *Nor. Zool.* xiii. 1906, p. 4, that *T. p. phaeopygoides* Seeb. is a well-characterised form, and certainly not the "winter plumage" of *T. p. phaeopygus*, as supposed by Sharpe.*

3. *Heleodytes turdinus hypostictus* (Gould).

[*Opetiorynchos turdinus* Wied, *Reise Brasil.* ii. p. 148 (1821.—Rio Doce, Espiritu Santo; Rio Catolé, Bahia.—Cfr. my revision of Spix' types, p. 626).]

Campylorhynchus hypostictus Gould, *P. Z. S.* 1855, p. 68 (Rio Ucayali, Eastern Peru).

Nos. 983, 982. ♂ ♀ juv., Humaytha, 24. vi. 06. "Iris greyish brown, feet grey, bill blackish, below greyish white."

This is the Amazonian representative of *H. t. turdinus* (Wied), from which it differs by its generally smaller size and by having the spots on the lower parts more numerous and distinctly guttiform, while they are heart-shaped in the East Brazilian race. Within Brazilian limits it was first recorded from Santarem, by Riker and Chapman.† Professor von Ihering received a specimen from the Rio Juruá‡; and Natterer collected two ♀ ♀ near Borba on the Rio Madeira, which were erroneously determined as *C. variogatus*.§

4. *Thryophilus albipectus* subsp.

Cf. *supra*, p. 3.

No. 986. ♀ ad. in very worn plumage, Humaytha, 25. vii. 06. "Iris brown, feet bluish black, bill black."—Wing 65; tail 43; bill 19 mm.

This specimen agrees in size with our series from Peru (form *v* of my review, *loc.*), but is so horribly worn on the under parts that their real coloration cannot even be guessed. Further material is required to settle the question to which form the birds from the Rio Madeira should be referred.

5. *Thryothorus genibarbis juruanus* Ihering.

[*Thryothorus genibarbis* Swainson, *Anim. in Menag.* p. 322 (1838.—Brazil).]

Thryothorus genibarbis juruanus Ihering, *Revis. Mus. Paul.* vi. p. 431 (1905.—Rio Juruá, N.W. Brazil).

No. 1015. ♂ ad., Humaytha, 29. vii. 06. "Iris dark red."—Wing 68; tail 58; bill 18¾ mm.

No. 988. ♀ jr., Humaytha, 25. vii. 06. "Iris brown."—Wing 63; tail 60; bill 18 mm.

No. 1051. ♀ juv., Humaytha, 4. viii. 06. "Iris greyish brown."—Wing 68; tail 62½; bill 19 mm.

These specimens belong undoubtedly to the form recently separated by Professor von Ihering. Although the characters put forward in the original description do not hold good, there are other differences by which the Amazonian race may be distinguished from *T. g. genibarbis* of Eastern Brazil. The wings are decidedly longer, and the under parts paler, the sides of the belly alone being of a dull fulvous brown. In true *T. g. genibarbis*, of which the Tring Museum possesses

* *Monogr. Thrushes*, i. p. 211.

† *Luk*, 1890, p. 137.

‡ *Revis. Mus. Paul.* vi. 1905, p. 430.

§ *Veizen, Zur Ornith. Brasil.* i. 1867, p. 49.

a fair series from Bahia and Pará, the breast and abdomen are much brighter, ochraceous, paler in the middle. The barring of the outer tail-feathers varies in individuals from the same locality, the dusky bars being sometimes restricted to the inner webs, sometimes extended over both webs. The type from the Rio Juruá which I have examined is an immature bird, and agrees in size with No. 988.

It may be added that the adult ♂, collected by Natterer near Borba, on the right bank of the lower Rio Madeira, belongs to *T. g. genibarbis*. It is perfectly similar to examples from Pará, which differ from Bahia skins solely by their rather thicker and larger bills.

6. *Leucolepia modulator rufogularis* (Des Murs).

Cf. *suprà*, p. 41.

No. 1222. ♂ ad., Humaytha, 12. ix. 06. "Iris greyish brown, feet dark grey, bill black."—Wing 72; tail 41; bill 19 mm.

Differs from our Tefé specimen by having the belly, particularly in the middle, less rufescent, though much more so than in Bolivian skins [*L. m. modulator* (D'Orb.)]. The ferruginous colour below is confined to the throat and foreneck, as in the types of *L. modulator*, while in the Peruvian and Tefé birds it extends over the middle of the chest.

7. *Granatellus pelzelni pelzelni* Sel.

Cf. *suprà*, p. 5.

No. 1346. ♂ junior, Borba, 17. xi. 06. "Iris brown, feet grey, bill blackish grey."

No. 1379. ♀ ad., Borba, 22. xi. 06. "Iris brown, feet grey, bill greyish black."

These specimens agree perfectly with others from Santarem and the Cauca valley, Venezuela.

8. *Cyclarhis gujanensis gujanensis* (Gm.).

Tanagra gujanensis Gmelin, *Syst. Nat.* 1. ii. p. 893 (1788.—ex Buffon: "Guyane," sc. Cayenne).
Cylochis gujanensis Pelzelin, *Zur Ornith. Brasil.* ii. (1868) p. 74 (Borba).

No. 1297. ♂ imm., Humaytha, 26. ix. 06. "Iris pale yellow, feet light grey, bill blackish."—Wing 74; tail 60; bill 17½ mm.

No. 1337. ♀ jr., Borba, 15. xi. 06. "Iris pale yellow, bill blackish grey."—Wing 69; tail 54; bill 19 mm.

Though not quite adult, these specimens undoubtedly belong to *C. g. gujanensis*, the chest, flanks, and crissum being distinctly washed with cinereous, and the middle of the belly white without any buff tinge. They agree perfectly with skins from Cayenne, Surinam, and Pará.

9. *Dacnis cayana cayana* (Linn.).

Cf. *suprà*, p. 29.

Dacnis cyanocephala Pelzelin, *Orn. Brasil.* i. (1867) p. 25 (Borba).

Nos. 1254, 1255, 1271, 1272, ♂♂, ♀♀ ad., Humaytha, 17, 20. ix. 06. "Iris reddish brown, feet reddish grey, bill black."—♂♂ ad.: Wing 64, 64½; tail 44, 42 mm.

No. 1463. ♂ ad., Borba, 11. xii. 06. "Iris reddish brown."—Wing 65 ; tail 44 mm.

The ♂♂ agree in size and coloration with others from Cayenne, Pará, etc.

10. *Cyanerpes caerulea cherriei* Berl. & Hart.

Cf. *suprà*, p. 42.

Cyanerpes caerulea (nec Linnaeus) Pelzeln, *Zur Ornith. Brasil*, i. (1867) p. 25 (Salto do Girão).

No. 1148. ♂ ad., Humaytha, 23. viii. 06. "Iris black, feet yellow, bill black."—Wing 55 ; tail 28½ ; bill 16 mm.

Agreeing in size and coloration with the specimens from Teffé, the Rio Negro, and Orinoco (types).

11. *Euphonia melanura* ScL.

Euphonia melanura Selater, *Contrib. Ornith.*, 1851, p. 86 (Barra do Rio Negro—Wallace coll.).

Nos. 1370, 1371. ♂ ad., ♂ juv., Borba, 20. xi. 06. "Iris brown, feet and bill black."—Wing 63, 59½ ; tail 35, 34 ; bill 9½, 9 mm.

The adult ♂ is rather deeper yellow on the forehead and under-parts than a series from the Ucayali (Peru), Maipures (Orinoco), and Bogotá collections, but agrees with them in dimensions, size of the bill, and in the extent of yellow on the forehead. The type of *E. melanura* from Manaus differs from all the other specimens examined by its smaller size, much smaller bill, and smaller yellow frontal patch. Additional examples from the typical locality are required to confirm the constancy of these divergencies.

E. melanura is easily distinguishable from *E. violacea lichtensteinii* (cf. *suprà*, p. 6) by its much larger size, entirely black tail without any white markings, and by having the yellow of the forehead extended over the anterior portion of the crown.

12. *Euphonia laniirostris* Lafr. & D'Orb.

Euphonia laniirostris Lafresnaye & D'Orbigny, *Syn. Av.* i. in *Mag. Zool.* 1837, cl. ii. p. 30 ("Yuracaré, Bolivia").

No. 935. ♂ ad., Humaytha, 16. vii. 06. "Iris brown, bill and feet black."—Wing 61½ ; tail 35½ ; bill 9 mm.

The specimen agrees perfectly with the type from Yuracares and with the three ♂♂ ad. collected by Natterer near S. Vicente, Villa Maria and Villa Bella, in Mattogrosso.* As pointed out by Dr. J. A. Allen,† this species is quite distinct from *E. crassirostris*, of Colombia, Venezuela, etc. The five adult ♂♂ before me differ from a very large series of the latter species by having the under-surface and the patch on the forehead much darker, deep cadmium yellow (instead of chrome yellow), the back, wings, and sides of the head purple (instead of steel blue), and by their much shorter and quite differently shaped bill.

13. *Calospiza cayana cayana* (Linn.).

Tanagra cayana Linnaeus, *Syst. Nat.* xii. 1. p. 315 (1766—"in Cayana"—based on Brisson, "Le Tanagra verd, de Cayenne," *Ornith.* iii. p. 21. tab. iv. fig. 3).

Nos. 1252, 1263. ♀♀, Humaytha, 17, 18. ix. 06. "Iris brown, feet bluish black or bluish grey, bill bluish black."

* For the loan of these birds I am much indebted to the authorities of the Paris and Vienna Museums.

† *Bull. Amer. Mus.* iii. 1891. p. 351.

14. *Calospiza mexicana boliviana* (Bp.).

Cf. *suprà*, p. 7.

No. 1374. ♂ ad., Borba, 20. ix. 06. "Iris brown, feet and bill black."
Agreeing with specimens from Santarem and Pará.

15. *Calospiza nigrocincta* (Bp.).

Agelaius nigro-cincta Bonaparte, *Proc. Zool. Soc. Lond.*, 1837, p. 121 (publ. June 1838,*—"that portion of Brazil bordering on Peru").

No. 1276. ♀ imm., Humaytha, 21. ix. 06. "Iris brown, feet grey, bill black."

16. *Tanagra episcopus coelestis* Spix.

[*Tanagra episcopus* Linnaeus, *Syst. Nat.* 12. i. p. 316 (1766.—ex Brisson: "Brésil"; cf. *Nor. Zool.* xii. 1905. p. 273).]

Tanagra coelestis Spix, *Ar. Bras.* ii. p. 42. tab. Iv. fig. 2 (1825.—*Fontebon, Rio Solimões* fixed as typical locality; cfr. my revision of Spix' types, p. 676).
T. episcopus Pelzeln, *Zur Ornith. Bras.* iii. 1869. p. 208 (part.: Borba).

No. 1329. ♂ ad., Borba, 13. xi. 06. "Iris brown, feet and bill black."—
Wing 90; tail 65; bill 14½ mm.

When studying Spix' types in the Munich Museum I had only a female and a young male from Borba before me, which appeared to be intermediate between *T. e. episcopus* and *T. e. coelestis*. The adult male now sent by Mr. Hofmanns enables me to state that the birds from the lower Rio Madeira are typical *T. e. coelestis*. The specimen agrees in every respect with our series from Iquitos, Nauta, Loretoyacu and other places on the Peruvian Amazon. The patch on the shoulder is almost pure white, and the greater upper wing-coverts are tipped with whitish.

17. *Ramphocelus nigrogularis* (Spix).

Cf. *suprà*, p. 45.

R. nigrogularis Pelzeln, *Zur Ornith. Brasil.* iii. 1869. p. 210 (Borba).

No. 1376. ♂ ad. in moult, 20. xi. 06. "Iris brown, feet and bill black."

18. *Phoenicothera rubra peruviana* Tacz.

Cf. *suprà*, p. 44.

No. 1233. ♂ ad., Humaytha, 13. ix. 06. "Iris brown, feet pinkish grey, bill blackish grey."

Nos. 1128, 1129. ♂♂ vix ad., Humaytha, 21. viii. 06. "Iris brown, feet brownish grey, bill greyish black."

No. 1118. ♀ ad., Humaytha, 19. viii. 06. "Iris brown, feet yellowish grey, bill brownish black."

The males differ slightly from two topotypical Peruvian specimens by their rather lighter, clearer scarlet throat and foreneck, and by having the middle of breast and abdomen decidedly paler pink. It remains to be seen whether these trifling differences are constant.

* Cf. Selater, *P.Z.S.* 1893. p. 437.

19. **Lanio versicolor* (Lafr. & D'Orb.).

Tachyphonus versicolor Lafresnaye & D'Orbigny, *Syn. Ar.* i. in *Mag. Zool.* 1837. cl. ii. p. 28 (Yuracares, Bolivia).

No. 1063. ♂, Humaytha, S. viii. 06. "Iris brown, feet greyish brown, bill black."—Wing 82; tail 70; bill 13½ mm.

This bird agrees perfectly with specimens from Pozuzo and Chuchurras, province Huánuco, Peru. Typical Bolivian skins are not available for comparison.

L. versicolor differs from its nearest ally, *L. atricapillus*, of which the Tring Museum possesses a very large series from Cayenne, British Guiana, Eastern Ecuador and Bogotá collections, by its much smaller size, much weaker and shorter bill, and in many details of coloration. The rump and upper tail-coverts are bright chrome yellow (not deep ochraceous), the throat is olive-green (not deep black), the pileum washed with the same colour instead of being uniform jet black; the upper wing-coverts except the outermost of the greater series are white (instead of dull black); all the under-surface is bright saffron yellow, scarcely passing into a deeper shade on foreneck and under tail-coverts; the axillaries and under wing-coverts are pure white (not pinkish buff). In *L. atricapillus* the lower side is orange ochraceous, deepening into ochraceous on anal region and under tail-coverts, and the foreneck is more or less extensively deep tawny.

L. versicolor is new to the Brazilian fauna.

20. *Tachyphonus cristatus* (Gm.) subsp.

Cf. *Nor. Zool.* xii. 1905, pp. 274-5, and *suprà*, p. 30.

No. 1183. ♂ ad., Humaytha, 29. viii. 06. "Iris brown, feet and bill black."—Wing 82; tail 72; bill 13½ mm.

This bird differs from our large series of *T. c. cristatus* by its much smaller bill, and by the crest lacking the fulvous-buff lateral border which is but slightly indicated in front. Additional specimens are required to show if the Humaytha form is separable. The examples from Borba † secured by Natterer should also be re-examined.

21. *Tachyphonus luctuosus* Lafr. & D'Orb.

Cf. *suprà*, p. 7; Pelzeln, *Zur Ornith. Bras.* iii. 1869, p. 213 (Borba, Salto Girão).

Nos. 954, 951, 1039, 1040. ♂♂ ad., ♀♀: Humaytha, 19. vii., 2. viii. 06. "Iris brown, bill and feet black."

Nos. 1327, 1378, 1436. ♂♂ ad., ♀: 13, 22. xi., 2. xii. 06. "Iris dark brown, feet and bill black."

This series agrees with topotypical examples from Bolivia.

22. *Eucometis penicillata penicillata* (Spix).

Tanagra penicillata Spix, *Ar. Bras.* ii. p. 36, tab. xlix. fig. 1 (1825.—no locality).
Eucometis penicillata Pelzeln, *Zur Ornith. Brasil.* iii. 1869, p. 212 (Borba).

Nos. 927, 958, 960, 981, 954. ♂♂ ad., ♀♀ ad., ♂ juv., Humaytha, 15, 19, 24. vii. 06. "Iris brown, feet brown or grey, bill black, below brown."

These birds agree perfectly with an example from Borba which I had

† Pelzeln, *Zur Ornith. Bras.* iii. p. 213.

previously compared with Spix' type. The throat is white, somewhat shaded with cinereous towards the foreneck, the elongated feathers of the pileum are extensively white on their basal portion, and the feet blackish brown. Specimens from the Ucayali (Santa Cruz) and Peruvian Amazonas (Loretoyacu) in the Tring Museum differ by their paler brown legs, by having the forehead and occiput of a clearer olive-grey, and especially by the throat being slightly washed with buffy.

23. *Cypsnagra ruficollis pallidigula* n. subsp.

[*Tamagra ruficollis* Lichtenstein. *Verz. Dabl. Berliner Mus.* p. 30 (1823.—S. Paulo).]

No. 1290. ♂ ad., Humaytha, 24. ix. 06. "Iris dark brown, feet and bill black."—*Type of the subspecies*.—Wing 79; tail 62; bill $14\frac{3}{4}$ mm.

No. 1273. ♀ ad., Humaytha, 20. ix. 06. "Iris brown, feet and bill black."—Wing 78; tail 63; bill 14 mm.

These two birds differ from a very large series of true *C. r. ruficollis* (Lcht.) from S. Paulo, Goyaz, Mattogrosso and Bahia in having the throat and foreneck light buff (Ridgw. *Nomencl.* v. 13) instead of deep cinnamon-rufous. The rump is pure white (not creamy buff); the breast, abdomen and lower tail-coverts are considerably paler, creamy white, and there is no trace of the ochraceous patch on the flanks always to be seen in the typical form. The bill is rather shorter, stouter, and more convex.

Both specimens are in perfect adult plumage, with the head, back and wings of a deep glossy black. The British Museum possesses two skins of the new form, said to be from Bahia (Luschnath). This locality, however, is certainly erroneous, both examples being of the unmistakable handsome Ceará-make. The pale-throated form would thus appear to be rather widely distributed in the more northern districts of Brazil, where it evidently replaces the typical race.

In young birds of the latter, the throat is also much paler than in adults, of a dull ochraceous yellow, but such specimens can always easily be distinguished from *C. r. pallidigula* by the dull brownish black coloration of the back, etc., and by the presence of a narrow buffy yellow superciliary streak. It may be worth mentioning that the birds collected by D'Orbigny in the province of Chiquitos, Eastern Bolivia, belong to the dark-throated, typical form of Southern Brazil. I am much indebted to my friend M. Ménégauz, of the Paris Museum, for the loan of these specimens.

24. *Nemosia flavicollis centralis* n. subsp.

No. 1253. ♂ ad., Humaytha, 17. ix. 06. "Iris brown, feet plumbeous, bill black, below yellow." Wing 72; tail 55; bill 14 mm.—*Type of subspecies*.

Intermediate in size between *N. f. flavicollis* (Vieill.) and *N. f. melanozantha* (Lcht.); but bill quite as long and strong as in the latter form; yellow of the rump extended far up to the middle of the back, as in *N. f. insignis* Sel.; under parts pure white, as in *N. f. flavicollis*, with but a few blackish cross-bands on the foreneck. Differs from all the known races of *N. flavicollis* by having the head, mantle and shoulders deep velvety black (instead of brownish black).

In the type from Humaytha, the rump, throat and crissum are of the same clear citron yellow as in *N. f. melanozantha*, while an adult male from Tilotilo, Northern Bolivia, which in other respects perfectly agrees with it, has these parts

of the plumage rather deeper yellow, more like *N. f. flavicollis*. As the geographical variation of this widely spread species was not well understood hitherto, I take the opportunity of presenting a condensed review of the various forms into which *N. flavicollis* may easily be divided. In addition to the fine series in the Tring Museum I have studied the material in the Vienna and Berlepsch Museums, as well as several important specimens in the British Museum.

a. N. flavicollis flavicollis Vieill.*

Nemosia flavicollis Vieillot, *Nour. Diet.* xxii, p. 491 (1818.—"l'Amérique méridionale").
N. auricollis Schater, *P. Z.S.* 1856, p. 111 (Cayenne [type] and East Peru: river Ucayali).

Hab. Cayenne (Mus. Vindob., Brit., etc.). Venezuela: Suapure and Niare, Caura River (André & Klages coll.). N.W. Brazil: Marabitanas, Upper Rio Negro (Natterer). Eastern Peru: Chamieuros (Haußwell & Bartlett coll.).

♂ ad. Size rather small, bill short and slender. Head, back, upper wing- and tail-coverts dull brownish black; rump, throat and crissum golden yellow; rest of under-parts white, foreneck with more or less numerous irregular blackish cross-bars.

Obs. I am unable to find any constant differences between specimens from Cayenne, Caura R., Marabitanas and Eastern Peru. The amount of blackish cross-bars on the foreneck and sides of chest varies a good deal in examples from the same localities. For instance, in five adult males from the Caura the chest is strongly barred, while two others from the same place show but a few dusky bands. As a rule, there is no yellow supraloral streak, and the whole throat is yellow. Among the specimens obtained at Marabitanas by the late Dr. Natterer, there are, however, three or four in which the former is slightly indicated, and in one of them the middle of the lower throat is white, thus pointing towards *N. f. albigularis* Sel.

	Material.	Wing.	Tail.	Bill.	
1.	♂ ad., Cayenne (ex Becoer, in Vienna Museum)	70	51½	12	mm.
2.	♂ ad., Cayenne-make. Type of <i>N. auricollis</i> Sel. Brit. Mus. . .	71	53½	13	"
3.	♂ ad., Oyapoc, Cayenne (ex Mue Verdey, in Brit. Mus.)	65½	50½	13	"
4—8.	♂♂ ad. & imm., Marabitanas, Rio Negro. Vienna Mus.	64—70	59—52½	12	"
9—13.	♂♂ ad., Caura River, Venezuela. Tring Mus.	63—66	48½—51½	12—12½	"
14—16.	♂♂ ad., Chamieuros, East Peru. Tring & Brit. Mus.	65—69	50—53	12—12½	"
17, 18.	♀♀, Marabitanas, Rio Negro. Vienna Mus.	58, 62	47, 50	12	"
19.	♀ ad., Chamieuros, East Peru. Tring Mus.	63	50	12	"
20, 21.	♀♀, Caura River, Venezuela. Tring Mus.	59½, 61	46½, 48	12½	"

* *Tanagra speculifera* Temminck [*Pl. col.* livr. 6, tab. 36, fig. 1, 2 (1821.—"à la Guyane et au Brésil")] apparently covers both *N. f. flavicollis* and *N. f. insignis*, but cannot be referred with certainty to either.

b. N. flavicollis centralis Hellm.

Hab. Western Brazil: Humaytha, Rio Madeira (Hoffmanns); Engenho do Gama, Rio Guaporé, Mattogrosso (Natterer). N.E. Bolivia: Tilotilo (Buckley).

♂ ad. Head, mantle, etc., deep velvety black; middle of the upper back, rump, throat and crissum bright lemon-yellow; rest of under-parts white, foreneck banded with blackish. Bill strong and rather longer than in *N. f. flavicollis*.

Obs. As stated above, an adult male from Tilotilo differs from the type by having the yellow portions of the plumage of a deeper, more golden yellow tint. A young male from Mattogrosso, in the garb of the female, apparently belongs to this form.

	Material.	Wing.	Tail.	Bill.
1.	♂ ad., Humaytha, Rio Madeira. Type of the sub-species	72	55	14 mm.
2.	♂ ad., Tilotilo, N. Bolivia (Buckley coll., Brit. Mus.)	73½	56	damaged.
3.	♂ juv., Engenho do Gama, Mattogrosso (Natterer, Vienna Mus.)	70	57	13½ mm.

c. N. flavicollis melanocephala (Leht.).

Sylwia melanocephala Lichtenstein, *Verz. Dabl. Berliner Mus.* p. 31 (1823.—Bahia).

Hab. Bahia, Eastern Brazil.

♂ ad. Head, mantle, etc., brownish black, as in *N. f. flavicollis*, from which it differs in its considerably larger size, stronger bill and decidedly paler, more lemon-yellow rump, throat and crissum. The foreneck is crossed by numerous blackish transverse bands, as in *N. f. flavicollis*; the yellow of the rump sometimes extended to the middle of the upper back, as in *N. f. insignis*.

Fifteen ♂♂ ad. from Bahia measure: wing 72—78; tail 57—61; bill 13½—14½ mm.

Five ♀♀ from Bahia measure: wing 65½—68; tail 52—55; bill 13 mm.

d. N. flavicollis insignis Scf.

Neomisia insignis Scclater, *P.Z.S.* 1856, p. 119 ("South Brazil.")—The type is a skin of the well-known Rio-make).

Hab. South-east Brazil, vicinity of Rio de Janeiro: Cabo Frio (Wied), Sapitiba (Natterer).

♂ ad. Exactly like *N. f. melanocephala*, but with only a few blackish cross-bands on the sides of the foreneck, and the middle of the abdomen faintly tinged with pale yellowish. The yellow of the rump is always extended far up to the middle of the mantle.

Obs. This form is perhaps not properly separable from the foregoing one, since such specimens as described above may occasionally also be found in Bahia collections. I am, however, unwilling to unite the two forms until their identity is unquestionably proved.

Material.	Wing.	Tail.	Bill.	
1. Mus. Brit. ♂ ad. Rio-skin. Type of <i>N. insignis</i>	74	58	14 $\frac{3}{4}$	mm.
2. Mus. Brit. ♂ ad. Rio-skin	74	57	14	„
3—6. Mus. Brit. ♂♂ ad. Rio de Janeiro. A. Fry coll.	74—75	57—60	13 $\frac{1}{2}$ —15	„
7, 8. Mus. Tring ♂♂ ad. Rio-make	75, 75 $\frac{1}{2}$	58	14 $\frac{1}{2}$ —15	„
9, 10. Mus. Tring ♂♂ imm. Rio-make	77, 73 $\frac{1}{2}$	60	14 $\frac{1}{2}$	„
11. Mus. Vienna ♂ ad. Sapitiba, Rio	77	57	13 $\frac{1}{2}$	„
12—14. Mus. Vienna ♀♀ Sapitiba, Rio	66—68 $\frac{1}{2}$	56 $\frac{1}{2}$ —58 $\frac{1}{2}$	13—13 $\frac{1}{2}$	„
15. Mus. Tring ♀ ad. Rio-make	69	55	13	„

N.B.—Another distinct and apparently undescribed form inhabits the Merume Mountains, in British Guiana. It agrees in size with *N. f. insignis*, but the rump, throat and crissum are golden yellow, as in *N. f. flavicollis*. Count Berlepsch possesses an adult and an immature male, and in the British Museum there are two immature ♂♂; all collected by the late H. Whitely, jun., on the Merume Mountains.

25. *Schistochlamys atra* (Gm.).

Tamagra atra Gmelin, *Syst. Nat.* 1. ii. p. 898 (1788.—ex Daubenton, *Pl. col.* 714 fig 2—Cayenne)

Nos. 1265, 1295. ♂ ad., ♂ juv., Humaytha, 18, 25. ix. 06. “Iris reddish brown or brown (juv.), bill black, bluish at the base, feet black.”

26. *Sporophila castaneiventris* Cab.

Cf. *supra*, p. 7.

No. 1199. ♂ ad., Humaytha, 31. viii. 06. “Iris, feet and bill black.”

No. 1215. ♀ ad., Humaytha, 6. ix. 06. “Iris black, feet bluish grey, bill dark grey.”

27. *Volatinia jacarina jacarina* (Linn.).

Tamagra Jacarina Linnaeus, *Syst. Nat.* xii. 1. p. 314 (1766—ex Maregrave: Eastern Brazil).

No. 1132. ♂ ad., Humaytha, 21. viii. 06. “Iris brown, feet and bill black.”

Agrees with specimens from East Brazil in having the axillaries under wing-coverts and a distinct patch on the base of the primaries white, but is slightly smaller, with a much smaller, weaker bill.

28. *Myospiza manimbe* (Leht.).

Fringilla Manimbe Liechtenstein, *Verz. Dobl. Berliner Mus.*, p. 25 (1823.—Bahia).

No. 1259. ♂ ad., Humaytha, 17. ix. 06. “Iris brown, feet and bill grey.”

Identical with Bahia specimens. It is very interesting to find this species at Humaytha, where we should rather have expected *M. aurifrons* (Spix),* which was collected by Natterer in the Rio Madeira district.† These facts suggest that the two forms are specifically distinct.

* *M. peruanus* auct. nec Bonaparte. Cf. my revision of Spix' types, p. 673.

† *Columbiculus peruanus* Pelzeln, *Orn. Brasil.* iii. p. 230 (Rio Mamoré and Borba).

29. *Cacicus haemorrhous haemorrhous* (Linn.)?

Cf. *Nor. Zool.* xii. 1905. p. 279.

One ♂ ad., Humaytha, 25. ix. 06. "Iris pale blue, feet black, bill pale green."—Wing 209, tail 125, bill 40 mm.

This specimen agrees in the glossy black coloration of the plumage with *C. h. haemorrhous* of Cayenne, Surinam, British Guiana, Pará, etc., but is very much larger, and has a stronger, more powerful bill. In our large series of the typical form the wing varies from 170 to 190 mm.

The birds from the Rio Madeira most likely represent a distinct form.

30. *Lamprosar tanagrinus tanagrinus* (Spix).

Cf. *suprà*, p. 46.

Lamprosar tanagrinus Pelzeln, *Zur Ornith. Bras.* iii. 1869. p. 200 (part. Borba).

No. 974. ♀ ad., Humaytha, 22. vii. 06. "Iris brown, feet and bill black."—Wing 94, tail 86, bill 18 mm.

No. 1328. ♀ ad., Borba, 13. xi. 06. "Iris, feet, and bill black."—Wing 100, tail 95, bill 17 mm.

The Humaytha bird agrees perfectly with our ♀ from Tellé. The specimen from Borba is rather more glossy on the pileum and, in this respect, approaches *L. t. guianensis* Cab., from which, however, it differs by the under-surface being duller and more of a greenish sheen.

31. **Platyrhynchus coronatus coronatus* Sel.

Platyrhynchus coronatus Selater, *P.Z.S.* 1858. p. 71 (Rio Napo, Eastern Ecuador).

Nos. 1057, 1058, 1086. ♂♂ ad., Humaytha, 7, 14. viii. 06. "Iris dark brown, feet grey-brown, bill black."

No. 1059. ♀ ad., Humaytha, 7. viii. 06. "Iris dark brown, feet grey-brown, bill black, below grey."

Nos. 1307, 1308. ♀, ♂ juv., Paraizo, 15. x. 06. "Iris black, feet grey, bill black."

In coloration these birds agree perfectly with the type and several other specimens from Eastern Ecuador in the British Museum, but have rather shorter tails. Skins from British Guiana (Onrumeé, Bartica Grove), Oyapoc in French Guiana (Verdey) and Albina, Surinam (C. Bartlett) are practically identical with those from the Rio Madeira, though they were referred to *P. c. superciliaris* by Mr. Selater.†

The latter form, of which I have examined a very large series from Costa Rica, Chiriquí, Panama, and North-west Ecuador, differs from *P. c. coronatus* as here understood by having the back bright olive-green (instead of dull greyish or brownish green), the under-parts sulphur-yellow (instead of straw or maize-yellow—Ridgw. vi. 17, 21) and the chest washed with greenish (not with buffy brown). I am unable to find any constant differences between Central American specimens and those from North-west Ecuador.

The six examples from Humaytha present some variation as to the intensity of the colour of the under-surface, one adult male (No. 1057) being much brighter,

† *Cat. Birds Brit. Mus.* xiv. p. 68.

about maize-yellow, while the others are of a pale straw-yellow underneath. The adult ♂♂ have a large golden yellow coronal patch bordered laterally by a broad tawny stripe. In the female from Humaytha the crown is mainly tawny ochraceous, though a few feathers in the middle show some yellow at their base, while the two birds from Paraizo have the crown entirely tawny ochraceous. The range of the two races of *P. coronatus* is, accordingly, as follows :

(a) *P. coronatus coronatus* ScL.

Eastern Ecuador: Napo (*vide* Verreaux), Sarayaen (Buckley), Santiago* (Festa); Brazil: Humaytha and Paraizo, Rio Madeira (Hoffmanns), N. Bolivia: Falls of the Rio Madeira (Rusby); British Guiana: Oorunnee, Bartica Grove (Whitely); Cayenne: Oyapoc (*vide* Verdey); Surinam: Albina (C. Buckley).

(b) *P. coronatus superciliaris* Lawr.

Costa Rica, Chiriqui, Panama, and south to Western Ecuador: Rio Peripa* (Festa), Lita, Cachaen† (Miketta).

Measurements of *P. c. coronatus* ScL.:

	Wing.	Tail.	Bill.	
Mus. Brit. (♂) ad., Ecuador: type of the species	62	32	12	mm.
Mus. Brit. 2 (♂♂) ad., Sarayaen, East Ecuador	62, 58½	29, 27	13	„
Mus. Brit. (♀) Sarayaen, East Ecuador	56½	25	13	„
Mus. Brit. and Tring, 2 ♂♂ ad., Oorunnee, Brit. Guiana	55, 56	24, 26	12, 13	„
Mus. Brit. 2 ♂♂ ad., Bartica Grove, Brit. Guiana	56, 55	26, 25½	13, 12½	„
Mus. Brit. (♂) ad., Oyapoc, Cayenne	54	23	12½	„
Mus. Brit. ♀, Albina, Surinam	55	24	12	„
Mus. Tring, 3 ♂♂ ad., Humaytha, Rio Madeira	55, 55½, 60	24, 24, 25	12—13	„
Mus. Tring, ♀ ad., Humaytha, Rio Madeira	54	22½	12	„
Mus. Tring, ♀, ♂ juv., Paraizo, Rio Madeira	54, 52½	22, 21½	12	„

P. c. coronatus is quite new to the Brazilian fauna.

32. *Euscarthmus zosterops* Pelz.

Euscarthmus zosterops Pelzeln, *Zur Ornith. Bas.* ii. p. 173 [1868.—Marabitanas (Rio Negro), Borba (Rio Madeira)].

Nos. 1334, 1459. ♂ ad., and adult (not sexed), Borba, 14. xi. 11. xii. 06. "Iris light yellow or yellowish white, feet grey, bill greyish black."

These specimens differ from the two types collected by Natterer near Marabitanas and San Carlos on the Rio Negro,‡ in their smaller size, especially the tail being much shorter, in having the pale edges to the upper wing-coverts less distinct, and the ear-coverts dull greenish instead of greyish. An adult male from Borba (Natterer coll.) in the British Museum, however, is considerably larger,

* *P. coronatus* Salva. & Festa, *Boll. Mus. Torino* xiv. No. 362 (1899), p. 4 (part.).

† *P. coronatus* Hartert, *Nov. Zool.* ix. 1902. p. 607.

‡ For the loan of them I am greatly indebted to Dr. Lorenz, of Vienna

though still smaller than the types, and the ear-coverts are dull brownish. Should additional specimens from Borba prove these slight differences to be constant, the name *E. zosterops* must be restricted to the Rio Negro form, for in Pelzeln's original diagnosis the lores and ear-coverts are described as greyish.

	Wing.	Tail.	Bill.
Mus. Vindob., No. 17738, ♂ ad., Marabitanas, March 13th, 1831	52	48	12 mm.
Mus. Vindob., No. 17739, ♂ ad., S. Carlos, February 14th, 1831	51	48	12 "
Mus. Brit., ♂ ad., Borba, February 12th, 1830	50½	43	11½ "
Mus. Vindob., No. 17740, ♀ imm., Borba, June 23rd, 1830	45	33	11½ "
Mus. Tring, No. 1459, ♂ ad., Borba, December 11th, 1906	50½	38	12 "
Mus. Tring, No. 1334, adult, Borba, November 14th, 1906	47	34	12 "

33. *Mionectes oleagineus oleagineus* (Leht.).

Muscicapa oleagina Lichtenstein, *Verz. Dobl.* p. 55 (1823.—Babia).

Mionectes oleagineus Pelzeln, *Zur Ornith. Bras.* ii. 1868, p. 104 (Borba).

No. 1154. ♀ (?) ad., Humaytha, 24. viii. 06. "Iris brown, feet grey, bill blackish grey."

34. *Ramphotrigon ruficauda* (Spix).

Cf. *suprà*, p. 48.

Rhychoerythrus ruficauda Pelzeln, *Zur Ornith. Bras.* ii. 1868, p. 110 (Borba).

Nos. 1188, 1228. ♂ ♀ ad., Humaytha, 30. viii., 13. ix. 06. "Iris brown, feet black or bluish black, bill black."

35. *Pitangus lictor* (Leht.).

Lanius lictor Lichtenstein, *Verz. Dobl.* p. 49 (1823.—Pará).

No. 990. ♂ imm., Humaytha, 26. vii. 06. "Iris brown, feet and bill black."

Agreeing perfectly with our series from British Guiana, Surinam, Venezuela, &c.

36. *Onychorhynchus coronatus* (P. L. S. Müll.).

Cf. *suprà*, p. 12.

No. 926. ♂ ad., Humaytha, 15. vii. 06. "Iris brown, feet yellow, bill black, below yellow."—Wing 78, tail 63, bill 21½ mm.

This bird, a very adult male, agrees in coloration with another ♂ ad. from Chamieiros, N. Pern (Bartlett coll.—Mus. Brit.). Both differ from a series of true *O. c. coronatus* of Cayenne, Santarem, and the Canra valley by their decidedly brighter ochraceous under-parts and by having the upper tail-coverts uniform, not barred with dusky. The types of *O. castelnaui* Dev.* show the same bright tint of the lower surface. The female has the upper tail-coverts uniform, while in the male they are narrowly barred with dusky on their apical portion. An

* *Rev. Mag. Zool.* 1849, p. 56 ("mission de Sarayaçu, Pampa del Sacramento," Eastern Peru).

immature male from near Paramaribo (Tring Museum), however, has the bright-coloured belly, and a specimen from British Guiana (Mus. Brit.) the uniform upper tail-coverts of the Upper Amazonian form, which therefore does not appear to be separable.

37. *Myiobius barbatus barbatus* (Gm.).

Cf. *Nor. Zool.* xiii. 1906, p. 362.

Myiobius barbatus Pelzeln, *Zur Ornith. Bras.* ii. 1868, p. 113 (Borba).

No. 1195. ♀, Humaytha, 31. viii. 06. "Iris brown, feet black, bill black, below yellowish."

Identical with several specimens from British Guiana.

38. *Pyrocephalus rubinus rubinus* (Bodd.).

Muscicapa rubinus Boddaert, *Tabl. Pl. enl.* p. 42 (1783.—ex Buffon: 'Pays des Amazones').

No. 950. ♂ ad., Humaytha, 18. vii. 06. "Iris brown, feet and bill black."

Nos. 943, 962. ♂♂ imm., Humaytha, 17, 20. vii. 06. "Iris brown, feet and bill black."

No. 1005. ♂ juv., Humaytha, 27. vii. 06. "Iris brown, feet and bill black."

39. *Empidochanes fuscatus bimaculatus* (Lafr. & D'Orb.).

[*Muscipeta fuscata* Wied, *Beitr. Naturg. Brasil*, 3, ii, p. 902 (1831.—Rio de Janeiro)]

Empidochanes bimaculata Lafresnaye & D'Orbigny, *Syn. Av.* i. in *Mus. Zool.* 1837, cl. ii, p. 48 (Yungas of Bolivia); cf. Berl & Hellm., *Journ. f. Ornith.* 1905, p. 21-2.

No. 1110. ♀ juv., Humaytha, 18. viii. 06. "Iris brown, feet and bill black."—Wing 65½; tail 65½; tars. 17½; bill 13 mm.

This specimen agrees perfectly with our series from Goiás and from the interior of S. Paulo, the throat and the middle of the belly being white, the back warm brown with a strong rufescent tinge on the uropygium. Young birds in corresponding plumage of *E. f. cabanisi* (Léot.) (= *arenaceus* ScL. & Salv.) are of a much duller earthy brown on the upper parts.

40. *Empidonax lawrencei* Allen.

Cf. *supra*, p. 49.

Empidochanes fuscatus (nec Wied!), Pelzeln, *Zur Ornith. Bras.* ii. 1868, p. 115 (part.: spec. ex Borba).

No. 1185. ♀ ad., Humaytha, 29. viii. 06. "Iris brown, feet black, bill black, below yellowish white."—Wing 64; tail 56; bill 13; tars. 15 mm.

Differs from our large series* by its paler foreneck, this being scarcely shaded with greenish. In the coloration of the upper parts it is perfectly identical with examples from Trinidad.

Thanks to the kindness of my friend Dr. Lorenz, of Vienna, I was enabled to examine the specimen from Borba mentioned by Von Pelzeln (*loc. cit.* note 1), and found it to belong to the present species.

* Specimens from Trinidad, Cumana, Coura River and Teffe, Rio Solimões.

41. *Muscivora tyrannus* (Linn.).

Muscivora Tyrannus Linnaeus, *Syst. Nat.* 12. i. p. 325 (1766.—ex Brisson: "Canada" [errore!] et "Cayenna," accepted as typical locality).

No. 1234. ♂ ad., Humaytha, 14. ix. 06. "Iris brown, feet and bill black."

42. *Pipra aureola flavicollis* Scl.

[*Parus Aureola* Linnaeus, *Syst. Nat.* x. p. 191 (1758.—ex Edwards).]

Pipra flavicollis Sclater, *Contrib. to Ornith.* for 1851, p. 143 (1852.—"Barra do Rio Negro"—locality doubtful; cf. *Ibis*, 1906. p. 8).

Pipra aureola (nec Linn.), Pelzeln, *Zur Ornith. Bras.* ii. 1868. p. 126 (part.: Borba).

Nos. 967, 973, 1137, 1091. ♂♂ ad., Humaytha, 21, 22. vii; 16, 22. viii. 06. "Iris pink or whitish, feet reddish brown or reddish black, bill black."—Wing 62½—64; tail 26½—29; bill 9½—10 mm.

No. 1166. ♂ vix ad., Humaytha, 25. viii. 06. "Iris yellowish white, feet reddish brown, bill black."—Wing 64½; tail 30; bill 10 mm.

Nos. 1049, 966, 1090. ♂ juv., ♀♀ ad., Humaytha, 21. vii., 16, 23. viii. 06. "Iris white or pink, feet dark red or reddish grey, bill greyish or reddish black."—Wing 63—64; tail 30; bill 10 mm.

This series fully confirms what I said * about the characters of this well-marked form. The five ♂♂ in the present collection differ from twenty ♂♂ ad. of *P. a. aureola* from Cayenne, Surinam and Pará by having the sides of the head (except a narrow red margin along the upper and posterior border of the ear-coverts), the throat and foreneck pure bright yellow [about cadmium yellow, Ridgw. vi. 6]. Moreover, the forehead, as far as the anterior margin of the eye, is uniform bright orange yellow, and the middle of the abdomen vermilion red, the flanks alone being black. In *P. a. aureola* there is but a narrow red line along the middle of the belly, and the feathers of the forehead are much darker, more orange-yellow, and broadly tipped with red.

One of the males (No. 1091) has a white patch on the outer web of the outermost rectrix, just as in Sclater's type specimen.

The female, which was unknown hitherto, is indistinguishable from that of *P. a. aureola*.

P. a. flavicollis agrees with *P. fasciicauda* (*fasciata* auct.) in the bright yellow sides of the head and throat; but the latter species is easily recognisable by its yellow abdomen, by the under tail-coverts being yellow with black tips (instead of uniform black), and by the presence of a wide yellowish white band across the tail.

It appears, however, that *P. a. aureola*, *P. a. flavicollis* and *P. fasciicauda* are geographical representatives. The range of the first-named form is given *in extenso* in *Ibis*, 1906, p. 6, where I also pointed out that specimens from Santarem differ in no way from topotypical Surinam examples. From Itaituba, on the left bank of the Tapajóz, about four or five days' journey south of Santarem, Mr. Hoffmanns sent us *P. fasciicauda*. More information about the distribution on the Tapajóz of these two forms is, therefore, much required.

P. a. flavicollis is only known as yet from Borba, on the right bank, and from Humaytha, on the left bank of the Rio Madeira. The original locality, Manãos, is most probably erroneous.

* *Ibis*, 1906. p. 8.

43. *Pipra caelesti-pileata* Goeldi.

Pipra caelesti-pileata Goeldi, *Compt. Rend. Sé. Congr. Internat. Zool.* Berne, p. 549 (May 25th, 1905.*—upper Rio Purús, W. Brazil).

Nos. 1232, 1167, 1108, 1201, 1202. ♂♂ ad, Humaytha, 18, 26, 31. viii., 13. ix. 06. "Iris brownish red or dark red, feet dark brown, bill black."—Wing 57—59; tail 27—29; bill 8—9 mm.

No. 1214. ♂ jr., Humaytha, 6. ix. 06. "Iris reddish brown, feet blackish brown, bill black."—Wing 58; tail 27½; bill 9 mm.

No. 1120. ♀ ad., Humaytha, 20. viii. 06. "Iris red, feet brown, bill greyish black."—Wing 56½; tail 29; bill 9 mm.

When Dr. Goeldi showed me the types of his *P. caelesti-pileata*, two years ago, I somewhat hastily concluded that they belonged to the same form as the skins from Peru upon which I had founded my *P. exquisita*.† The fine series sent by Mr. Hoffmanns, however, proves beyond doubt that the two forms are perfectly distinct.

Compared with the three ♂♂ ad. from Chuehurras, the specimens from Humaytha differ in the following details: the upper parts are of a much darker green (a shade lighter than "French green," Ridgw. x. 19,—while they are bright grass green, Ridgw. x. 4, in *P. exquisita*); the sides of the head and the throat blackish green (instead of dull bice-green [Ridgw. x. 10]); the green on the foreneck and sides of the chest is likewise more intense; the yellow in the middle of the belly paler, duller, and less extended; the under tail-coverts decidedly paler yellow. The most striking difference, however, consists in the colour of the pileum, which is delicate Nile- or turquoise-blue (Ridgw. ix. 23 and 29) in *P. exquisita*, intense azure-blue (Ridgw. ix. 15) in *P. caelesti-pileata*.

There is but little variation in the six males from Humaytha. In two specimens, Nos. 1232 and 1167, the azure-blue crown is bordered behind by a narrow line of ultramarine blue, which is but slightly indicated or even wanting in the other examples. In No. 1232 the sides of the head and the throat are almost black with a faint greenish sheen, and the crown is a shade darker.

The type of *P. caelesti-pileata* from the Rio Purús, most obligingly lent by Dr. Goeldi, agrees in all essential points with our Humaytha series, except in being of a decidedly clearer and brighter green on the upper parts. This, however, is not likely to be a constant character, as an adult male from Chyavetas, North Peru (coll. Bartlett—Brit. Mus.) is practically identical with the birds from the Rio Madeira. Moreover, the female from Humaytha shows the same light green coloration as the Purús specimen. I am unable to find any difference between our female from Humaytha and that of *P. exquisita* from Chuehurras.

Although *P. exquisita*, *P. caelesti-pileata* and *P. hoffmannsi* evidently represent each other geographically, I refrain, for the present, from employing trinomiials, since they are most probably only subspecies of the wholly black *P. coronata*. Further researches are required to clear up the relations of all these forms and their geographical distribution. The range of the three blue-capped species lately described is as follows:

a. *P. exquisita* Hellm.

Only known from Chuehurras, a village on the Rio Pozuzo, province Huánuco, Central Peru, altitude 1250 ft.

* Although dated "sorti de presse le 25 mai 1905," the volume does not seem to have been issued until October or November 1905.

† *Ibis*, 1906, pp. 35, 36.

b. *P. caelesti-pilcata* Goeldi.

Western Brazil: Humaytha, Rio Madeira; Uby Cachoeira, near the junction of the Rio Purús with the Rio Acaré. Northern Peru: Chyavelas (Bartlett).

c. *P. hoffmannsi* Hellm.

North Brazil: Teffé, on the Rio Solimões.

44. *Pipra nattereri* Sel.

Pipra nattereri Selater, *P.Z.S. Lond.* 1841, p. 611, tab. 39 (Borba, Rio Madeira); Pelzeln, *Zur Ornith. Brasil.* ii. 1868, p. 127 (Borba).

Nos. 1389, 1390, 1391, 1392, 1395, 1401, 1402, 1407, 1437. ♂♂ ad., Borba, 24, 25, 26, 27, xi., 4, xii. 06. "Iris white, feet yellowish red or greyish red, bill blackish, below grey."—Wing 50—52; tail 25—26; bill $8\frac{1}{2}$ —9 mm.

Nos. 1398, 1399, 1400, 1405, 1424. ♂♂ juv., Borba, 25, 26, 27, 29, xi. 06. "Iris white or yellowish white, feet greyish brown, bill blackish, below grey."

Nos. 1456, 1457. ♂♂ juv. (in the plumage of the female), Borba, 11, xii. 06. "Iris whitish yellow or pale bluish grey, feet greyish yellow."

Nos. 1382, 1406, 1458. ♀♀ ad., Borba, 23, 27, xi., 11, xii. 06. "Iris greyish white, feet yellow or greyish brown, bill blackish grey or grey."—Wing 50; tail 26—27; bill 9 mm.

This splendid species was hitherto only represented by four specimens, one ♂ ad. and three ♀♀, collected by Natterer, some seventy years ago. As will be seen from the above, Mr. Hoffmanns sent us a large series. Most of the males, however, are in moult, and there are but four specimens in perfect plumage. I have very little to add to Dr. Selater's original description. The top of the head and the rump (including the upper tail-coverts) are of a delicate milky-white colour with a beautiful opalizing gloss, the cap being laterally bordered by a narrow pale bluish line, less pronounced on the anterior portion. The back is grass-green, the sides of the head, throat, and foreneck duller and more yellowish green, the rest of the under-parts bright yellow. The remiges are distinctly edged with yellowish white on the inner webs.

In the females, the rump is grass-green like the back, the cap bluish green, and the olive-green colour of the foreneck is continued along the sides of the breast and abdomen.

Six specimens wear the plumage of the female, but on the cap and rump some milky-white feathers are already to be seen.

45. *Pipra stolzmanni* Hellm.

Pipra stolzmanni Hellmayr, *Ibis* 1906, p. 41 (Marabitanas, upper Rio Negro).

Pipra virens (nec Pelzeln!), Pelzeln, *Zur Ornith. Bras.* ii. 1868, pp. 128, 187 (part.: Borba).

Nos. 1306, 1310. ♂♂ ad., Paraizo, right bank of the Madeira, 15, 16, x. 06. "Iris yellowish white, feet black or dark grey, bill black."—Wing 49, 51; tail $21\frac{1}{2}$, 23; bill 9 mm.

Nos. 1339, 1429, 1445, 1460. ♂♂ (in moult), Borba, 16, 30, xi.; 5, 11, xii. 06. "Iris yellowish white, feet black, bill black or blackish grey."—Wing $48\frac{1}{2}$ — $49\frac{1}{2}$; tail 20, 22; bill 9 mm.

These specimens show that structure of the tail as described by me *loc.* In two of them, the outermost rectrices are equal, and about 3 mm. shorter than the

longest. The two ♂♂ from Paraizo and two others from Borba have a few minute, pale yellowish dots on the anterior portion of the crown, only to be seen when the feathers are raised.

46. **Neopipo cinnamomea* (Lawr.).

Pipra? cinnamomea, Lawrence, *Proc. Acad. N. Sci. Philad.* 1868. p. 429 ("Upper Amazon").

Neopipo rubicunda, Selater & Salvin, *P.Z.S. Lond.* 1869. p. 438. tab. xxx. fig. 3 (Chamicuros, Eastern Peru).

No. 1136. ♂ ad., Humaytha, 22. viii. 06. "Iris brown, feet dark grey, bill greyish brown."—Wing 49; tail $35\frac{1}{2}$; tars. $12\frac{1}{2}$; bill 7 mm.

The specimen agrees well with the types of *N. rubicunda* in the British Museum.

In general coloration, this species has a striking likeness to *Myiobius erythrorus* Cab., but is easily distinguishable by its golden yellow (♂) or cinnamon (♀) vertical spot, and by its blackish (not brownish white) feet. In structure, the two species are, of course, widely different.

N. cinnamomea is quite new to the Brazilian fauna.

47. *Chiroxiphia regina* Sel.

Chiroxiphia regina (Natterer MS.), Selater, *Ann. & Mag. Nat. Hist.* (2) xvii. p. 469 (1856.—Borba, Rio Madeira); Pelzeln, *Zur Ornith. Brasil.* ii. 1868. p. 129 (Borba).

Nos. 1134, 1135. ♂♂ ad., Humaytha, 22. viii. 06. "Iris brown, feet greyish red, bill black."—Wing 71, $74\frac{1}{2}$; tail 34; bill 9 mm.

No. 1168. ♂ juv., Humaytha, 26. viii. 06. "Iris brownish red, feet greyish red, bill black."

Nos. 1169, 1206. ♀♀ ad., Humaytha, 26. viii. 4. ix. 06. "Iris dark brown or reddish brown, feet greyish red, bill black."—Wing 70, 71; tail $34\frac{1}{2}$, 36; bill 10 mm.

Nos. 1313, 1318. ♂ ad., ♂ imm., Paraizo, right bank of the Rio Madeira, 23, 28. x. 06. "Iris brown, feet yellowish red, bill black."—Wing 70, 69; tail 33; bill 9—10 mm.

The males from Humaytha differ from those obtained at Paraizo by the crest being more golden yellow and the black frontal band much broader. The females may easily be distinguished from those of the *C. parvula* races by their much darker and greener under-surface, the throat and foreneck being bright olive-green and the rest of the belly but a little lighter green. In the females of the *C. parvula*-forms, the throat and foreneck are of a dull greyish green, and the remaining under-parts pale yellowish, more or less washed with greenish on the flanks.

C. regina is still very rare in collections, and had been met with hitherto by two naturalists only, as far as I know. Natterer secured specimens at Borba, on the lower Rio Madeira, and on the "lake" Mauaqueri, Rio Solimões; while Bates received several skins from the Rio Javari.

48. *Scotothorus amazonum amazonum* (Sel.).

Heteropelma amazonum Selater, *P.Z.S. Lond.* 1869. p. 466 (Chamicuros, Eastern Peru).

Nos. 1227, 1261, 1277. ♂ ad. (in moult), ♀ ad., and adult (not sexed), Humaytha, 13, 17, 21. ix. 06. "Iris grey-brown or greyish yellow, feet and bill black."

No. 1130. ♀ juv., Humaytha, 21. viii. 06. "Iris brown, feet grey-blue, bill black."

These birds differ from our Pará series (*S. a. wallacii*) by having the crown decidedly rufescent brown, and the throat as well as the foreneck more strongly suffused with brownish. The back is either pale dull greenish, as in *S. a. wallacii*, or bright brownish green, as in several specimens of *S. a. amazonum* from the Orinoco (Munduapo and Nericagna).

49. *Schiffornis major* Des Murs.

Schiffornis major (Bonaparte MS.) Des Murs, in Castelnau's *Voyage, Oiseaux*, p. 66. tab. 18. fig. 2 (1856.*—Sarayaçu, Eastern Peru).

Heteropelma rufum Pelzeln, *Zur Ornith. Brasil.* ii. p. 185 (1868—Rio Amajau [Rio Negro] and Borba [Rio Madeira]).

Nos. 1349, 1455. ♂♂ ad., Borba, 17. xi., 10. xii. 06. "Iris brownish grey, feet dark bluish grey, bill black."—Wing 82½, 85; tail 62, 64; bill 14½ mm.

The examination of a good series of specimens in the Museums of Vienna, Paris, London and Tring, including the types of *S. major* and *H. rufum*, shows beyond doubt that these two supposed species are based on individual variation of a single form. Of three sexed ♀♀ from Fonteboa, Rio Solimões, Brazil, collected by the Castelnau Expedition—in the Paris Museum—one has the top of the head cinereous mixed with rufous, the former colour predominating, and the sides of the head cinereous; in the second example the front and sides of the head are rufous, while the feathers on the vertex and occiput are partly rufous and partly cinereous; in the third specimen the forehead and sides of the head are dull greyish brown, the rest of the crown rufous. On an island in the Rio Amajau Natterer shot a rufous-headed ♂, and another ♂ with the head partly rufous and partly grey, out of the same flock! Moreover, the two adult ♂♂ from Borba, sent by Mr. Hoffmanns, and two ♂♂ from Samiria, N. Peru, in the British Museum, differ in no way from each other, the whole head being ferruginous except a small amount of greyish round the eye. There is no difference in size between the two supposed species.

50. *Heterocercus linteatus* (Strickl.).

Elaenia linteata Strickland, *Contrib. Ornith.* 1850. p. 121. tab. fig. sin. (part.: ♂—"from the upper branches of the Amazon River").

Heterocercus linteatus Pelzeln, *Zur Ornith. Bras.* ii. 1868. p. 125 (Borba).

Nos. 1142, 1123. ♂♂ ad., Humaytha, 20, 23. viii. 06. "Iris brown, feet and bill black."—Wing 87; tail 52, 53; bill 12½, 13 mm.

No. 1223. ♂ jr., Humaytha, 20. viii. 06. "Iris brown."—Wing 84½; tail 52; bill 13 mm.

No. 1152. ♀ ad., Humaytha, 24. viii. 06. "Iris brown."—Wing 84; tail 51; bill 13 mm.

This extremely rare species is only known with certainty from the Rio Madeira, where Natterer obtained three specimens near Borba. The adult male in the British Museum, formerly in Dr. Selater's collection, was received from Bates without any further comment than "Upper Amazons." The exact locality of the type, now in the Museum of the Academy of Natural Science in Philadelphia,

* Cf. Woodwar¹ & Slu¹thern, *Ann. Mag. Nat. Hist.* (7). viii. 1901. p. 161.

is not known either, it having been sent to Mr. E. Wilson "from the upper branches of the Amazon river."

The female differs from the males in lacking the fiery-red crown-spot and the blackish jugular band; by having the top of the head brownish olive-green like the back (not deep black); the sides of the head sooty grey instead of deep black; the throat dull buffy greyish (not silky white) and by the chest being dull pale cinnamonaceous like the belly (instead of being dark hazel). From the ♀ of *H. flavivertex* it may at once be distinguished by the dull brownish olive, instead of bright oil green, colour of the upper parts.

51. *Tityra semifasciata semifasciata* (Spix).

Pachyrhynchus semifasciatus Spix, *Ar. Bras.* ii. p. 32. tab. xlv. fig. 2 (1825—"in provincia Pará").

Nos. 1361, 1362. ♂ ad., ♀, Borba, 19. xi. 06. "Irish yellowish red, feet black (♂), bluish grey (♀), bill greyish red, apical portion of upper mandible black."

Cf. my revision of Spix' types, p. 668.

52. *Pachyrhamphus niger niger* (Spix).

Pachyrhynchus niger Spix, *Ar. Bras.* ii. p. 33. tab. xlv. fig. 1. (1825—no locality). Cf. Hellmayr, *Abhandl. Akad. München Cl. ii. Bd. xxii. Abt. iii. p. 669.*

P. polychropterus Pelzeln, *Zur Ornith. Brasil.* ii. 1868. p. 121 (part. : Borba).

Nos. 961, 987, 1008. ♂ ad., ♂ jr., Humaytha, 20, 25, 28. vii. 06. "Iris brown, feet and bill black."

No. 1017. ♀, Humaytha, 30. vii. 06. "Iris brown, feet black, bill black, below grey."

No. 1368. ♀, Borba, 19. xi. 06. "Irish brownish grey, feet plumbeous, bill black, below light grey."

One of the adult males (No. 987) agrees with specimens from the Rio Napo and from Nauta, Peruvian Amazons, in being uniform glossy black on the upper and under parts, but there is a slight slaty suffusion on the vent and under tail-coverts. In the two other males the under-surface is duller, more sooty blackish, and the upper tail-coverts show cinereous edges and transverse bars.

In a large series of skins from Trinidad, Venezuela, British Guiana, Surinam and Bogotá-collections, the lower parts are still lighter, slate-grey, more or less washed with blackish on the throat and foreneck, and occasionally freckled with whitish in the middle of the belly; and the rump as well as the upper tail-coverts are nearly uniform cinereous. If these birds are not referable to *P. n. cinereiventris*,* then they must have a new name.

The females of *P. n. niger* and *P. n. cinereiventris* (?) differ from those of *P. a. atricapillus* and *P. a. marginatus* in their larger size, by having the back strongly washed with brownish, and by the pileum being brownish like the mantle. In *P. a. atricapillus* and its southern ally the back is of a pure light olive-green and the pileum distinctly rufescent, forming a well-defined cap.

53. *Lathria cinerea* (Vieill.).

Cf. *Nov. Zool.* xii. 1905. p. 295.

Lipaugus plumbeus Pelzeln, *Zur Ornith. Brasil.* ii. 1868. p. 122 (Borba).

No. 1114. ♀, Humaytha, 19. viii. 06. "Iris and feet grey, bill black."

* Cf. Cherrie, Mus. Brooklyn Instit. Arts and Sciences, *Science Bull.* vol. i. 1906. p. 190.

54. *Lipangus simplex* (Lcht.).

Cf. *Nov. Zool.* xii. 1905, p. 295.

Lipangus simplex Pelzeln, *Zur Ornith. Bras.* ii. 1868, p. 123 (Borba).

No. 1444. Adult (not sexed): Borba, 4. xii. 06. "Iris brown, feet bluish grey, bill black."

55. *Laniocera hypopyrra* (Vieill.).

Cf. *Nov. Zool.* xiii. 1906, p. 364.

No. 1410. ♀, Borba, 27. xi. 06. "Iris dark brown, feet bluish grey, bill black."

56. *Attila thamnophiloides* (Spix).

Cf. *suprà*, p. 13; Pelzeln, *Zur Ornith. Bras.* ii. 1868, p. 96 (Borba).

No. 1453. ♀ ad., Borba, 10. xii. 06. "Iris light brown, feet bluish grey, bill black."—Wing 89; tail 82; bill 21 mm.

Agreeing with specimens from Santarem and Surinam.

57. *Gymnoderus foetidus* (Linn.).

Gracula foetida Linnaeus, *Syst. Nat.* x, p. 108 (1758—"America, Rolander."—Surinam supplemented as typical locality. Cf. *Nov. Zool.* ix. 1902, p. 58).

No. 1021. ♀, Humaytha, 30. vii. 06. "Iris grey, feet black, bill blackish grey."

58. *Synallaxis* sp.

No. 1243. ♀ ad., Humaytha, 15. ix. 06. "Iris brown, feet grey, bill black."—Wing 55; tail 70; bill 12½ mm.

Nearest to *S. hypospodia* Sel., from Bahia, but differs by its thicker bill, narrower cinereous frontal band, much duller, less brownish back, and by lacking the white apical edges to the feathers of the throat, which appears nearly uniform blackish. Additional specimens are required to establish the status of this form.

59. *Synallaxis gujanensis inornata* Pelz.

Synallaxis inornata Pelzeln, *Sitzungsber. Akad. Wien* xx. p. 160 (1856—Salto do Girao); Pelzeln, *Zur Ornith. Brasil.* i. 1867, p. 36 (Salto do Girao, Borba).

No. 965. ♀ ad., Humaytha, 21. vii. 06. "Iris brown, feet grey, bill black."—Wing 62; bill 15½ mm.

This specimen is very little darker on the under parts than some of our Cayenne skins. Perhaps *S. g. inornata* cannot be separated, but a larger series from the Rio Madeira should be compared before condemning it. Cf. *suprà*, p. 13.

60. *Siptornis gutturratus* (Lafr. & D'Orb.).

Anabates gutturratus Lafresnaye & D'Orbigny, *Syn. Ar.* ii, in *Mag. Zool.* 1838, cl. ii, p. 14 (Yuracares, N. Bolivia); cf. Mévég. & Hellm., *Mém. Soc. d'Hist. Nat. Autun* xix. 1906, p. 76.

No. 1065. ♂ ad., Humaytha, 9. viii. 06. "Iris whitish grey, feet greenish yellow, bill greyish black."—Wing 68; tail 64; bill 15½ mm.

Agrees with our series from the Canra River, Venezuela. The chestnut of the pileum and wings seems to be a little more intense, but this is certainly an individual character.

61. *Automolus ochrolaemus turdinus* (Pelz.).

[*Amabates ochrolaemus* Tschudi, *Arch. Naturg.* 10. i. p. 295 (1844—"Waldregion von Peru"; cf. *Faun. Peruan. Aves* p. 240).]

Amabates turdinus Pelzeln, *Sitzungsber. Akad. Wien* xxxiv. p. 110 (1859—"Brasilien": viz. Barra do Rio Negro and Borba; cf. *Zur Ornith. Bras.* i. 1867. p. 41).

No. 1447. ♀ (?) ad., Borba, 5. xii. 06. "Iris dark brown, feet pale bluish grey, bill black, below grey."—Wing 88; tail 78; bill 22 mm.

Differs very markedly from an adult male collected by Cherrie near Munduapo, Orinoco River, by its paler, less ochreous underparts, and much duller, brownish olive (instead of bright rufescent brown) back.

Some time ago, however, I carefully compared Natterer's typical specimens from Manáos and Borba, kindly lent by Dr. Lorenz, with a fair series from British Guiana, the Orinoco River, and Bogotá collections, mostly in Count Berlepsch's Museum, and was unable to find any constant differences between the examples from these widely separated localities.

A. o. turdinus differs from the more western *A. o. ochrolaemus* (Tsch.), of which I examined the type belonging to the Nenchâtel Museum, and another specimen from the Huallaga in Count Berlepsch's collection, merely by having the throat and malar region buff, almost whitish on the chin instead of deep ochraceous.

62. *Philydor pyrrhodes* (Cab.).

Cf. *suprà*, p. 16.

Philydor pyrrhodes Pelzeln, *Zur Ornith. Bras.* i. 1867. p. 40 (Salto do Girão).

No. 1071. ♂ ad., Humaytha, 11. viii. 06. "Iris brown, feet yellow, bill greyish black."—Wing 93, tail 67; bill 18 mm.

Lower surface deep fawny ochraceous, as in an adult male from Munduapo, Orinoco River. The birds with paler, more ochraceous underparts are undoubtedly immature.

63. *Xenops genibarbis genibarbis* Ill.

Cf. *suprà*, p. 54.

Nos. 993, 1028, 1072, 1177. ♀ ad., ♀ ♀ jr., Humaytha, 26, 31. vii., 11, 28. viii. 06. "Iris brown, feet brown or grey, bill dark grey."—Wing 63½, 64, 61, 62; tail 49, 49, 46, 49; bill 14—15 mm.

No. 1446. ♀ imm., Borba, 5. xii. 06. "Iris brown, feet bluish grey, bill blackish grey."—Wing 63; tail 48 mm.; bill damaged.

This series fully bears out what I said *l.c.*, the Madeira specimens being in every respect similar to the topotypical birds from the Lower Amazon.

64. *Dendronis guttata guttatoides* (Laf.).

Cf. *suprà*, p. 59.

Nos. 1022, 1007, 1062. ♂ ad., ♂ imm., ♀ ad., Humaytha, 27, 30. vii., 7. viii. 06. "Iris brown, bill yellowish grey."—Wing 124, 124, 115; tail 102, 104, 103; bill 40½, 42, 39 mm.

These birds agree perfectly with others from Tefé and Northern Peru. The bill is very pale greyish, nearly whitish on the apical portion of the upper mandible; the throat bright buff; the feathers of the foreneck are distinctly edged with blackish; the spots on the head buff, and the longitudinal stripes on the nape more buffy yellow. The breast and abdomen are strongly washed with rusty, as in a male from Nericagna, Upper Orinoco. Not yet recorded from the Rio Madeira.

65. *Dendroornis guttata eytoni* (Scl.).

Dendrocolaptes eytoni Selater, *P.Z.S. Lond.*, 1853, p. 69, tab. 57 (Capim River, near Pará).

Dendroornis eytoni Pelzeln, *Zur Ornith. Bras.* i. 1867, p. 45 (Borba, Rio Madeira).

No. 1387. ♂ ad., Borba, 23. xi. 06. "Iris brown, bill black."—Wing 123; tail 113; bill 43 mm.

Besides this bird, I examined seven specimens collected near Borba by the late Dr. Natterer, and preserved in the Vienna Museum. The series agrees with a number of skins from Pará (topotypical) in the deep black bill and in the buffy white throat; but it differs by the light markings on the crown and upper back being of a brighter buff, and by the breast and abdomen being much more suffused with rusty. In both these respects the Borba birds form the transition to *D. g. guttatoides*, thereby proving that *D. g. eytoni* is to be looked upon as a **geographical form** of the *D. guttata* group. A male from Itaituba is exactly intermediate between the birds from Pará and those from Borba. For the present it seems not advisable to separate the latter from *D. g. eytoni*, since some Pará specimens have the spots on the head and nape quite as bright buff. It would be interesting to examine the specimen from Salto Theotonio, mentioned by Pelzeln s.n. *D. eytoni*; it most probably belongs to the preceding form.

66. *Dendroplex picus* (Gm.).

Cf. *suprà*, p. 16.

Dendroplex picus Pelzeln, *Zur Ornith. Brasil.* i. 1867, p. 46 (Salto Theotonio, Borba).

No. 1452. ♂ ad., Borba, 7. xii. 06. "Iris brown, feet bluish grey, bill grey."—Wing 93; tail 78½; bill 28 mm.

Agreeing with a specimen from Itaituba, Taqajóz. Both are slightly more rufescent underneath than typical Cayenne skins, but cf. Ménég. and Hellm., *Mém. Soc. d'Hist. Nat. Antun* xix. 1906, pp. 108-9.

*67. *Dendrexetastes devillei* (Laf.).

Dendrocolaptes Devillei Lafresnaye, *Rec. Mus. Zool.* 1850, p. 102 (Sarayaçu, Peru); cf. Ménégaux and Hellmayr, *Mém. Soc. d'Hist. Nat. Antun* xix. 1906, p. 111.

No. 1038. ♂ ad., Humaytha, 2. viii. 06. "Iris light brown, feet and bill greenish grey."—Wing 105; tail 109; bill 32 mm.

This specimen agrees well with others from East Peru. The differences between *D. devillei* and *D. temmincki* are fully stated *loc.*

The Tring Museum has lately obtained a copy of the rare Levêque edition of the *Suppléments aux œuvres de Buffon*, of which Lesson's little-known book, *Description des Mammifères et des Oiseaux* forms one volume, published in 1847. In this work, on p. 281, Lesson describes a bird from Cayenne under the name *Dendrocolaptes (Orthocolaptes) rufigula*, which is undoubtedly the same

as *D. temminckii*, and, as his name has the priority by four years, the latter species has to stand in future as *Dendrocyctastes rufigula* (Less.).

The range of the two species of *Dendrocyctastes** is, according to our present knowledge, as follows :

a. *D. rufigula* (Less.). Cayenne ; Surinam : near Paramaribo (Chunkee coll.) † ; British Guiana : Mines district † ; North Brazil : Barra do Rio Negro (Natterer). ‡

b. *D. devillei* (Des Murs). Eastern Peru : Sarayaçu (Castelnau and Deville), Iquitos (Whitely), Samiria (Hauxwell) ; N.W. Brazil : Humaytha, Rio Madeira (Hoffmanns).

D. devillei is thus for the first time recorded from Brazil.

68. *Nasica longirostris* (Vieill.).

Cf. *suprà*, p. 16.

Nasica longirostris Pelzeln, *Zur Ornith. Bras.* i. 1867. p. 44 (Salto do Girão, Borba).

Nos. 1174, 1184. ♂ ad., ♀ ? imm., Humaytha, 27, 29. viii. 06. "Iris light brown, feet grey, bill greyish yellow."

Nos. 1341, 1443. ♀ ad., ♀ juv., Borba, 16. xi., 4. xii. 06. "Iris brown or yellowish brown, feet grey, bill yellowish grey."

69. *Xiphornis procurvoides* (Laftr.) or subsp. ?

Xiphorhynchus procurvoides Lafresnaye, *Rev. Mag. Zool.* 1850. p. 376 (Cayenne).

X. trochilirostris (nec Licht.) Pelzeln, *Zur Orn. Bras.* i. 1867. p. 44 (part. : Borba).

No. 1442. ♀ ad., Borba, 4. xii. 06. "Iris brown, feet plumbeous, bill brownish red."—Wing 95 ; tail 91 ; bill 65 mm.

This specimen differs from typical Cayenne skins and others from British Guiana by being rather more olive on the lower parts, and by having the creamy shaft-stripes on the foreneck and chest laterally margined with black. The dusky edges to the throat-feathers, too, are less numerous and less distinct. A series from the Rio Madeira is required to confirm the constancy of these characters or otherwise.

To *X. trochilirostris* (Licht.), which is confined to Bahia in Eastern Brazil, the Borba bird has not the least resemblance. *X. venezuelensis* Chapm., of Venezuela, Colombia, etc., is another very distinct form. I shall hope to discuss the various races of the *X. trochilirostris* group on an early occasion.

70. *Deconychura longicauda* (Pelz.).

Dendrocincla longicauda Pelzeln, *Zur Ornith. Bras.* i. p. 60 (1867.—Borba, Rio Madeira ; Barra do Rio Negro, and Marabitanas).

No. 1363. ♂ ad. in moult, Borba, 19. xi. 06. "Iris brown, feet bluish grey, bill blackish grey."—Wing 119 ; tail 105 ; bill 27 mm.

This bird agrees perfectly with one of Pelzeln's typical specimens in the British Museum. As I have pointed out in the *Bull. Brit. Orn. Cl.* xiv. (Feb. 1904) p. 52, this species is congeneric with *Deconychura typica*, erroneously described by Cherie as having only ten rectrices.

Dr. Lorenz having kindly sent me the type and only known specimen of

* I have not yet had an opportunity of examining *D. paraensis* L. Lorenz, from Pará.

† Two specimens in the Tring Museum.

‡ The locality, Colombia, is no doubt erroneous.

Sittasomus stictolaemus Pelz.,* I find that it has nothing whatever to do with *Sittasomus*, being in every structural detail a typical member of the genus *Deconychura*.

Thus we have four species, the characters and range of which are as follows :

a. *D. typica* Cherrie.

Hab. Costa Rica and Chiriqui.

Rump brown like the back, upper tail-coverts only chestnut rufous. Pale spots on foreneck rather large and conspicuously edged with blackish; breast with numerous buff shaft-stripes or spots. Band of the wing distinctly washed with cinnamon rufous.

♂♂ (Chiriqui; Pozo Azul, Costa Rica): wing 98, 101; tail 100, 107; bill 24, 25½ mm.

♀ (Pozo Azul): wing 90; tail 94; bill 24 mm.

b. *D. longicauda* (Pelz.).

Hab. British Guiana: Bartica Grove, Merume Mountains; North Brazil: Marabitanas, Rio Negro; Barra do Rio Negro; Borba; Ega.

Similar in coloration to *D. typica*, but with much larger and heavier bill, longer wings and tail; the pale spots on the foreneck less boldly marked, and breast and abdomen uniform, without spots.

♂♂: wing 107—111; tail 105—113; bill 27—29 mm.

♀: wing 102; tail 106; bill 25 mm.

c. *D. secunda* Hellm.

Hab. Coca, Rio Napo, East Ecuador.

Differs from the two foregoing forms by having the rump chestnut rufous, like the upper tail-coverts, and the bend of the wing olive-brown. The pale shaft-lines on the crown are narrower; the under-parts marked as in *D. longicauda*.

Type (♀): wing 84½; tail 90; bill 20 mm.

d. *D. stictolaemus* (Pelz.).

Hab. Borba, Rio Madeira.

Like *D. secunda*, with the rump chestnut rufous and the bend of the wing olive-brown, but very much smaller, also differing in several details of coloration. The back is rather more rufescent brown, the under-surface earthy brown (without any olive hue), the buff spotting on the foreneck somewhat less distinct, etc.

Type (♀ ad.): wing 75; tail 72; bill 16 mm.

71. *Dendrocincla fuliginosa* (Vieill.).

Dendrocopus fuliginosus Vieillot, *Nouv. Diet.* xxvi. p. 117 (1818.—ex Levaillant: Cayenne); cf. Ménéganx and Hellmayr, *Mém. Soc. d'Hist. Nat. Antou* xix. 1906. p. 119.
Dendrocincla fumigata Pelzel, *Zur Ornith. Bras.* i. 1867. p. 42 (Borba).

No. 1085. juv., Humaytha, 14. viii. 06. "Iris grey, feet greyish brown, bill black."

Though quite young, this bird undoubtedly belongs to the species in question, which had already been collected by Natterer near Borba, on the lower Madeira,

* *Zur Ornith. Brasil.* i. 1867. p. 59 (Borba).

72. *Dendrocincla merula* (Leht.).

Cf. *Nouv. Zool.* xii. 1905. p. 281.

Dendrocincla merula Pelzeln, *l.c.* p. 42 (Borba, Salto Theotonio).

No. 1020. ♀ vix ad., Humaytha, 30. vii. 06. "Iris and feet grey, bill black, below yellowish."—Wing 105; tail 89; bill 26 mm.

In coloration of the plumage practically identical with an immature male from Igarapé-Assú, Pará.

73. *Cymbilanius lineatus lineatus* (Leach).

Cf. *suprà*, p. 60.

Cymbilanius lineatus Pelzeln, *l.c.* p. 74 (Borba).

Nos. 1010, 1074, 1023. ♂♂ ad., ♀, Humaytha, 28, 31. vii. 11. viii. 06. "Iris red, feet and bill black."

No. 1314. ♀ ad., Paraizo, 23. x. 06. "Iris red, feet and bill dark grey."

Nos. 1323, 1335, 1330, 1340. ♂♂ ad., ♀, ♂ juv., Borba, 13, 14, 16. xi. 06. "Iris red, feet plumbeous, bill black."

74. *Thamnophilus major borbae* Pelz.

[*Thamnophilus major* Vieillot, *Nouv. Diet.* iii. p. 313 (1816.—ex Azara : Paraguay).]

Thamnophilus borbae Pelzeln, *Zur Ornith. Bras.* ii. p. 140 (1868.—Borba).

Nos. 939, 971, 979, 1036. ♂♂ ad. and imm., Humaytha, 17, 21, 23. vii. 2. viii. 06. "Iris red, feet grey or plumbeous, bill black."—Wing 97, 95, 90, 91; tail 80, 77, 72; bill 27—28½ mm.

Nos. 940, 955. ♀♀ Humaytha, 12, 19. vii. 06. "Iris red, feet pale plumbeous, bill black."—Wing 90, 91; tail 74, 76; bill 26 mm.

No. 1342. ♀ ad., Borba, 16. xi. 06. "Iris red." Wing 92; tail 72; bill 26 mm.

These specimens are practically identical with the types collected by Natterer. The ♂♂ differ from those of *T. m. melanurus* Gould, of Pern and Eastern Ecuador, by having the two outer tail-feathers narrowly tipped with white, and the females may be distinguished by the rather lighter ferruginous brown of the upper parts, and by having the under tail-coverts white, tinged with pale cinnamon on their apical portion. In the ♀♀ of *T. m. melanurus* the under tail-coverts are uniform bright cinnamonaceous brown.

For the characters and range of the geographical races of the *T. major* group, cf. my revision of Spix' types, pp. 654-5.

75. *Thamnophilus polionotus* Pelz.

Thamnophilus polionotus Pelzeln, *Zur Ornith. Bras.* ii. p. 147 (1868.—Marabitanas and Barcellos, Rio Negro); cf. Hellm., *Nouv. Zool.* xiii. 1906. p. 338.

No. 1125. ♂ ad., slightly moulting, Humaytha, 20. viii. 06. "Iris light brown, feet bluish black, bill black."—Wing 73; tail 60½; bill 19 mm.

This specimen differs from an adult male, collected by Mr. André on the Caura River, by its stronger bill, much lighter schistaceous underparts, and in having the axillaries and under wing-coverts broadly tipped with white (instead of uniform dark slate-colour). By its generally paler coloration it approaches *T. juruanus* Ihering, from the Rio Juruá, which species, however, has the median

and greater upper tail-coverts uniform black, while they are marked with large white apical spots in the Humaytha bird. *T. punctuliger* Pelz., from Borba, agrees in this respect, but has a distinct concealed white interseapular spot, of which there is no trace in *T. polionotus*, from Humaytha, Rio Negro, Caura, etc.

76. *Thamnophilus amazonicus* Sel.

Cf. *Nor. Zool.* xiii. 1906, p. 366.

T. amazonicus Pelzeln, *Zur Ornith. Bras.* ii. 1868, p. 77 (Salto do Girão, Borba).

Nos. 1344, 1350, 1386, 1427. ♂ ad., ♂ juv., ♀ ♀ ad., Borba, 16, 17, 23, 30. xi. 06. "Iris brown or greyish brown, feet bluish grey, bill black."—Wing, ♂ 72, ♀ 72, 68; tail, ♂ 60, ♀ 60½, 59 mm.

Perfectly identical with specimens from Pará. The Tring Museum possesses also an adult male found in Bogotá collections, which is not different either.

77. *Thamnophilus doliatus subradiatus* Berl.

Thamnophilus nigricristatus subradiatus Hellmayr, *suprà*, p. 61.

No. 1068. ♂ ad., Humaytha, 9. viii. 06. "Iris whitish grey, feet and bill black."—Wing 75; tail 62 mm.; bill damaged.

No. 1186. ♀ juv., Humaytha, 30. viii. 06. "Iris greyish white, feet grey, bill blackish grey."

The adult male differs from our Tefé specimen by having the forehead more densely striped with white, and particularly by the crest-feathers being distinctly white at their base, though to a less extent than in *T. d. doliatus* (Linn.).

T. nigricristatus Lawr., *T. subradiatus* and allies are evidently all geographical representatives of *T. doliatus*, and, therefore, more properly designated by trinomials.

78. *Pygiptila stellaris* (Spix).

Cf. *Nor. Zool.* xiii. 1906, p. 367.

Pygiptila maculipennis Pelzeln, *Zur Ornith. Bras.* ii. 1868, p. 79 (Salto do Girão, Borba).

Nos. 923, 931, 949, 1296. ♂ ad., ♀ ♀ ad., ♀ juv., Humaytha, 14, 16, 18. vii., 26. ix. 06. "Iris brown or brownish grey, feet plumbeous, bill bluish black."

Nos. 1360, 1365, 1377, 1439, 1440. ♂♂ imm., ♀ ♀ ad. et imm., Borba, 19, 22. xi., 4. xii. 06. "Iris brownish grey, feet plumbeous, bill greyish black."

Agreeing with specimens from Pará, Tefé, and Venezuela. The young has a much smaller, entirely black bill, while in the adults the lower mandible is always pale greyish horn-colour.

79. *Dysithamnus schistaceus schistaceus* (D'Orb.).

Thamnophilus schistaceus D'Orbigny, *Voyage, Oiscour*, p. 170 (1838.—Yuracares, East Bolivia); Pelzeln, *Zur Ornith. Brasil.* ii. 1868, p. 77 (Salto do Girão, Borba).

Nos. 922, 1054. ♂♂ ad., Humaytha, 14. vii., 6. viii. 06. "Iris brown, feet greenish or bluish grey, bill black."—Wing 66, 64; tail 50½, 52; bill 18, 17 mm.

No. 956. ♂ imm., Humaytha, 9. vii. 06. "Iris reddish yellow, feet plumbeous, bill black." Wing 63; tail 51; bill 17 mm.

Nos. 1004, 1094. ♀ ad., ♀ imm., Humaytha, 27. vii., 16. viii. 06. "Iris greyish brown, feet plumbeous, bill black, below grey."—Wing 64; tail 57, 53; bill 18, 17 mm.

No. 1353. ♂ ad., Borba, 17. xi. 06. "Iris yellowish red, feet plumbeous, bill black."—Wing 65; tail 54; bill 17 mm.

This series fully bears out the distinctness of *D. s. heterogynus* Hellm. (cf. *suprà*, p. 61). The males are constantly paler schistaceous below than that from Teficé, while the females differ at a glance by having the under parts buffy brownish or buffy yellow instead of bright ochraceous. The back, too, is of a lighter, less rufescent brown.

80. *Dysithamnus murinus* (Scl. & Salv.).

Cf. *suprà*, p. 37.

No. 1945. (♂) juv., Humaytha, 3. viii. 06. "Iris greyish brown, feet plumbeous, bill black."

81. *Dysithamnus ardesiacus saturninus* (Pelz.).

[*Dysithamnus ardesiacus* Sclater & Salvin, *P. Z. S.* 1867, p. 756 (based on *D. schistaceus* Sclater (nec D'Orbigny), *P. Z. S.* 1858, pp. 66, 222—Rio Napo, East Ecuador).]

Thamnophilus saturninus Pelzelin, *Zur Ornith. Brasil.* ii. p. 147 (1868.—Cayenne; Borba and Serra Carauamán;—Borba accepted as typical locality, cf. Hellm., *Verhandl. zool. bot. Gesellsch. Wien*, 1903, p. 216).

No. 1416. ♂ ad. in moult, Borba, 29. xi. 06. "Iris brown, feet plumbeous, bill black."—Wing 80; tail 60; bill 18 mm.

With but a few specimens from Borba before me, I cannot say with certainty if the birds from the Rio Branco, Cayenne, British Guiana and the Cauca River are really quite identical with *D. a. saturninus*. Adult males of the various localities present little difference in coloration except that those from Borba have more white at the base of the interscapular feathers, and are decidedly darker schistaceous on the belly. The latter are, however, larger, with a much longer tail and rather stronger bill. Should additional specimens from the Rio Madeira confirm these characters, the northern birds were to be separated as a smaller, paler race.

	Wing.	Tail.
Two ♂♂ ad., Borba (including the type of <i>D. a. saturninus</i>)	80, 75	60, 58 mm.
Two ♀♀ ad., Borba	77, 73	63, 59 "
Seven adult and immature ♂♂ from the Cauca River	72—74	50½—54 "
Two ♀♀ from the Cauca River	70½, 71½	51, 53 "
Two ♂♂ ad., British Guiana	73, —	50, 49 "
Two ♀♀ " " "	69, 72	49, 50 "
Four ♂♂ ad., Cayenne	71—74	50—52 "
Two ♀♀ " " "	72, 74	52, — "
One ♂ ad., Serra Carauamán, Rio Branco	72, —	54, — "

82. *Thamnomanes caesius persimilis* Hellm.

Thamnomanes caesius persimilis Hellmayr, *Nov. Zool.* xiv. p. 64 (1907—Teficé).

T. caesius (nec Temminck), Pelzelin, *Zur Ornith. Brasil.* ii. 1868, p. 80 (Salto do Girão); Ihering, *Revis. Mus. Paul.* vi. 1905, p. 440 (Rio Juruá).

Nos. 1053, 1084. ♂♂ ad., Humaytha, 6, 14. viii. 06. "Iris dark brown, feet and bill black."—Wing 71, 74; tail 63, 64; bill 17, 17½ mm.

These skins agree perfectly with the typical series from Teffé. Both specimens have the under wing-coverts and a distinct edge along the inner web of the primaries white. There is no trace of a white interscapular blotch.

No. 1053 has a few minute whitish apical dots on the median and greater upper wing-coverts.

T. c. persimilis apparently ranges all over Western Brazil from the Rio Madeira to the south bank of the main valley of the Amazons. The bird obtained on the Jurúá and mentioned by Ihering s. n. *T. caesius* is also referable to the present form.

83. *Myrmelastes luctuosus* (Leht.).

Cf. *suprà*, p. 17.

Thamniophilus luctuosus Pelzeln, *Zur Ornith. Bras.* ii. 1868, p. 76 (Borba).

Nos. 1139, 1140. ♂ ♀ ad., slightly moulting, Humaytha, 22. viii. 06. "Iris brown, feet plumbeous, bill black."—Wing 80, 78; bill 21 mm.

Identical with specimens from Pará and Santarem.

84. *Cercomacra nigrescens approximans* Pelz.

Cf. *suprà*, p. 18.

Nos. 1338, 1450. ♂♂ ad., Borba, 16. xi., 7. xii. 06. "Iris brown, feet plumbeous, bill black."—Wing 67, 66; tail 63, 59; bill 18 mm.

No. 1354. (♂) juv., Borba, 17. xi. 06. "Iris grey, feet pale plumbeous, bill black."

The adult males agree fully with those from Santarem and Central Peru in the Tring Museum.

85. *Formicivora rufa* (Wied).

Mgithera rufa Wied, *Beitr. Naturg. Bras.* 3. ii. p. 1095 (1831.—Interior of Bahia).

Nos. 1237, 1257. ♂♂ ad., Humaytha, 14, 17. ix. 06. "Iris dark brown, feet and bill black."—Wing 54, 51; tail 57, 53; bill 15, 14½ mm.

No. 1285. ♂ vix ad., Humaytha, 22. ix. 06. "Iris brown, feet blackish grey, bill black."

No. 1238. ♂ juv., Humaytha, 14. ix. 06. "Iris dark brown."

No. 1236. ♀ ad., Humaytha, 14. ix. 06. "Iris brown, feet blackish grey, bill black."—Wing 51; tail 53; bill 14 mm.

No. 1260. ♀ juv., Humaytha, 17. ix. 06. "Iris brown, feet bluish black, bill black."

According to Mr. Hoffmann's observations this species never occurs in the "vargem" or on the "terra firma," but lives exclusively in the campos, where also the six above specimens were shot. They agree with a female from Itapurá, Rio Tietê, state of S. Paulo, in having the flanks rather bright ochraceous buff. In a series from Bahia and Goyaz the sides of the belly are somewhat paler and duller.

F. rufa was already known to occur in the Amazonian region, Mr. Chapman* having recorded a specimen from Santarem, procured by Williams.

* *Auk*, 1891, p. 29.

86. *Formicivora bicolor* Pelz.

Formicivora bicolor Pelzeln, *Zur Ornith. Bras.* ii. p. 156 (1868.—Engenho do Gama, Matto Grosso; Ribeirão, Salto Girão and Borba. Rio Madeira).

No. 1326. ♂ ad., Borba, 13. xi. 06. "Iris brown, feet and bill black."—Wing 52, tail 47, bill 14½ mm.

Nos. 1336, 1355, 1360. ♀ ♀ ad., Borba, 15, 17, 22. xi. 06. "Iris brown, feet and bill black."—Wing 53, 51, 54; tail 50, 52, 51; bill 14—15 mm.

Practically identical with specimens from the Rio Tapajóz (cf. *supra*, p. 17).

87. *Ramphocaenus melanurus amazonum* Hellm.

Ramphocaenus melanurus amazonum Hellmayr, *Nov. Zool.* xiv. p. 66 (1907.—Teffé).

No. 1030. ♂ ad., Humaytha, I. viii. 06. "Iris light brown, feet and bill grey."—Wing 54½, tail 50, bill 22 mm.

Nos. 1364, 1366. ♂ ♀ ad., Borba, 22, 29. xi. 06. "Iris brown, feet plumbeous, bill blackish, below grey."—Wing 54, 51; tail 49; bill 25, — mm.

These specimens agree perfectly with the type from Teffé. The head and back are of the same dull sepia brown, in No. 1030 perhaps a little lighter; the cheeks and ear-coverts whitish, the latter washed with pale brownish on the posterior end, the sides of the neck creamy buff (Ridgw. *Nomencl.* v. 11); the under parts white with a delicate pale creamy buff tinge across the foreneck and on the sides of the breast and abdomen. The outermost pair of tail-coverts shows a long, dull smoky-greyish apical spot.

According to our present knowledge, in South America, east of the Andes, the following geographical forms of the *R. melanurus* group are to be distinguished:

a. *R. melanurus melanurus* Vieill.

Ramphocaenus melanurus Vieillot, *Nouv. Dict.* xxix. p. 6 (1819.—"Brésil, par Delalande fils," i.e. Rio de Janeiro).

Troglodytes rectirostris Swainson, *Zool. Illustr.* i. (Vertebrosa) Pt. 3. pl. 140 (1820-21.—"Brazil").

Thryothorus Gladiator Wied, *Beitr. Naturg. Bras.* 3. ii. p. 751 (1831.—S.E. Brazil).

Hab. Eastern Brazil: S. Paulo (Iguapé); Rio de Janeiro (Delalande); Bahia (Wucherer); Pernambuco (W. A. Forbes); Capim River, south of Pará (Wallace).

Adult. Top of the head and back bright russet brown, the latter scarcely, if any, paler than the cap; cheeks and ear-coverts rufescent buff, sides of the neck much deeper, ochraceous buff (Ridgw. v. 10); sides of the breast and belly deep ochraceous buff. Wing 46—52; tail 44—49; bill 21—22½ mm.

Examined. 1 ad., Rio de Janeiro, collected by Delalande, type of *R. melanurus* (Paris Museum); 2 ♂♂ ad., Iguapé, S. Paulo (Krone coll., Tring Museum); 5 adults and young, Bahia (Wucherer and Kammerlacher coll., Mus. Brit. and Vienna); 1 ad., Pernambuco (W. A. Forbes coll., Brit. Mus.); 1 ad., Capim River, Pará (Wallace coll., Brit. Mus.).

N.B.—The bird from Pará agrees in every respect with the examples from Bahia and S. Paulo.

b. *R. melanurus trinitatis* (Less.).

Ramphocarnus trinitatis Lesson, *Rec. Zool.* 1839. p. 42 ("in insula trinitatis").

Hab. Island of Trinidad; Venezuela: Suapuré and La Prición, Canra River (Klages and André coll.), Mmuduapo and Nericagua, Orinoco River (Cherrie coll.),

Cumaná (Caracciolo coll.), S. Esteban, near Puerto Cabello (Goering and Starke coll.). Colombia: Rio Meta (Wheeler coll.). East Ecuador: Rio Napo (Petit coll.). North Brazil: Rio Amajaú, a tributary of the lower Rio Negro (Natterer coll.).

Adult. Differs from *R. m. melanurus* in having the back smoky or earthy brown, in decided contrast to the rufescent pileum; and the cheeks, ear-coverts, and sides of the neck deep ochraceous.—Wing 48—54; tail 43—48; bill 21—23 mm.

Material. 1 ♂, 1 ♀, Caparo, Trinidad (André coll.); 7 (ad. and young) Cumaná; 1 ad., S. Esteban (Starke coll., Mus. v. Berlepsch); 1 ♀ ad., S. Esteban (Goering coll., Brit. Mus.); 1 ad., Villavicencio, Rio Meta, Colombia (Wheeler coll., Brit. Mus.); 7 (ad. and young) Caura River (André and Klages coll., Mus. Tring); ♂ jr., ♂ ad., ♀ ad., Mundnapo and Nericagua, Orinoco; 1 ad., Rio Napo (Mus. Tring); 1 ♂ ad., Rio Amajaú (Natterer, Vienna Mus.).

Obs. There is no constant difference between specimens from the above localities, though, as a rule, those from the north coast of Venezuela (Cumaná, S. Esteban) are paler underneath, the foreneck and sides of the body alone being bright buff. In the others the under parts are for the greater part deep ochraceous buff, as in *R. m. melanurus*. The ♂ from the Rio Amajaú and several specimens from the Caura, however, agree exactly with those from Cumaná.

The bright ochraceous sides of the head serve to distinguish this form at a glance among the other South American races. About the subspecific name cf. *Nor. Zool.* xiii. p. 32.

c. R. melanurus albiventris ScL.

Ramphococcyus albiventris Sclater, *Ibis*, 1883. p. 95 (Surinam).

Hab. Surinam (C. Bartlett); Cayenne (Jelski); British Guiana: Bartica Grove, Camacusa, Quonja, Annai (Whitely jr.).

Adult. Differs from the two preceding forms in having the whole under-surface pure white, the innermost flanks alone being pale greyish. The sides of the head are whitish, the posterior portion of the ear-coverts washed with pale brownish, and the sides of the neck are but slightly tinged with pale ochraceous buff. Upper parts as in *R. m. trinitatis*. Wing 47—50; tail 45—49; bill 20½—22 mm.

Material. 1 ad., Surinam (C. Buckley coll.: Brit. Mus. type of *R. albiventris*); ♂ ♀, Annai (Tring Mus.); ♂ Bartica Grove, 1 ♀ Quonja, 1 adult Camacusa, all collected by Whitely, and one adult from British Guiana (without any further locality, Quelch coll.), in the British Museum.

Obs. I have pointed out (*suprà*, p. 67) that the specimen from Surinam is to be considered as the type. The one from S. Esteban, erroneously registered as such in the *Cat. Birds* xv. p. 261, turned out to belong to another form (see snb *R. m. trinitatis*).

d. R. m. amazonum Hellm.

Cf. *suprà*.

Hab. Western Brazil: Tefé, Rio Solimões (Hoffmanns); Humaytha and Borba, Rio Madeira (Hoffmanns). North Peru: Chyavetas, Santa Cruz (Bartlett), Yurimagnas (Bartlett & Stolzmann coll.).

Adult. Agrees with *R. m. albiventris* in the sides of the head being white, shaded with pale brownish on the posterior portion of the ear-coverts; but the top of the head is dull sepia brown like the back, the sides of the neck are much paler, creamy-buff (Ridgw. v. 11), not ochraceous; and the foreneck as well as

the sides of the belly have a delicate, pale creamy buff hue. Wing 52—54, tail 49—53, bill 22—25 mm.

Material. 1 ♂ ad., Tefé (type), 1 ♂ ad., Humaytha, ♂ ♀ ad., Borba (Mus. Tring); 1 ♂ Yurimagnas, 1 ad., Santa Cruz, 1 av. juv., Chyavetas (Mus. Tring and Brit.).

c. R. m. sticturus Hellm.

Rhamphocenus sticturus Hellmayr, *Verhandl. zool. botan. Gesellsh. Wien*. 1902. p. 97 (Mattogrosso).

Hab. Western Brazil, Mattogrosso: Villa Bella de Mattogrosso, Engenho do Gama and San Vicente (Natterer).

Adult. At once recognisable from all the preceding forms by having the three outer pairs of rectrices tipped with **pure white**. Upper parts as in *R. m. trinitatis*, but back lighter, clear earthy brown; cheeks and ear-coverts rufescent buff as in *R. m. melanurus*, sides of the neck pale ochraceous buff, decidedly lighter than in *a* and *b*. Under parts exactly as in pale-bellied specimens of *R. m. trinitatis*, foreneck and sides being washed with bright cream-buff (Ridgw. v. 11). Wing 50—51, tail 41—45, bill 22—24½ mm.

Material. 8 adults, of both sexes, from Mattogrosso (Natterer coll., Vienna Museum).

88. *Scelateria argentata* (Des Murs).

Herpsilochmus argentatus Des Murs in: Castelnau's *Voyage, Oiseau*, p. 53, tab. 17, fig. 2 (June 1856.—Nanta, N.E. Peru).

Heterocnemis albiventris Pelzeln, *Zur Ornith. Brasil*, ii, p. 161 (1868.—Engenho do Gama, Mattogrosso; Guajara-guaçu, Girão and Borba, Rio Madeira; Marabitanas, Rio Negro).

Nos. 1027, 1137. ♂♂ ad., Humaytha, 31. vii., 27. viii. 06. "Iris brown, feet greyish yellow, bill black."—Wing 69, 70½; tail 49½, 51; bill 23, 24 mm.

These specimens agree well with others from Maipures, Orinoco River (Tring Museum) and the Peruvian Amazons (British Museum). Thanks to the kindness of Dr. von Lorenz, I have been enabled to examine the series upon which Pelzeln founded his *H. albiventris*. This consists of adult males from Girão and Guajara-guaçu, females from Borba and Marabitanas, and four examples from Mattogrosso, two of each sex. The ♂♂ from the two first-named localities are those described by Pelzeln as the adult ♂♂, and agree with our specimens from Humaytha and Maipures in having the under-surface white with the sides of the neck as well as of the breast and abdomen schistaceous. Hence *H. albiventris* becomes a strict synonym of *H. argentatus*. The two ♂♂ from Mattogrosso considered by Pelzeln to represent the plumage of the immature ♂, differ by having the schistaceous colour of the sides more extended, and by the feathers of the chest being distinctly edged with cinereous. Although I do not take these characters to be signs of immaturity, yet a larger series of specimens is required to establish the status of the Mattogrosso form.

S. argentata is a very near ally of *S. macrta* (Gm.), differing solely by the coloration of the under parts. In structure the two species are practically identical.

89. *Scelateria schistacea humaythae* Hellm.

Scelateria schistacea humaythae Hellmayr, *Bull. B. O. C.* xix. (Febr. 1907) p. 51.

Nos. 953, 1002, 1012, 1077, 1129. ♂♂ ad., Humaytha, 19. 27, 29. vii., 12. viii., 13. ix. 06. "Iris grey or greyish brown, feet greyish yellow or greyish brown, bill black."—Wing 70—73, tail 51—55, bill 20—21½ mm.

Nos. 1146, 1175. ♂♂ juv., Humaytha, 23, 28. viii. 06. "Iris grey, feet grey-brown, bill black."

Nos. 997, 1013, 1014, 1066, 1067, 1231. ♀♀, Humaytha, 27, 29. vii., 9. viii., 13. ix. 06. "Iris grey or greyish brown, feet grey or yellowish grey, bill black, below greyish."—Wing 67—70, tail 50—54, bill 20—22 mm.

No. 1315. ♂ imm., Paraizo, 24. x. 06. Soft parts as above.—Wing 70½, bill 21 mm.

♂ ad. In coloration similar to *S. s. leucostigma* (Pelz.), but the tail considerably shorter.

♀ ad. Top of the head and back pale brown, sometimes with a slight rufescent tinge on the latter; upper wing-coverts warm rufescent brown, with large, rounded, apical spots of fulvous; quills dusky, exteriorly edged with rufescent brown. Tail dull dusky, the two outer rectrices occasionally with a narrow buff apical margin. Lores and sides of the head ochraceous buff, on the posterior portion of the ear-coverts a distinct patch of pale brown. Malar region, sides of the neck and the whole under-surface bright ochraceous, deepest (about "tawny ochraceous," Ridgw. v. 4) on the sides of the neck and belly, paler, more ochraceous buff (Ridgw. v. 10) on the throat and middle of the abdomen. Axillaries and under wing-coverts pale ochraceous buff clouded with greyish.

Type of subspecies: No. 1067, ♀ ad., Humaytha, 9. viii. 06.

The adult males of this interesting new form do not differ in coloration from a good series of *S. s. leucostigma* from British Guiana, Cayenne, and the Rio Negro district. The under parts are of the same light cinereous, passing into whitish grey in the middle of the abdomen, and the upper surface shows exactly the same shade of slate-grey. The size of the white apical spots on the wing-coverts is rather variable. In two specimens they are quite as large as in our series from the Guianas, in two others decidedly smaller, though still considerably larger than in *S. s. schistacea*. The under mandible is whitish, as in *S. s. leucostigma*. From this form the present series differs, however, at a glance by its shorter tail.

The females are readily distinguishable from those of all the other forms by having the top of the head pale brown like the back (not slate-colour). Moreover, the lores are buff (not greyish); the sides of the head ochraceous buff with a brown patch on the posterior end of the ear-coverts (instead of being uniform dark slate-grey); the malar region is ochraceous (not slate-grey); the under-surface bright ochraceous (instead of deep ferruginous); and the back much paler, light rufescent brown (not deep rufous brown).

The under mandible is whitish as in *S. s. leucostigma*, while in the shortness of the tail the new form agrees with *S. s. subplumbea*.

In *Norit. Zool.* xiii. 1906. pp. 344-7, I gave a review of the four geographical forms then known, to which *S. s. caurensis* Hellm.,* from the Caura R., Venezuela, and *S. s. humaythae* are to be added now.

90. *Scelateria schistacea leucostigma* (Pelz.).

Peromastola leucostigma Pelzeln, *Zur Ornith. Bras.* ii. p. 160 (1868).—Barra do Rio Negro, Marabitanas, Rio Vaupé, Cayenne.

No. 1372. ♂ ad., Borla, 20. xi. 06. "Iris greyish brown, feet pale yellowish red, bill black."—Wing 72; tail 60; bill 21 mm.

* *Bull. Brit. Orn. Cl.* xix. p. 9.

This bird agrees, in size and coloration, with our series of *S. s. leucostigma*, except in having rather smaller white apical spots on the wing-coverts. From the Humaytha skins it differs by its longer tail and by the under mandible being partly greyish.

91. *Hypocnemis cantator peruvianus* Tacz.

Cf. *suprà*, p. 67.

No. 918. ♀ ad., Humaytha, 13. vii. 06. "Iris brown, feet grey, bill black, below grey."—Wing 54; tail 38; bill 16½ mm.

Sides of the belly pale ochraceous, as in a female from Tefñé, while another skin from this locality has them much darker. The Humaytha bird, however, differs from all females of *H. c. peruvianus* by having the mantle less mottled with blackish and buff.

92. *Hypocnemis punctulata* (Des Murs).

Rhopotera punctulata Des Murs in: Castelnau's *Voyage, Océan.* p. 53 (June 1856.*—"Haut Amazone," sc. Peruvian Amazonas); cf. Ménég. & Hellm., *Bull. Soc. Philom. Paris*, 1906, p. 47.

Rhopotera guttata Des Murs, *l.c.* tab. xvii. fig. 3 (December 1856*).

Nos. 1092, 1109, 1209. ♂♂ ad., Humaytha, 8, 16. viii. 4. ix. 06. "Iris brownish red or grey, feet grey, bill black."—Wing 58, 59, 61; tail 29, 30, 30½; bill 16—16½ mm.

No. 1203. ♂ vix ad., Humaytha, 31. viii. 06. "Iris brown, feet dark grey, bill black."—Wing 58; tail 29; bill 16½ mm.

No. 933. ♂ jr., Humaytha, 16. vii. 06. "Iris and feet grey, bill black."—Wing 57; tail 28½; bill 17 mm.

Nos. 930, 932, 1194. ♀♀ ad., ♀ imm., Humaytha, 16. vii., 31. viii. 06. "Iris and feet grey, bill black."—Wing 56—58; tail 28½—31; bill 16½ mm.

Except in averaging slightly smaller, these specimens agree with a series from the Peruvian Amazons and the Caura valley.

H. punctulata differs from *H. n. naveria* (Gm.) and *H. n. theresae* (Des Murs) by its much shorter tail, grey (not wax-yellow) feet, black (not brown) upper tail-coverts, white (instead of slate-grey) lores, cheeks and ear-coverts, and by having the rump not uniform brown, but black spotted with white (♂) or buff (♀). Moreover, in the adult males the flanks are never ochraceous buff, but earthy brown or greyish; and the females have the throat, foreneck, and middle of the breast white, the sides and the crissum alone being buff, while in those of *H. n. naveria* and *H. n. theresae* all the under-surface (except the white throat) is of a deep buff yellow (Ridgw. vi. 19). The range of *H. punctulata*, thus far known, is as follows:

North Peru: Pebas (Castelnau and Deville), Iquitos (Whitely). West Brazil: Humaytha, Rio Madeira (Hoffmanns); Rio Amajaiá, a tributary of the Rio Negro (Natterer); Rio Javari (Bates). Venezuela: La Pricion, Caura valley (André).

N.B.—The so-called Bogotá skin in the British Museum (*H. naveria theresae*, Slater, *Cat. Birds* xv. p. 291, spec. *h*) belongs to *H. naveria theresae*, agreeing in every respect with Peruvian examples. Though certainly **not** a Bogotá skin, its make is entirely unknown to me.

* Cf. Woodward & Sherborn, *Ann. Mag. Nat. Hist.* (7) viii. 1901. p. 164.

93. *Hypocnemis poecilinota griseiventris* (Pelz.).

Pethys griseiventris Pelzeln, *Zur Ornith. Brasil.* ii. p. 167 descr. ♀ (1868.—Viña Maria and Eugênio do Gama, Matto Grosso : Borba, Rio Madeira).

Cf. *suprà*, p. 67. and *Nor. Zool.* xiii. 1906. p. 372.

Nos. 1101, 1143, 1164. ♂♂ ad., Humaytha, 17, 23, 25. viii. 06. "Iris brown, feet plumbeous, bill black."—Wing 67½—69 ; tail 45—46 ; bill 17½—18 mm.

No. 1117. ♂ vix ad., Humaytha, 19. viii. 06. Soft parts as above.—Wing 71½ ; tail 46 ; bill 17¾ mm.

Nos. 1182, 1230. ♀♀ ad., Humaytha, 29. viii., 13. ix. 06. "Iris brown."—Wing 66, 68 ; tail 43, 44 ; bill 18 mm.

Nos. 1384, 1356, 1420, 1434, 1464. ♂♂ ad., Borba, 19, 23, 29. xi., 2, 11. xii. 06. "Iris brown, feet plumbeous, bill black."—Wing 69—72 ; tail 45—47 ; bill 17—18 mm.

No. 1343. ♂ juv., Borba, 16. xi. 06. "Iris greyish brown, feet plumbeous, bill black."

Nos. 1323, 1418, 1423, 1433. ♀♀ ad. and imm., Borba, 13, 29. xi., 2. xii. 06. "Iris grey or greyish brown, feet plumbeous, bill black."—Wing 66—69 ; tail 47 ; bill 18 mm.

In the males the upper tail-coverts are slate-grey with a black subterminal band and a white apical spot ; only in one from Humaytha (No. 1143) black tipped with white as in *H. p. poecilinota* and *H. p. lepidonota*. The cinereous wash on the base of the central tail-feathers, however, is not a constant character, for it is not present in quite a number of specimens. The colour of the under parts is also rather variable, some examples being quite as dark as *H. p. lepidonota*, while others agree with *H. p. poecilinota*.

The two females from Humaytha are rather darker cinereous below than those from Borba. In No. 1182 (Humaytha) the throat is cinereous like the rest of the under parts ; in the others much paler greyish white, or even white (*e.g.* in No. 1433). The forehead and sides of the head are clear ferruginous, and there is always a large concealed white interscapular patch.

94. *Hypocnemis leucophrys angustirostris* (C'ab.).

Cf. *suprà*, p. 19.

Hypocnemis leucophrys (nec Tschudi) Pelzeln, *Zur Ornith. Brasil.* ii. 1868, p. 88 (Borba).

Nos. 921, 925, 945, 1003. ♂♂ ad., Humaytha, 14, 15, 17, 27. vii. 06. "Iris brown, feet plumbeous, bill black."—Wing 68—71 ; tail 45—46 ; bill 17—18 mm.

Nos. 920, 928, 947, 948, 970, 981. ♀♀ ad. and imm., Humaytha, 14, 16, 18, 21, 23. vii. 06. "Iris brown or reddish brown, feet grey or blackish, bill black."—Wing 65—69 ; tail 42—46 ; bill 17—18 mm.

The males have the belly of the same clear slate-grey as specimens from British Guiana, Cayenne, Itaituba, and Tefé, hence much lighter than in *H. l. leucophrys*, of the Andes. The white frontal band is fully as broad as in Guiana skins.

In the female of this species the lower mandible is always dusky or brownish black, the upper wing-coverts show small but well-defined buff apical spots, and there is a very distinct, clear ferruginous superciliary stripe above the eye and along the upper margin of the deep black ear-coverts.

95. *Hypocnemis myotherina ochrolaema* Hellm.

Hypocnemis myotherina ochrolaema Hellmayr, *Bull. Brit. Orn. Cl.* xvi. (June 1903) p. 109 (Itaituba, near Santarem, Lower Amazons); idem, *suprà*, p. 20.

Hypocnemis myotherina (nec Spix) Pelzeln, *Zur Ornith. Bras.* ii. 1868, p. 88 (Borba).

Nos. 1394, 1419, 1461. ♂♂ ad., Borba, 24, 29. xi., 11. xii. 06. "Iris dark red, feet grey or pale bluish grey, bill black."—Wing 62—64; tail 39—41½; bill 17—17¾ mm.

Nos. 1393, 1435. ♀♀ ad., Borba, 24. xi., 2. xii. 06. "Iris red, feet light grey or bluish grey, bill black."—Wing 61, 62; tail 39, 40; bill 17 mm.

Two of the males agree perfectly with those from Itaituba, while the third slightly points to *H. m. melanolaema*, having the breast a shade greyer and the superciliaries rather narrower.

The females are entirely typical, the throat being ochraceous like the belly, and the whole bill black. They differ from the type merely by their larger white interscapular patch. In No. 1435 the under parts are even deeper ochraceous than in the type from Itaituba.

*96. *Hypocnemis myotherina melanolaema* Sel.

Hypocnemis melanolaema Sclater, *P. Z. S.* 1854, p. 254, tab. lxxii. fig. 2 descr. ♂ ad. ("in Peruvia, Chamierros"); cf. *suprà*, p. 21.

Nos. 1121, 1172. ♂♂ ad., Humaytha, 20, 26. viii. 06. "Iris dark red, feet grey, bill black."—Wing 63½, 64; tail 37, 39½; bill 17 mm.

No. 1116. ♂ imm., Humaytha, 19. viii. 06. "Iris brown, feet plumbeous, bill black."—Wing 63; tail 39; bill 17 mm.

Nos. 1163, 1165. ♀ ad., ♀ imm., Humaytha, 25. viii. 06. "Iris brown, feet light grey, bill black."—Wing 63, 62; tail 39, 42; bill 17 mm.

No. 1311. ♂ vix ad., Paraizo, 16. x. 06. "Iris brown, feet bluish grey, bill black."—Wing 65; tail 39; bill 16½ mm.

The specimens from Humaytha are practically identical with others from Chuchurras (Huánuco, Central Peru) and San Mateo (North Bolivia). The males show exactly the same clear cinereous colour of the under parts, and the superciliaries are equally narrow and ill-defined, while the females also agree with one from Bolivia in having the throat white, the rest of the lower surface ochraceous buff, and the under mandible dull whitish.

The male from Paraizo, though not quite adult, appears also to belong to the present form.

H. m. melanolaema is new to the Brazilian avifauna.

97. *Hypocnemis lugubris* (Cab.).

Myrmonax lugubris Cabanis, *Arch. Naturg.* 13 i. p. 211 (1847.—no locality indicated; the type is said to be from Pará; cf. Lichtenstein, *Nomencl. Ac. Berol.* 1854, p. 22).

Hypocnemis lugubris Pelzeln, *Zur Ornith. Bras.* ii. 1868, p. 88 (Borba).

Heterocnemis (?) *hypoleuca* Ridgway, *Proc. U.S. Mus.* x. 1887, p. 523 (1888.—Diamantina, near Santarem, Lower Amazons), descr. ♀.

Hypocnemis lugubris and *H. hypoleuca* Riker & Chapman, *Auk*, 1891, p. 29 (Santarem).

No. 1381. ♂ ad., Borba, 22. xi. 06. "Iris reddish brown, feet bluish black, bill black."—Wing 73; tail 44; bill 18½ mm.

No. 1369. ♀ imm., Borba, 20. xi. 06. "Iris brown, feet grey, bill blackish grey," below yellowish.—Wing 68; tail 44; bill 19 mm.

There can be no doubt, I believe, that *H. hypoleuca* Ridgw., based on a specimen from Santarem, is merely the female of *H. lugubris*, although Mr. Chapman (*loc.*) states that a typical example sent to Dr. Schater was pronounced by this gentleman to be the female of a nearly allied, but distinct species. It should be noticed that the type of *H. hypoleuca* was "taken July 11th, 1887, in company with" an adult male referred by Mr. Chapman to *H. lugubris*, and it seems more than probable that these two specimens were a mated pair. Moreover, there is not the slightest doubt that the Santarem form is true *H. lugubris*, since an adult male from that place in Count Berlepsch's collection (W. A. Schulz coll.) proved to be indistinguishable from the type of the species kindly lent by Dr. Reichenow, of Berlin.

In the females there is a certain amount of variation as regards the coloration of the sides of the head. Adult birds have the cheeks and ear-coverts dull black with a few rufescent buff shaft-lines, while they are mainly cinnamon or russet brown in immature females. That this difference is due to age is proved by a small series of specimens from Borba, in which both extremes as well as an intermediate stage are represented.

H. lugubris is a very fine and distinct species. The male resembles in general coloration *H. myotherina melanolaema*, but is larger, has a much longer and differently-shaped bill, and lacks the white dorsal patch and the white edges to the upper wing-coverts. The female, however, is much more like that of *H. leucophrys*, with which it shares the white under-surface, but it differs by its whitish lower mandible, by lacking the ferruginous superciliary stripe and by the apical spots to the upper wing-coverts being much darker, about cinnamon buff, and much less distinct.

The dimensions of the specimens examined by me are as follows :

		Wing.	Tail.	Bi l.
1.	Mus. Berlin. ♂ ad., "Para." Type of <i>M. lugubris</i> Cab.	73	48	19 mm.
2.	" Berlepsch. ♂ ad., Paricatuba, near Santarem, June 26, 1893. W. Schulz coll.	74	47	19 "
3.	" Tring. ♂ ad., Borba, November 22, 1906	73	44	18½ "
4.	" " ♀ imm., Borba, November 20, 1906	68	44	19 "
5.	" Vienna. ♂ ad., Rio Madeira, one day's journey above Borba, November 23, 1829. Natterer	70	43	19 "
6.	" Vienna. ♀ ad., same locality and same date "	68½	41	19 "
7.	" " ♀ imm., Borba, March 3, 1830	68	43	20 "
8.	" " ♀ ad., Borba, July 13, 1830.	68	44	19 "
9.	" Brit. ♀ ad., Borba, February 17, 1830	66	40½	19 "
10.	" Vienna. ♂ ad., "Rio Negro, im Arme Anave- hana," July . Natterer coll.	70	41½	18 "

These ten skins are, as far as I know, the only specimens in European collections. From the localities it would appear that the species has a rather limited distribution. I do not believe that the type really came from Pará; it is more likely to have been obtained somewhere on the Lower Amazons.

98. *Hypocnemis melanopogon* Sel.

Hypocnemis melanopogon Selater, *P. Z. S.* 1857, p. 130 ("in Peruvia orientali, Chamicuroos"—errore! the type is from *Guiana*, cf. Sel., *Catal. Americ. Birds*, 1862, p. 188).

Nos. 1046, 1069, 1133. ♂♂ imm., Humaytha, 3, 9, 21. viii. 06. "Iris grey, feet plumbeous, bill black."—Wing 63—64; tail 36—37; bill 17 mm.

Nos. 919, 929. ♀♀ imm., Humaytha, 14, 16. vii. 06. "Iris pale blue, feet and bill blackish."—Wing 61, 63; tail 36, 37; bill 17, 20 mm.

No. 1408. ♂ fere ad., Borba, 27. xi. 06. "Iris greyish brown, feet plumbeous, bill black."—Wing 66; tail 36; bill 20 mm.

No. 1454. ♀ perad., Borba, 19. xii. 06. "Iris light bluish grey, feet plumbeous, bill blackish grey."—Wing 64; tail 37; bill 17½ mm.

These specimens fully agree with our large series from Cayenne, British Guiana, and the Orinoco district. There is **no** trace of a white interscapular patch, and the tail-feathers are but narrowly margined with white at the tips, this border being about ½ to 1 mm. wide. An adult male and two females from the island of Mexiana, in the delta of the Amazons, and the specimens obtained by Natterer on the Rio Negro (near Poiares, Marabitanas, and at the junction of the Rio Amajaú) belong likewise to this form, being in every respect typical.

In the *Cat. Birds*, xv. p. 290, an immature male (*c*) from Chamicuroos (Haaxwell coll., received from J. Gould) is registered as the type of *H. melanopogon*. If this were correct, *H. maculicauda* Pelz. would become a synonym of *H. melanopogon*, since the specimens *a—d* of Selater's list turn out to belong to the former species, all having broad white tail-ends and a large concealed white interscapular blotch! A glance at the original description of *H. melanopogon*, however, shows that Dr. Selater, in the first place, describes a male with the throat black, while the ♂ juv. from Chamicuroos is in the garb of the female—viz. under parts white with olive-grey mottlings on the foreneck! Furthermore, no mention is made of the conspicuous white dorsal patch (characteristic of *H. maculicauda*), and the terms "Cauda nigra rectricibus omnibus **anguste** albo terminatis" apply also much better to *H. melanopogon* auct. Although Mr. Selater states: "I have two specimens of this species in my own collection," he unfortunately does not say where they come from; but on turning to his *Cat. of Amer. Birds*, 1862, p. 188, we find the following entry: "*a*. Guiana: type of the species, as described *loc.*" This very specimen is still in the British Museum (*j* of Selater's list, *Cat. Birds* xv. p. 291), and bears on the back of its label a note from Dr. Selater's hand, "No. 1151, *a* of *Cat.*"

Now this skin answers exactly to the original diagnosis of the male as given *loc.* p. 130, and has, indeed, the middle of the abdomen whitish ("ventre medio albicante"), which is a sign of immaturity. It is thus evident that the specimen *j* is the **real type** of *H. melanopogon*, and that the skin from Chamicuroos, "*c*" (which, as shown above, belongs to *H. maculicauda*) was erroneously attributed to the same species by Selater in *P. Z. S.* 1857, p. 130, and subsequently. The nomenclature of *H. melanopogon* and *H. maculicauda* thus remains as it stood hitherto. Their range is as follows:

a. H. melanopogon Sel.

Type locality: Guiana.

Hub. Cayenne: Rio Approuague* (Cherrie coll. in Tring Museum), Oyapoc*

* Specimens examined by me.

♂ ad. in British Museum), Camopi * (Geay coll.—♂ ♀ in Paris Museum). British Guiana: Camaeusa,* Bartica Grove,* Rio Rupunni,* Ourumee * (H. Whitely coll.—Mus. Brit., Berlepsch, and Tring). Venezuela: Orinoco Valley * (Altagracia, Caicara, Quirilana de Caicara, Perico, Maipures, Mundaipo—Cherrie coll.), Aura River * (La Union, Niare, Suapure—André and Klages coll.—Mus. Tring). North Brazil: Mexiana Island * (Wallace—Mus. Brit.), Poiaros,* Marabitanas * and Rio Amajau, all on the Rio Negro (Natterer coll.—Mus. Vienna); Borba * and Humaytha,* Rio Malcira (Hoffmanns).

b. H. maculicauda Pelz.

Hypocnemis maculicauda Pelzel, *Zur Ornith. Brasil*, ii. p. 89, 164 (1868—Villa Maria, Engenho do Gama and Matto Grosso, West Brazil); Selater, *Cat. Birds Brit. Mus.* xv. 1890, p. 291 (Matto Grosso, Nauta); Ihering, *Revis. Mus. Paul.* vi. 1904 (publ. 1905), p. 442 (Juruá).

H. melanopogon (nec Selater) Selater, *P. Z. S.* 1857, p. 13 (part.: specimen ex Chamicuros); Selater & Salvia, *P. Z. S.* 1866, p. 186 (Cashaboya, Ucayali); idem, *l.c.* 1873, p. 276 (Cashiboya); Selater, *Cat. Birds Brit. Mus.* xv. 1890, p. 290 (part. specimens *a-d*: Rio Javari, Elvira, Chamicuros, Cashaboya).

Type locality: Villa Maria, Matto Grosso, West Brazil.

Hab. West Brazil: Villa Maria,* Engenho do Gama,* Villa Bella do Matto Grosso,* Matto Grosso (Natterer coll.—Nine specimens in Vienna Museum), Rio Juruá * (Garbe coll.—Mus. Paulist.); Olivença,* Rio Solimões (Hahnel coll.—Mus. Berlepsch). Eastern Pern: Nauta,* Elvira * (Hauxwell coll.—Mus. Brit.), Chamicuros * (Hauxwell coll.—Mus. Brit.), Cashaboya,* Rio Ucayali (E. Bartlett coll.—Mus. Brit.); Rio Javari * (Bates coll.—Mus. Brit.).

99. *Myrmotherula pygmaea* (Gm.).

Muscicapa pygmaea Gmelin, *Syst. Nat.* 1, ii. p. 933 (1788—ex Daubenton, *Pl. enl.* 831, fig. 2—Cayenne).

No. 1383. ♂ imm., Borba, 23. xi. 06. "Iris dark brown, feet plumbeous, bill grey."

Nos. 915, 969, 1073. ♀ ♀ ad., ♀ juv., Humaytha, 13. 21. vii., 11. viii. 06. "Iris brown, feet green, bill black or greyish black."

Slightly larger than Cayenne specimens, but otherwise not different.

100. *Myrmotherula surinamensis multostriata* Sel.

Cf. suprà p. 68.

No. 978. ♂ ad., Humaytha, 23. vii. 06. "Iris brown, feet black, bill black, below grey."—Wing 48: tail $23\frac{1}{2}$; bill 14 mm.

Agrees perfectly with the type from the Ucayali River in the British Museum.

The characters of this form have been pointed out by Ménégauz and Hellmayr in the *Bull. Soc. Philomat. Paris*, 1906, pp. 48-49. Its distribution thus far known is as follows:

Eastern Pern: Ucayali River (Bartlett), Samiria (Hauxwell), Pebas, Nauta (Castellan and Deville). N.W. Brazil: Humaytha, Rio Malcira (Hoffmanns), Rio Juruá (Garbe), Tefé, Rio Solimões (Hoffmanns).

I hope to discuss the geographical races of *M. surinamensis* and its allies more fully on another occasion.

* Specimens examined by me.

101. *Myrmotherula hauxwelli hauxwelli* (Scl.).

Cf. supra, p. 68.

Nos. 1075, 1171. ♂ ad., ♂ fere ad., Humaytha, 11, 26. viii. 06. "Iris brown, feet plumbeous, bill black."—Wing 52, 53; tail 25; bill 14 mm.

Nos. 1047, 1055, 1083. ♀ ♀ ad., Humaytha, 4, 8, 14. viii. 06. "Iris brown, feet grey, bill greyish black."—Wing 51—52; tail 24; bill 14—14½ mm.

Identical with specimens from Tefé, Rio Solimões, and Eastern Peru. All have a distinct, concealed white interscapular patch.

102. *Myrmotherula axillaris axillaris* (Vieill.).

Cf. supra, p. 69; Pelzeln, *Orn. Bras.* ii. 1868, p. 82 (Borba).

Nos. 1052, 1156. ♂♂ ad., Humaytha, 5, 24. viii. 06. "Iris brown, feet and bill black."

No. 952. ♀ ad., Humaytha, 19, vii. 06. "Iris brown, feet blue-black, bill black."

Nos. 1367, 1426. ♂♂ ad., Borba, 19, 30. xi. 06. "Iris brown, bill and feet black."

No. 1428. ♀ ad., Borba, 30. xi. 06. "Iris grey-brown, feet plumbeous, bill black, below grey."

There is no appreciable difference between the males, but the female from Humaytha is very much darker on the lower parts, deep buff-yellow (Ridgw. vi. 19), while that from Borba agrees with a series from Cayenne. The colour of the under-surface, however, is very variable in specimens from the same locality, and therefore not a reliable character.

103. *Myrmotherula longipennis* Pelz.

Cf. supra, p. 69.

No. 1333. ♂ ad., Borba, 14. xi. 06. "Iris brown, feet greyish brown, bill black."—Wing 63; tail 36; bill 15½ mm.

Agrees in coloration with the adult male from Tefé discussed *loc.*, but is rather larger, the wing being fully as long as in a specimen from Cayenne.

104. *Myrmotherula garbei* Ib. (?)

Myrmotherula garbei Ihering, *Revis. Mus. Paul.* vi. 1904, p. 441, pl. xv. fig. 1 (1905—Rio Juruá).

No. 996. ♂ ad., Humaytha, 27. viii. 06. "Iris brown, feet and bill black."—Wing 50; tail 28; bill 13½ mm.

Differs from the figure of the type and from a detailed description in my note-book by being rather smaller and by having the upper tail-coverts uniform cinereous, not tipped with black. Besides, the feathers on the sides of the chest are mostly cinereous, with a broad black subapical spot, which, however, is completely hidden by the cinereous tips; the rectrices uniform dark plumbeous, and the quills distinctly edged with pure white along the inner web. However, I do not lay much stress on the last-named character, as it is very variable in a series of the allied *M. longipennis*.

Whether referable to *M. garbei* or not, the bird from Humaytha is quite distinct from *M. longipennis* and *M. minor*.

105. *Myrmotherula cinereiventris* Sel. & Salv.

Myrmotherula cinereiventris Selater & Salvin, *P. Z. S.* 1867. p. 756 (Cayenne, Surinam, etc.—type ex Cayenne, cf. *Cat. B. Brit. Mus.* xv. p. 244).

No. 1414. ♂ ad., Borba, 28. xi. 06. "Iris brownish grey, feet plumbeous, bill black."—Wing 51; tail 25; bill 14½ mm.

Agrees in the clear cinereous coloration with specimens from Cayenne and Pará, but lacks the black subapical band on the rectrices. In the middle of the lower throat there are a few minute, blackish spots to be seen, thus indicating the close relation to *M. menetriesii*, to which I have called attention in my paper on the birds sent by Mr. Hoffmanns from Tefé (*suprà*, p. 69).

106. *Myrmotherula assimilis* Pelz.

Myrmotherula assimilis Pelzeln, *Zur Ornith. Bras.* ii. p. 152 (1868.—Rio Amajau, a tributary of the Rio Negro; Poiares, Rio Negro; Borba, R. Madeira); Hellmayr, *Verhandl. zool. bot. Gesellsch. Wien*, 1903, p. 212.

Nos. 924, 917. ♂ ad., ♂ imm., Humaytha, 13, 14. vii. 06. "Iris brown, feet plumbeous, bill black."—Wing 53, 52; tail 30½; bill 14 mm.

Nos. 916, 934. ♀♀ ad., Humaytha, 13, 16. vii. 06. "Iris brown, feet plumbeous, bill black."—Wing 53; tail 30; bill 14 mm.

As I have pointed out *loc.*, this species, though united to *M. cinereiventris* by Mr. Selater, is quite distinct, and differs at a glance by the presence in both sexes of a large, concealed white dorsal patch. Besides this, the males may immediately be recognised by the colour of the upper wing-coverts, which are dull plumbeous with narrow white apical margins to the median and greater series. In *M. cinereiventris* the lesser and median coverts are black tipped with white, and the greater ones clear cinereous with a white tip, which is preceded on the outer web by a distinct black subapical spot. The females of *M. assimilis* may also be distinguished from those of *M. cinereiventris* by their much purer grey upper parts and by the median and greater upper wing-coverts being distinctly edged with clear buff.

I have examined specimens from the following localities:

North Brazil: Rio Negro below Poiares (Natterer—♂ ad. in Brit. Mus.); Rio Amajau, tributary of the lower Rio Negro (Natterer—2 ♂♂, 2 ♀♀ in Vienna Mus.); Santarem, Lower Amazons (Garbe—1 ♀ ad. in Tring Museum); Borba, Rio Madeira (Natterer—1 ♀ ad. in Brit. Mus.); Humaytha (Hoffmanns in Tring Mus.). North Peru: Nauta (Hauxwell—2 ♂♂ ad., 2 ♂♂ juv., 1 ♀ ad. in Mus. H. v. Berlepsch).

107. *Myrmotherula haematonota* (Sel.).

Cf. *suprà*, p. 70; Pelzeln, *Zur Ornith. Bras.* ii. 1868. p. 81 (Borba).

Nos. 1396, 1415. ♂♂ imm., Borba, 25, 28. xi. 06. "Iris yellow, feet grey, bill black."—Wing 52, 51½; tail 44, 41½; bill 14 mm.

No. 1438. ♀ ad., Borba, 4. xii. 06. "Iris yellow, feet brownish grey, bill black."—Wing 51; tail 42; bill 14½ mm.

Nos. 942, 1049, 1082. ♂ juv., ♂♂ vix ad., Humaytha, 17. vii., 4, 14. viii. 06. "Iris yellow, feet grey, bill black."—Wing 51—52; tail 36, 37, 40; bill 13½, 14 mm.

Nos. 1048, 1056. ♀ ad., ♀ juv., Humaytha.—Wing 52, 51; tail 39; bill 14 mm.

Two of the males and the two females from Humaytha have the whole back uniform chestnut rufous, like specimens from the Orinoco, Caura, etc., in the Tring Museum, while in No. 942 and in the skins from Borba there is only on the upper back a limited area of a paler, more cinnamon rufous shade to be seen.

The female from Borba agrees perfectly with others from the Orinoco district, the throat being uniform ochraceous, breast and abdomen of a rather bright ochreous or buffy brown. Those from Humaytha, on the other hand, are decidedly paler and duller, less ochreous, on the belly, resembling one from Tefé. In No. 1048, as well as in several females from Eastern Peru, Rio Jurná, Tefé, etc., the throat is light buffy and scarcely freckled with dusky, while No. 1056 has large buffy-white stripes with distinct black lateral edges.

108. *Anoplops* * *salvini* (Berl.).

Pithys salvini Berlepsch, *Journ. f. Ornith.*, 1901, p. 98 (San Mateo, North Bolivia).
Gymnopithys salvini Hellmayr, *suprà*, p. 71.

Nos. 1102, 1103, 1094, 1111. ♂♂ ad., Humaytha, 17, 18. viii. 06. "Iris brown, feet plumbeous, bill black."—Wing 72—75; tail 45—49; tars. 23—25½; bill 17—18 mm.

Nos. 991, 1180. ♂♂ imm., Humaytha, 26. vii., 28. viii. 06. "Iris brown, feet plumbeous, bill black."—Wing 74, 75; tail 47, 49; tars. 24, 25½; bill 18 mm.

Nos. 1169, 992. ♂♂ juv., Humaytha, 26. vii., 25. viii. 06. "Iris brown, feet plumbeous, bill black."—Wing 74, 72; tail 49, 46; tars. 25, 24; bill 17½, 18½ mm.

Nos. 989, 1100, 1144, 1145, 1161, 1162, 1178. ♀♀ ad. and imm., Humaytha, 26. vii., 17, 23, 25, 28. viii. 06. "Iris brown, feet plumbeous, bill black, below pale greyish."—Wing 71½—75½; tail 45—47; tars. 24—25; bill 17—18 mm.

The adult males agree perfectly with the one from Tefé previously secured by Mr. Hoffmanns. Most of the secondaries show a very narrow whitish apical margin; the upper wing-coverts are uniform schistaceous, but in No. 1102 a single feather of the greater series is edged with white at the tip. My assumption that there is a transitional plumage in this species thus falls to the ground. In one specimen (No. 1102) both webs of the two outer rectrices are barred with white, while in the others the white cross-lines are confined to the inner web.

The series of females exhibits a certain amount of individual variation. No. 1100 is perfectly similar to those from Tefé, described above on p. 72. The six other examples agree in general coloration, but differ by the restriction of the cross-markings on the back. Nos. 1162 and 1144 possess the pale cinnamonaceous dorsal patch as well as the cinnamonaceous cross-bars in the middle of the mantle, but the blackish subterminal bands are only slightly indicated. In Nos. 1145, 1161, 1178, and 989 the back appears nearly uniform, for only a few feathers have an obsolete, very narrow, pale cinnamon margin, followed by a hardly perceptible dusky line; the bases of the interseapular feathers

* *Gymnopithys* Bp. (*Ann. Sci. nat. Zool.* (4) 1, 1854, p. 132) is a pure *nomen nudum*, no diagnosis being given nor any species mentioned. The next available generic name is *Anoplops* Cab. & Heine. (*Mus. Heinean.* ii, July 1859, p. 9, type: *Turdus rufigula* Bodl.). I quite agree with Salvin and Godman (*Biol. Centr. Amer.* ii, 1892, p. 221) as to the limits of the genera *Pithys* and *Anoplops* (*Gymnopithys*).

show scarcely any trace of cinnamon. The under mandible of the females is always whitish.

No. 992 is a young male in change of plumage, pileum, mantle and foreneck being covered with the fluffy, dull mummy-brown feathers of the nestling plumage. There is scarcely an indication of the white supraloral streak.

109. **Anoplops melanosticta* (Scl. & Salv.).

(Plate III. fig. 1.)

Pitohys melanosticta Selater & Salvin, P. Z. S. 1880. p. 160 (Sarayaçu, East Ecuador).

Nos. 1099, 1113. ♂ ad., ♂ fere ad., Humaytha, 17, 18. viii. 06. "Iris reddish brown or dark red, feet blackish brown, bill black."—Wing 82, 81; tail 55, 54; tars. 27, 26; bill 19 $\frac{3}{4}$, 19 mm.

No. 1200. ♂ imm., Humaytha, 31. viii. 06. "Iris red-brown, feet plumbeous, bill blackish grey."—Wing 79; tail 53; tars. 27 $\frac{1}{2}$; bill 18 $\frac{1}{2}$ mm.

Nos. 1079, 1112. ♀ ad., ♀ imm., Humaytha, 18, 28. viii. 06. "Iris brown or dark red, feet black, bill blackish, below grey."—Wing 79, 77; tail 54, 53; tars. 27, 26; bill 18 $\frac{1}{2}$ mm.

In all specimens "a wide naked space round the eye light blue."

♂ ad. Feathers of the forehead and crown dirty whitish grey, with the webs dissolved, the barbs being loose and distinctly individualised; those on the occiput somewhat lengthened, forming a loose, pendent crest. Shafts of the feathers of the pileum whitish at the base, dusky on their apical portion. The remaining upper parts uniform russet, brighter on the upper wing-coverts and almost light chestnut-brown on the outer webs of the quills; rump and upper tail-coverts rather lighter, more tawny olive, the latter with a narrow, irregular black shaft-streak. Rectrices blackish, the central pair deep russet-brown on its basal portion; the remaining ones broadly margined with the same along the outer web. Cheeks, malar region, ear-coverts, lores and a broad superciliary stripe deep black, this colour thus surrounding the naked eye-ring. Throat mottled with blackish and dull olive-brown; rest of the under parts dull raw umber-brown, slightly tinged with rufescent on the flanks and under tail-coverts, each of the latter with one or two black cross-bars and a narrow whitish or buffy apical margin. Axillaries and under wing-coverts pale olive-brown; inner webs of the quills distinctly edged with pale cinnamonaceous. Feet black. Upper mandible black, lower one horny whitish except the mandibular rami, which are likewise black.

The other adult male agrees exactly with the above description, while an immature male has the upper and under tail-coverts uniform brown, and is rather more rufescent on the lower parts.

♀ ad. Differs from the males in having the ground-colour above clearer, more tawny olive, and by the feathers of the upper back, the wing-coverts as well as the innermost secondaries being crossed by a very distinct black subterminal bar, which is followed by a narrower, pale cinnamonaceous apical margin.

In an evidently immature female these cinnamonaceous edges are brighter and more distinct, the wing-coverts more rufescent brown, with the blackish subapical bands on the greater series less pronounced, and the pileum is more brownish. *A. melanosticta* was hitherto known only from a single unsexed specimen, obtained by E. Buckley at a place called Sarayaçu, in East Ecuador. The type agrees with

the females from Humaytha in general coloration, but the pileum and crest are even browner than in the younger bird, the belly is much darker, deep sepia brown with a slight rufescent tinge, and the black bars on the interseapulium and upper wing-coverts are broader. Whether these differences are of any importance cannot be decided until more specimens of both sexes from Ecuador come to hand.

New to the Brazilian fauna.

110. *Anoplops hoffmannsi* Hellm.

(Plate III, figs. 2, 3.)

Anoplops hoffmannsi Hellmayr, *Bull. Brit. Orn. Cl.* xix. (Feb. 1907), p. 52 (Borba, Rio Madeira).

No. 1417. ♂ ad., Borba, 29. xi. 06. "Iris brown, feet and bill black; naked ring round the eye light yellowish green."—Wing $81\frac{1}{2}$; tail 54; tars. 27; bill $18\frac{1}{2}$ mm. *Type of the species.*

No. 1431. ♀ ad., Borba, 2. xii. 06. "Iris light yellow, feet bluish black, bill black, below grey; naked ring round the eye light yellowish green."—Wing 81; tail 53; tars. $26\frac{1}{2}$; bill $17\frac{1}{2}$ mm.

Feathers of the forehead and lores rather stiff and erect, those of the pileum much lengthened, narrow, decurved, and forming a distinct, loose crest. A broad naked space round the eye pale yellow in the skins. Tail rounded, the outermost rectrix being about 4 to 6 mm. shorter than the longest.

♂ ad. Forehead, lores and occiput deep black; feathers of the crest black, dull chestnut at the concealed base. Back, lesser and median upper wing-coverts pale dull olive; upper tail-coverts and greater wing-coverts rufescent olive-brown. Quills dasky, bright russet on the outer webs; innermost secondaries rufescent olive-brown. Tail-feathers dark brown, slightly more rufescent along the outer webs. Cheeks, malar region, throat and foreneck pure white; rest of the under-surface dull slaty, abdomen and sides of the breast washed with olive brownish. Under tail-coverts pale olive-brown, with a narrow whitish apical margin. Axillaries and under wing-coverts sooty-brown; inner webs of the remiges broadly edged with clear cinnamon. Bill and feet black.

♀ ad. Differs in having the forehead and crest dark chestnut, the shaft of the feathers alone being blackish. The back is bright olive-brown, the wings and tail much more rufescent brown than in the male. The feathers of the upper back as well as the wing-coverts are crossed by a broad black subterminal bar followed by a narrow cinnamonaceous apical margin. Cheeks, malar region, throat and foreneck white, as in the male. Chest and middle of the breast ochreous, broadly banded with black (two black bars on each feather); sides of the breast and abdomen uniform warm olive-brown; under tail-coverts light olive-brown, with several alternative blackish and ochreous cross-bands. Axillaries light olive-brown; under wing-coverts tawny, irregularly barred with blackish. The three innermost secondaries show a distinct black subterminal bar and an obsolete buff apical margin. Bill black, lower mandible whitish.

This remarkable new bird, although aberrant in coloration, is certainly congeneric with *A. rufigula* (Bodd.), the form of wing and tail as well as the shape of the nostrils (a narrow, longitudinal, slit-like opening, overhung by a broad, rather thickened membrane) being perfectly similar in the two species. It differs, however, by the rather stiffened, erect frontal feathers and the distinct crest, in which respect

it resembles *A. cristata* (Pelz.).* In structural characters it agrees exactly with the description of *Rhegmatorhina gymnops* Ridgw.† a species which I have not yet met with.

111. *Phlegopsis nigromaculata nigromaculata* (Lafr. & D'Orb.).

Cf. *supra*, p. 73.

No. 1043. ♂ ad., Humaytha, 3. viii. 06. "Iris brown, feet and bill black."—Wing $95\frac{1}{2}$; tail 66; bill $20\frac{1}{2}$ mm.

Nos. 1024, 1044. ♀♀ ad., Humaytha, 31. vii., 3. viii. 06. "Iris brown, feet and bill black. Naked ring round the eye yellowish red."—Wing 90, 89; tail 63; bill $20\frac{1}{2}$, $19\frac{1}{2}$ mm.

These specimens agree exactly with those from Teflé. The back is covered with large, oval black spots, very narrowly margined with pale brownish at the tip; the upper wing-coverts have broad, black shaft-stripes which reach almost to the base of the feathers, and the inner secondaries likewise show broad, black subapical spots surrounded by a distinct cinnamonaceous apical margin. There are no white spots on the nape in any of the skins.

In Nos. 1043 and 1044 the ground-colour of the back is of the same shade as in the Teflé birds, pale olive-brown with a greyish "cast"; while No. 1024 is much brighter above, more yellowish olive, thereby approaching *P. n. bowmani*.

112. *Phlegopsis nigromaculata bowmani* Ridgw.

Phlegopsis bowmani Ridgway. *Proc. U.S. Nat. Mus.* x. 1887. p. 524 (1888.—Diamantina near Santarem, Lower Amazons).

P. nigromaculata (nec Lafr. & D'Orb.) Pelzela, *Orn. Brasil.* ii. 1868. p. 90 (part.: Borba).

Nos. 1385, 1432. ♀♀ ad., Borba, 23. xi., 2. xii. 06. "Iris dark brown, feet and bill black. Bare space round the eye bright red."—Wing $85\frac{1}{2}$, $86\frac{1}{2}$; tail 58, 60; bill 19 mm.

These specimens, which answer well to Ridgway's diagnosis, differ from the preceding ones by their smaller size, and by the shape of the black markings on the upper parts. These are much shorter and broader, thus producing a transverse pattern, while they are decidedly longitudinal in *P. n. nigromaculata*. The ground-colour of the back as well as that of the lesser and median wing-coverts is much brighter, a fine golden-yellowish olive. In both specimens there are several small black-and-white spots on the sides of the nape.

P. n. nigromaculata, *P. n. bowmani*, and *P. n. paracensis* Hellm. are undoubtedly geographical representatives, and therefore more properly designated trinomially. Their range is as follows:

a. P. nigromaculata nigromaculata (Lafr. & D'Orb.).

North Bolivia: Guarayos (D'Orbigny), San Mateo (Garlepp, *Mus.* II. v. Berlepsch). Eastern Peru: Rio Ucayali (Hauxwell, Garlepp). N.W. Brazil: Teflé (Hoffmanns), Rio Jurua (Garbe), Humaytha, west bank of the upper Rio Madeira (Hoffmanns).‡

* *Pithys cristata* Pelzela, *Zur Ornith. Bras.* ii. 1868. p. 166 (Rio Vaupé, upper Rio Negro).

† *Proc. U.S. Nat. Mus.* x. 1887. p. 525 (1888.—Diamantina, near Santarem, Lower Amazons).

‡ The locality Rio Napo Eastern Ecuador, does not rest on reliable authority.

b. P. nigromaculata bowmani Ridgw.

Lower Amazons : Diamantina, near Santarem (Riker) ; Borba, on the east bank of the lower Rio Madeira (Natterer, Hoffmanns).

c. P. nigromaculata paraensis Hellm.

N.E. Brazil : District of Pará (Natterer, Robert, Wallace, Snehilage).

Cf. also *Ornith. Monatsber.* xii. 1904. pp. 53-5.

113. *Phlegopsis erythropterus* (Gould).

Formicarius erythropterus Gould, *Ann. Mag. Nat. Hist.* (2) xv. p. 345, descr. ♂ vix ad. (May 1855.

—“Interior of Demerara”—locality most probably erroneous!).

Formicarius triccittatus Sclater, *P. Z. S.* 1857. p. 46, descr. ♀ (“in ripis fl. Amazonum”). Cf. Hellmayr, *Verhandl. zool. botan. Gesellsch. Wien*, 1903. p. 215.

No. 1159. ♂ ad., Humaytha, 25. viii. 06. “Iris brown, feet and bill black, bare space round the eye red.”—Wing 95 ; tail 67 ; tars. 32 mm. ; bill damaged.

This is apparently the first perfectly adult male. Both specimens in the British Museum, the type of *P. erythropterus* and that from Sarayaçu, East Ecuador, are immature, having the upper tail-coverts black banded with chestnut-rufous, while they are uniform deep black in the Humaytha bird. Otherwise the three skins are identical.

As I have pointed out *loc.*, *P. erythroptera* and *P. triccittata* are merely male and female of a single species. This is proved by a young male (in transitional plumage) from the Rio Itanna, where it was shot by the late Dr. Natterer, July 11, 1831, together with an adult female, which is indistinguishable from the type of *P. triccittatus*. I am greatly indebted to my friend Dr. Lorenz, of Vienna, for the loan of these valuable specimens.

114. *Phlegopsis borbae* Hellm.

Phlegopsis borbae Hellmayr, *Bull. Brit. Orn. Cl.* xix. (Feb. 1907) p. 53 (Borba).

No. 1421. ♂ imm., Borba, 29. xi. 06. “Iris yellowish brown, feet and bill black ; wide naked space round the eye light greyish yellow.”—Wing 89 ; tail 59 ; tars. 30 ; bill 22 mm.—*Type of species.*

Top of the head, nape, sides of the neck, cheeks, and ear-coverts chestnut-rufous ; feathers on the forehead, especially the lateral ones, somewhat elongated and erect ; lores white, forming a conspicuous patch in front of the eye ; eyelid with black feathers on both the upper and under margin, those on the former rather lengthened and somewhat stiff ; along the upper border of the naked eye-ring a narrow, but very distinct black superciliary line. Back russet, rather more olive-brown on the rump and upper tail-coverts ; feathers of the upper back with slight blackish apical edges. Wing-coverts bright “burnt-umber” (Ridgw. iii. 8), the innermost of the greater series with a narrow blackish apical margin ; quills “burnt-umber,” dusky on the inner web. Tail black. Throat, foreneck and chest ferruginous, rather duller on the latter : in the middle of the foreneck a few obsolete olive-blackish dots ; the ferruginous colour is bordered below by an irregular blackish transverse band across the breast ; rest of underparts olive-brown with a faint rufescent tinge ; middle of the breast somewhat mottled with greyish. Inner webs of the remiges distinctly edged with pinkish cinnamon.

Mr. Hoffmanns unfortunately obtained only a single immature example of this apparently distinct species. In general appearance it resembles the female of *P. erythropterus* (Gould) = *P. trivittatus* (Scl.), but has a much shorter tail and a stronger bill. The erect feathers on the forehead and lores are much longer. Besides, there are several striking differences in colour. In *P. erythropterus* the whole back, including the upper tail-coverts, is deep chestnut-brown, the lores and the feathering of the eyelids are chestnut-rufous, like the crown; there is no black superciliary line; all the lower surface is bright chestnut-rufous; the upper wing-coverts and inner secondaries have broad white apical margins, and all the remiges (except the "tertiaries" and the first primary) show a distinct white streak in the middle of the outer web, the wing thus being thrice-banded.

115. *Formicarius colma* (Boddaert).

Formicarius Colma Boddaert, *Tabl. Pl. enl.* p. 44 (1783.—based on "Le Colma, de Cayenne"; Daubenton, *Pl. enl.* 703. fig. 1. = ♀ ad. !—Cayenne).
F. nigrifrons Gould, *Ann. Mag. Nat. Hist.* (2) xv. p. 344 (May 1855.—Chamicuro, East Peru).
F. nigrifrons glaucopectus Ridgway, *Proc. U.S. Mus.* xvi. 1893. p. 673 (1891.—British Guiana).

Nos. 1079, 1170. ♂ ad. (♂) imm., Humaytha, 12, 26. viii. 06. "Iris dark brown, bill and feet black."—Wing 84, 87½; tail 50½; bill 20, 19 mm.

Both specimens have a broad frontal band of glossy black, and are practically identical with the type of *F. nigrifrons* from Chamicuro (Brit. Mus.). On examining more than twenty adult males from Cayenne, British Guiana, and Upper Amazonia (West Brazil, Peru, East Ecuador, and Bogotá coll.), I fail to see any constant differences by which *F. colma* and *F. nigrifrons* could be separated, though, as a rule, skins from Amazonia have a smaller bill, and the black of the throat rather deeper and extended over the chest. So many specimens, however, are indistinguishable that I cannot—for the present at least—recognise more than one form.

I have pointed out in my revision of Spix's types (pp. 619-20) that *F. colma* of Boddaert is the earliest name for the black-fronted species. The figure in Daubenton's work upon which it is based represents the white-throated female.

116. *Formicarius ruficeps amazonicus* Hellm.

Formicarius ruficeps amazonicus Hellmayr, *Orn. Monatsber.* x. p. 34 (1902.—Borba, Rio Madeira).
Formicarius ruficeps Hellmayr, *Nov. Zool.* xiii. 1906. p. 373 (Pará); Pelzeln, *Zur Ornith. Bras.* ii. 1868. p. 90 (Borba).

Nos. 1441, 1409, 1425. ♂♂ ad., ♂ imm., Borba, 27, 30. xi., 4. xii. 06. "Iris dark brown, feet grey-brown, bill black."—Wing 86, 84, 86; tail 52; bill 19—21 mm.

In my report on the birds collected by Mr. Hoffmanns in the district of Pará (*loc.*) I somewhat hastily declared *F. r. amazonicus* to be inseparable from true *F. r. ruficeps*, as the alleged colour differences proved to be variable. However, on re-examining our material, which has since been considerably augmented, I find that the birds from Pará and the Rio Madeira differ from the South Brazilian ones by their decidedly shorter tails, and the northern form is, after all, to be upheld.

The range of the two races is as follows:

a. F. v. ruficeps (Spix).

S.E. Brazil from Bahia south to Sta. Catharina: Bahia (specimens in Tring, Vienna, etc.); Rio de Janeiro: Neu Freiburg (Burmeister), Cantagallo (Euler), Rio (Ménétries); Espirito Santo: Mucuri (Wied); S. Paulo; Iguapé (Krone), S. Sebastião (Révész coll.—Mus. Tring), Ubatuba (Tring); Santa Catharina (♀ ad. in Mus. H. v. Berlepsch.).

Measurements:

	Wing.	Tail.
Mus. Munich. Adult, Brazil. Type of species.	90	57 mm.
Four ♂♂ ad., S. Paulo	85—89	55—57 mm.
Two ♀♀ ad., S. Paulo	86, 84	57, 56 mm.
Three ♂♂, Bahia	85½—88	55—57 mm.

b. F. v. amazonicus Hellm.

North and Western Brazil: Pará (Natterer); Igarapé-Assú (Robert), Prata (Hoffmanns); Borba on the Rio Madeira (Natterer, Hoffmanns); Villa Bella de Mattogrosso, on the Rio Guaporé (Natterer).

Measurements:

	Wing.	Tail.
Two ♂♂ ad., Pará	82, 84	50
One ♀ ad., Pará	85	49
Three ♂♂, Borba	84—86	52

117. *Formicarius analis analis* (Lafr. & D'Orb.).

Myiothera analis Lafresnaye & D'Orbigny, *Syn. Av. i.* in *Mus. Zool.* 1837, cl. ii. p. 14 (Viracarès and Chiquitos, Eastern Bolivia); Pelzeln, *Zur Ornith. Brasil.* ii. 1868, p. 90 (Salto do Girão, Borba).

Nos. 957, 968, 1006, 1031. ♂♂ ad. and imm., Humaytha, 19, 21, 27. vii., 1. viii. 06. "Iris brown, feet greyish brown, bill black."—Wing 90—94; tail 56—57½; bill 20½—21 mm.

Nos. 941, 1037. ♀♀, Humaytha, 17. vii., 2. viii. 06. "Iris brown, bill black."—Wing 94, 95; tail 56, 60; bill 21 mm.

No. 1348. ♀ ad., Borba, 17. xi. 06. Soft parts as above.—Wing 91; tail 55; bill 21 mm.

Two males and one female from Humaytha have the sides of the neck dull greyish or olive-brown, like specimens from Tefé, Yquitos and Sarayacu, Peru, and agree well with the original description of *M. analis*. In No. 1006 there is just a faint vinaceous tinge to be seen on the posterior portion of the ear-coverts, while Nos. 968 and 941, as well as the female from Borba, have the sides of the neck decidedly pale vinaceous-cinnamon (Ridgw. iv. 15). The same variation is to be observed in two specimens from Pará: one in the Paris Museum, obtained by Mons. Baraquin, has the sides of the neck greyish brown, like several skins in the Humaytha series; the other in the British Museum, collected by Dr. Wallace, has them clear vinaceous-cinnamon, like the Borba bird!

The examples from Humaytha, Tefé, etc., are bistre brown, those from Borba and Pará rather darker and more rufescent brown on the upper parts.

Skins from British Guiana and Cayenne, *F. a. crissalis* (Cab.), however, differ very conspicuously from all the Brazilian ones by having the sides of the neck

much brighter and deeper vinaceous, and by their larger beak. The upper surface is exactly of the same tone as in the Borba and Pará specimens.

There is no constant difference between *F. a. analis* and *F. a. crissalis* in the development of the white loreal spot.

The range of the two forms is accordingly as follows :

(a) *F. a. analis* (Laf. & D'Orb.). Eastern Bolivia : Yuracarès, Chiquitos (D'Orbigny), Ynugas (Rusby). Peru : Chauchamayo (Schunke coll.—Mus. Tring.), Sarayacu on the Ucayali (Whitely), Chyavetas, Xeberos (Bartlett), Inambo (Stolzmann), Shanusi, near Yurimagnas (Garlepp), Iquitos (Whitely). Brazil : Salto do Girão (Natterer) and Borba, Rio Madeira (Natterer, Hoffmanns) ; Tefé Rio Solimões (Hoffmanns) ; Pará (Wallace, Baraquim).*

(b) *F. a. crissalis* (C'ab.).

Myrmornis crissalis Cabanis, *Journ. f. Ornith.* 1861. p. 96. (Roraima, Brit. Guiana).—Cayenne ; British Guiana : Roraima (Schomburgk), Camacusa, Rio Carimang, Rio Takutú (Whitely).

118. *Corythopsis torquata anthoides* (Pach.).

Cf. *Nov. Zool.* xii. 1902. p. 293.

Corythopsis anthoides Pelzela, *Zur Ornith. Brasil.* ii. 1868. p. 92 (Borba).

No. 1187. ♀ ad., Humaytha, 30. viii. 06. " Iris brown, feet grey, bill black, below yellow."—Wing 63 ; tail 47 ; bill 14 mm.

Agrees with a female from Cayenne in having the ptilon olive-brown like the back.

119. *Threnetes leucurus* (Linn.).

Cf. *suprà*, p. 74.

No. 1009. ♂ ad., Humaytha, 28. vii. 06. " Iris black, feet greyish white, bill black, below white at the base."—Wing 65 ; tail 35½ ; bill 30 mm.

No. 1018. ♀ ad., Humaytha, 30. vii. 06. " Iris black, feet whitish yellow, bill black."—Wing 57 ; tail 33 ; bill 28 mm.

Nos. 1312, 1319. ♀ ad., ♀ juv., Paraizo, 19. 28. x. 06. " Iris black, feet yellow or pale grey, bill black."—Wing 61, 56 ; tail 35, 31½ ; bill 30 mm.

These specimens agree with those from Tefé, previously sent by Mr. Hoffmanns, the sides of the belly and, in the females, also the foreneck being distinctly washed with pinkish buff, but the middle of the breast and abdomen are pure greyish white, as in typical birds from Surinam.

In the adult ♂♂ (from Humaytha, Tefé and Surinam) before me, only the two outer pair of rectrices have black markings, while in the females the two following ones are also more or less black on their basal half. The light portions of the tail-feathers are always **pure white**.

120. *Glaucis hirsuta* (Gm.).

Cf. *Nov. Zool.* xiii. 1906 p. 374.

Nos. 1288, 1289. ♂ ♀ ad., Humaytha, 24. ix. 06. " Iris black, feet yellow, bill black, below yellowish green."

Nos. 1351, 1347. ♂ juv., ♀ imm., Borba, 17. xi. 06. " Iris black, feet greyish yellow, bill black, below yellow."

Specimens from Eastern Ecuador in the British Museum very likely represent a distinct form. Cf. Ridgway, *Proc. U.S. Mus.* xvi. p. 674.

121. *Phoethornis ochraceiventris* Hellm.

Phoethornis affinis ochraceiventris Hellmayr, *Bull. B. O. C.* xix. (Feb. 1907). p. 54 (Humaytha).

Phoethornis sp. Hellmayr, *suprà*, p. 76 (Teffé, Rio Solimões).

Phaethornis boliviensis Salvin, *Cat. Birds Brit. Mus.* xvi. 1892. p. 273 (part. specimen f.: "Brazil").

No. 1147. Adult, Humaytha, 23. viii. 06. "Iris and feet black, bill black, below red."—Wing 64; rectr. med. 72, submed. 43, ext. 27; bill 41 mm.—*Type of species.*

No. 1155. ♂ vix ad., Humaytha, 24. viii. 06. "Iris black, bill black, below red."—Wing 62; rectr. med. 70, submed. 43, ext. 26½; bill 43 mm.

No. 681. ♂ juv., Teffé, Rio Solimões, 21. v. 06. "Iris black, feet brown, bill black, below yellowish red."—Wing 64; rectr. med. 70, submed. 41, ext. 27; bill 43 mm.

Adult. Upper surface bronze green; forehead and crown dull smoky, barely glossed with greenish; feathers of the rump with a subterminal dusky bar and fringed with buff; upper tail-coverts bronze green, their apical third or fourth ochraceous buff crossed by one or two blackish bars. Upper wing-coverts dull bronze green, quills purplish black. Tail-feathers bronze green at the base which is followed by a broad blackish zone; the four outer pairs of rectrices edged with pale cinnamon on the tip, the elongated portion of the central pair pure white. Superciliary and malar stripe bright buff, lores and ear-coverts smoky black. Entire under-surface ochraceous buff (Ridgw. v. 10), purest and deepest on the abdomen; feathers of chin and throat with dark grey centres, but there is no pale median stripe on the throat; under tail-coverts ochraceous buff with an indistinct greyish shaft-stripe. Axillaries dull buffy greyish, under wing-coverts sooty black. Upper mandible and extreme tip of lower jaw black, rest of the latter bright red.

This new form is most nearly allied to *P. moorei* Lawr., of Eastern Ecuador and Peru, but differs by having the apical margins to the four outer tail-feathers clear cinnamon (instead of buff), and the under-surface deep ochraceous buff (instead of greyish buff or greyish drab). It also bears a certain likeness to *P. malaris* (Nordm.), of Cayenne, with which it agrees in size and in the strong, powerful bill; it can, however, very easily be distinguished by the ochraceous buff (instead of greyish drab) under parts, clear cinnamon (not pinkish buff) edges to the outer rectrices, and by the lack of the buff stripe along the middle of the throat.

The young male from Teffé (previously sent by Mr. Hoffmanns) and a skin in the British Museum, said to be from "Brazil" (Campbell), agree perfectly with the adults from Humaytha. *P. boliviensis* Gould, to which the latter specimen had been doubtfully referred by Salvin, differs at a glance by its much shorter, weaker bill, pale buff lower surface, a very distinct buff stripe along the middle of the throat, nearly uniform ochraceous-buff upper tail-coverts, etc. Six specimens of *P. boliviensis* (including the type) measure: wing 57—62; rectr. med. 63—70; bill 35½—37 mm.

In *Nov. Zool.* xiii. 1906. p. 374, I have shown that the name *superciliosus* cannot be employed for the species with white under tail-coverts, afterwards described as *P. fraterculus* Gould (ex Cayenne) and *P. guianensis* Bonc. (ex Demerara), and I proposed to replace it by Pelzeln's term *affinis*. Unfortunately in so doing I relied upon the so-called types of *P. affinis* from the

Rio Negro, kindly lent by the authorities of the Vienna Museum, and did not look up the original description in the *Sitzungsberichte der Akademie der Wissensch. Wien* xx. 1856. p. 157, this periodical not being in the Tring library. I have, however, lately had the opportunity of consulting this work, and find that Pelzeln did not describe Natterer's specimens from the Rio Negro, but suggested *P. affinis* as a new name for *Trochilus superciliosus* Wied,* which he considered to be different from the true *T. superciliosus* of Linnaeus. As Wied's description is undoubtedly referable to *P. pretrei* (Del. & Less.), Pelzeln's term *affinis* becomes a synonym thereof, while the species with white under tail-coverts, *P. superciliosus* anet., is to be called *P. fraterculus* Gould.

At present I am not in the position to say whether *P. moorei*, *P. ochraceiventris*, and *P. bolivianus* are more nearly related to *P. malaris* or to *P. fraterculus*, and must leave the final decision of this intricate question to future investigations.

122. **Phoethornis hispidus* (Gould).

Trochilus (?) *hispidus* Gould, *P. Z. S.* Part xiv. 1846. p. 90 (1846—"Peru?"—errore! The type was obtained in Bolivia by Bridges; cf. *Monogr. Trochilid.* i. pl. 22).

Phactornis anthophilus (nec Bourc. & Muls.) Pelzeln, *Zur Ornith. Bras.* i. 1867, fig. 27, 56 (Engenho do Gama, Western Mattogrosso).

Trochilus superciliosus (nec Linnaeus!) Lafresnaye et D'Orbigny, *Syn. Av.* ii. in *Mag. Zool.* 1838. cl. ii. p. 32 (Yungas and Guarayos, Eastern Bolivia).

Nos. 984, 976, 1011, 1050. ♂♂ ad., Humaytha, 23, 24, 28. vii., 4. viii. 06. "Iris and feet black, bill black, below yellow."—Wing 59—60; tail 62—69; bill 32—35 mm.

Nos. 977, 1081. ♀♀ ad., Humaytha, 23. vii., 12. viii. 06.—Wing 53, 54; tail 62, 57; bill 32, 33 mm.

No. 1357, juv., Borba, 17. xi. 06. "Iris and feet black, bill black, below yellowish green."

This series is perfectly identical with two topotypical Bolivian skins, collected near Salinas, Beni River, by Mr. Maxwell Stuart. The edges to the rump feathers are hoary, those of the upper tail-coverts more whitish. I examined, some years ago, the specimen obtained by Natterer, and lately I have also compared one of D'Orbigny's examples (from Guarayos) in the Paris Museum. Both belong to the present species.

P. hispidus is new to the Brazilian avifauna.

123. *Phoethornis philippii* (Bourc.).

Cf. *suprà*, p. 74.

No. 1210. ♀ ad., Humaytha, 4. ix. 06. "Iris and feet black, bill black, below red."—Wing 58; med. rectr. 61; submed. rectr. 35; extern. rectr. 26; bill 32 mm.

No. 1430. Adult, not sexed, Borba, 1. xii. 06. "Iris black, feet brown, bill black, below red."—Wing 56; med. rectr. 62; submed. rectr. 34; ext. rectr. 23; bill 31 $\frac{3}{4}$ mm.

These specimens agree perfectly with those from Tefé in coloration, but have slightly shorter wings. *P. philippii* thus appears to be widely distributed over Brazilian Amazonia, and the original locality, Bolivia, was, after all, perhaps correct. The range of the species is, according to our present knowledge, as follows:

* *Bitr. Naturg. Brasil.* 4. i. 1832. p. 116 (Bahia).

Bolivia (fide Reichenbach). N.W. Brazil: Fonteboa (G. Garlepp), Teffé on the Rio Solimões (Hoffmanns); Rio Jurná (Garbe); Borba and Humaytha, Rio Madeira (Hoffmanns).

124. *Phoethornis ruber ruber* (Linn.).

Cf. *suprà*, p. 75.

No. 998. (♂) ad., Humaytha, 27. vii. 06. "Iris black, feet yellow, bill black, yellow below."—Wing 28; rectr. med. 30, submed. 29, ext. 16; bill 22 mm.

No. 1268. ♀, Humaytha, 19. ix. 06. "Bill black, below yellowish green."—Wing 35; rectr. med. 31, submed. 27, ext. 16; bill 21½ mm.

These specimens agree with those from Teffé, Pará, etc. The black tip to the lower mandible is about 8 mm. long.

125. *Eupetomena macroura macroura* (Gm.).

Trochilus macrourus Gmelin, *Syst. Nat.* 1. i. p. 487 (1788.—"in Jamaica" ex Sloane—errore! We accept *Cayenne* as typical habitat, ex Brisson: *Orn.* iii. p. 726. tab. 36. fig. 9. where the species is well described and figured).

Eupetomena mac. prasina E. Simon, *Cat. Trochilid.* p. 9 (1897.—Guiana et Matto Grosso).

Nos. 1249, 1251, 1267. ♂ ♀ ♀ imm., Humaytha, 17. ix. 06. "Iris, feet and bill black."

These specimens are identical in coloration with a large series from Cayenne, Pará, Goyaz, Minas Geraes, and S. Paulo, the back and abdomen being pure golden green with scarcely any bluish tinge. I regret to say that Mons. Simon has renamed the typical form as *E. m. prasina*. The birds found in Bahia collections, which have the abdomen dark greenish blue and the back likewise decidedly bluish green, however, are certainly different, and, if not referable to *Ornismya hirundinacea* Less.,* must receive a new name.

126. *Florisuga mellivora* (Linn.).

Cf. *Nov. Zool.* xiii. 1906. p. 375; Pelzeln, *Zur Ornith. Bras.* i. 1867. p. 30 (Borba).

No. 1283. (♂) juv., Humaytha, 22. ix. 06.

No. 1422. ♀ ad., Borba, 29. xi. 06.

127. *Agyrtria albiventris albiventris* (Less.).

Cf. *suprà*, pp. 24, 33.

No. 1352. av. imm., Borba, 17. xi. 06. "Iris and feet black, bill black, below greyish red."—Wing 55; tail 30½; bill 20 mm.

This bird is entirely typical, the base of the four outer tail-feathers on each side and the central pair being bright bronze-green, the under tail-coverts pale brownish with broad white edges.

128. *Hylocharis sapphirina* (Gm.).

Cf. *Nov. Zool.*, xiii. 1906, p. 376

No. 1331. ♂ juv., Borba, 14. xi. 06. "Iris and feet black, bill black, below red."

* *Hist. Nat. Ois.-mouches*, pp. xii, 98, tab. 25 (1829.—Brésil).

129. *Chlorestes caeruleus* (Vieill.).

Cf. *Nor. Zool.* xiii. 1906. p. 377.

Nos. 975, 1097, 1016. ♂♂ ad., Humaytha, 22, 29. vii., 16. viii. 06. "Iris and feet black, bill black, below red."

Nos. 1019, 1064. ♀♀ ad., Humaytha, 30. vii., 9. viii. 06. Soft parts as above.

130. **Thalurania balzani* Sim.

Thalurania balzani E. Simon, *Nor. Zool.* iii. p. 259 (1896.—"Yungas de Bolivie").

Nos. 1413, 1404. ♂ vix ad., ♂ imm., Borba, 27, 28. xi. 06. "Iris, feet and bill black."—Wing 53, 51; tail 32, 32½; furca 5, 7; bill 21 mm.

These specimens agree in every respect with our series from Salinas and Reyes, Rio Beni, Northern Bolivia. The under tail-coverts are **pure white**; the golden green colour of the throat terminates in a straight line, being immediately followed by the royal purple of the belly, and the interscapular region, when viewed from in front, appears almost blackish.

This record extends the range of *T. balzani* considerably to the north-east; it is probably found all along the Rio Madeira.

The species is new to the Brazilian fauna (cf. *supra*, p. 78).

131. *Anthracothonax nigricollis* (Vieill.).

Cf. *Nor. Zool.* xiii. 1906. p. 377.

Nos. 1089, 1088. ♂♀ ad., Humaytha, 14. viii. 06. "Iris, feet and bill black."

132. *Psilomycter theresiae theresiae* (Da Silva).

Cf. *Nor. Zool.* xiii. 1906. p. 378.

Nos. 1250, 1275. ♀ ad., ♀ jnn., Humaytha, 17, 21. ix. 06. "Iris and feet black, bill black, below light red."—Wing 55; tail 33½, 31½; bill 19½, 20 mm.

Nos. 1332, 1358, 1373. ♂♂ imm., Borba, 14, 18, 20. xi. 06. "Iris black, below red."—Wing 55—57; tail 32—33; bill 19—20 mm.

All the specimens belong to the typical form, having the under tail coverts shining green, or white spotted with green. No. 1250 is quite adult, and has the tail and the lower surface uniform green, while in the others the four outer rectrices are edged with white at the tip, and there is always more or less of whitish in the middle of the abdomen.

This record extends the range of *P. t. theresiae* far to the south. The most southerly localities known hitherto were Barra do Rio Negro (Natterer) and Para (Hoffmanns).

133. *Hydropsalis torquata* (Gm.).

Cuprimulgus torquatus Gmelin, *Syst. Nat.* 1. ii. p. 1032 (1788.—ex Brisson: ex Maregrave—Eastern Brazil).

No. 1281. ♂ jr., Humaytha, from the campos, 22. ix. 06. "Iris and feet dark brown, bill black."—Wing 165 mm.

Agrees with South Brazilian specimens (Bahia, S. Paulo) except in being

rather darker grey on the back. Mr. Hoffmanns also sent us an egg which is pinkish buff, spotted with greyish lilac and vinaceous.

Humaytha is quite a new locality for this species, which was only known hitherto from South-eastern Brazil (Bahia, Rio, S. Paulo).

134. *Caprimulgus maculicaudus* (Lawr.).

Stenopsis maculicaudus Lawrence, *Ann. Lye. New York* vii. p. 459 (1862.—Pará).

No. 1287. ♀ ad., Humaytha, 24. ix. 06. "Iris, feet, and bill black."—Wing 126; tail 95; bill 10½ mm.

This bird agrees exactly with a detailed description in my note-book drawn up from a Demerara specimen in Count Berlepsch's Museum. Both are females without white spots in the tail.

Although still very rare in collections, this species appears to have a very extensive range. The types, two males, were obtained near Pará by Mr. von Schulte-Buekow, and a female was taken by the late Henry Whitely in the vicinity of Cosnipata, S.E. Pern. Count Berlepsch possesses an adult male of the well-known Bogotá make, and another specimen of the same preparation was in the Kiel Museum.* Dr. Sclater† records an adult male secured in British Guiana by Mr. Quech, and a female from the same country is, as mentioned above, in Count Berlepsch's collection. Two other females, one in the British, and one in the Liverpool Museum, are of unknown origin.

Stenopsis platura Pelz.,‡ of which I have examined the type, a young female, also appears to be referable to the present species. It differs from other females only by its rather larger size (wing 132, tail 100 mm.). Prof. von Hering,§ however, gives much greater dimensions for a male from Cachoeira, S. Paulo: wing 141, tail 114 mm.

135. *Melanerpes cruentatus* (Bodd.).

Cf. *suprà*, p. 79.

M. hirundinaceus Pelzeln, *Zur Ornith. Bras.* iii. 1869. p. 248 (Salto do Girão, Borba).

No. 1119. ♂ ad., Humaytha, 19. viii. 06. "Iris yellow, feet blackish grey, bill black."

Identical with the specimens from Tefé.

136. *Veniliornis ruficeps haematostygma* (Malh.).

[*Picus ruficeps* Spix, *Av. Bras.* i. p. 63. tab. lvi. fig. 2, 3 (1824—"in sylvis fluminis Amazonum").]
Mesopicus haematostygma Malherbe, *Monogr. Picid.* ii. p. 72. tab. 61. fig. 2-5 (1862.—type ex Engenho do Gama, Matto Grosso—Vienna Museum).

No. 936. (♂) juv. Humaytha, 16. vii. 06. "Iris brown, feet greyish green, bill greyish black."

About this form cf. my revision of Spix' types, pp. 610-11.

* Berlepsch and Leverkühn, *Ornis* vi. 1890. p. 29.

† *Bull. B. O. C.* v. (Feb. 1896), p. 23.

‡ *P. Z. S. Lond.* 1866. p. 589 (Ypanema, S. Paulo).

§ *Revis. Mus. Paul.* iii. p. 271.

137. *Celeus jumana* (Spix).

Cf. *suprà*, p. 79.

No. 1151. ♀ ad., Humaytha, 23. viii. 06. "Iris dark red, feet black, bill yellowish green."—Wing 156; tail 98; bill 31 mm.

Upper tail-coverts rufous brown, lower back and rump yellow washed with cinnamon, just as in the Tefé specimen.

138. *Celeus grammicus* (Mab.).

Cf. *suprà*, p. 80; Pelzeln, *Zur Ornith. Bras.* iii. 1869. p. 252 (Salto do Girão).

No. 923. ♀ ad., Humaytha, 14. vii. 06. "Iris dark red, feet dark green, bill greenish white."—Wing 124; tail 77; bill 20½ mm.

Feathers of the head and crest uniform cinnamon-rufous without black central streaks, as in specimens from the Orinoco.

139. *Crocomorphus flavus* (P. L. S. Müll.) subsp.

Cf. *suprà*, p. 80.

Celeus citrinus Pelzeln, *l.c.* p. 252 (Borba).

No. 1080. ♀ ad., Humaytha, 12. viii. 06. "Iris reddish brown, feet greenish grey, bill yellow."—Wing 132; tail 88; bill 24 mm.

Identical in coloration with the female from Tefé.

140. *Picumnus aurifrons* Pelz.

Picumnus aurifrons Pelzeln, *Zur Ornith. Bras.* iii. p. 334 (1869.—Engenho do Gama, Caicara, Salto do Girão).

No. 1212. ♂ imm., Humaytha, 6. ix. 06. "Iris brown, feet grey, bill black."—Wing 49; tail 26; bill 11½ mm.

No. 1213. ♂ juv., Humaytha, 6. ix. 06. "Iris brown."—Wing 49; tail 23½; bill 9½ mm.

Although immature, the first-named specimen already shows the golden yellow tips to the sinciput, and the rounded white apical spots to the feathers of the crown and occiput. It agrees well with Natterer's original specimens from the same district, except that the dusky markings on the lower parts are duller and more obsolete.

141. *Picumnus borbae* Pelz.

Picumnus borbae Pelzeln, *l.c.* p. 334 (1869.—Borba, Rio Madeira).

No. 1325. (♂) ad., Borba, 13. xi. 06. "Iris brown, feet plumbeous, bill greyish black."—Wing 50; tail 24; bill 11½ mm.

Differs from the Itaituba specimen (cf. *suprà*, p. 26) by its paler yellowish under parts, with the markings less blackish, and by the tips to the frontal feathers being of a brighter red.

142. *Dromococcyx phasianellus* (Spix).

Macropus phasianellus Spix, *Ar. Bras.* i. p. 53. tab. xlii. (1824.—Tonantius, Rio Solimões, Brasil.); Pelzeln, *l.c.* p. 270 (Borba).

No. 1397. ♂, Borba, 25. xi. 06. "Iris yellow, feet greyish brown, bill greyish black."—Wing 162; tail 215; bill 24 mm.

Cf. my revision of Spix' types, p. 600.

143. *Ramphastos cuvieri* Wagl.

Ramphastos Cuvieri Wagler, *Syst. Av. Gen.* *Ramphastos* sp. 5 (1827.—“in Brasilia versus flumen Amazonum”).

Nos. 964, 1320. ♂ ad., ♀ ad., Humaytha, 28. x. 06. “Iris brown, feet green, bill black, basal band and stripe along culmen greenish (♂), light blue (♀). Bare space round the eye blue.”—Wing 234, 238; tail 168, 157; bill 179, 160 mm.

They agree perfectly with specimens from Chamicuros, Peru. In neither of them is there a reddish spot on the upper mandible.

144. *Ramphastos culminatus* Gould.

Ramphastos culminatus Gould, *P.Z.S.* 1833. p. 70 (“Mexico.”—errore!); Pelzeln, *Zur Ornith. Bras.* iii. 1869. p. 234 (Borba).

No. 1126. ♀ imm., Humaytha, 27. viii. 06. “Iris brownish red, feet pale plumbeous, bill black, basal band and culminal stripe yellowish green.”—Wing 184; tail 143; bill 123 mm.

Agreeing with specimens from the Upper Orinoco (Nericagna, etc.).

The characters of this species are fully stated by Count Berlepsch, *Journ. f. Ornith.* 1889, p. 310.

The only example obtained by Mr. Hoffmannus was shot in the campos of the hinterland of Humaytha.

145. *Pteroglossus flavirostris mariae* Gould.

Cf. *suprà*, p. 83.

No. 1150. ♀ imm., Humaytha, 23. viii. 06. “Iris dark red, feet green, bill yellowish white, lower mandible pale brown.”—Wing 125; tail 128; bill 78½ mm.

Agrees in size and coloration with the Tefé specimen, and confirms the distinctness of *P. f. mariae*. The under mandible is uniform brownish ochraceous.

146. *Pteroglossus beauharnaesii* Wagl.

Pteroglossus Beauharnaesii Wagler, *Isis*, 1832. p. 280 (“Brasilia, prov. Para”).

No. 1124. ♀ ad., Humaytha, 20. viii. 06. “Iris brown, feet plumbeous, upper mandible reddish grey and bluish, lower one yellowish white.”

Not different from Peravian examples except in having fewer and smaller black spots on the throat and cheeks.

147. *Bucco hyperrhynchus* Sel.

Bucco hyperrhynchus Selater, *P.Z.S.* 1855. p. 193. tab. cv. (Jan. 1856.—Upper Amazons).

Nos. 938, 937. ♀ ad., ♂ imm., Humaytha, 16. vii. 06. “Iris dark red, feet and bill black.”—Wing 121½, 115; tail 98, 97; bill 46, 42 mm.

These birds belong to the large-billed form with broad white forehead. A female from Palhetá, Pará, obtained by Professor Steere, appears also to be referable to *B. hyperrhynchus*.

148. *Bucco macrodactylus* (Spix).

Cyphos macrodactylus Spix, *Av. Bras.* i. p. 51, tab. xxxix, fig. 2 (1824.—“in sylvis flum. Amazonum”).

Bucco macrodactylus, Pelzeln, *Zur Ornith. Bras.* i. 1867. p. 22 (S. João do Crato).

Nos. 1131, 1197, 1205. ♂♂ ♀, Humaytha, 21, 31. viii., 1. ix. 06. “Iris reddish or pale brown, feet and bill black.”

No. 1131 is much brighter buff on throat and belly than the two others, and agrees in that respect with specimens from Eastern Ecuador and Bogotá collections.

149. **Bucco tamatia pulmentum* Sel.

[*Bucco Tamatia* Gmelin, *Syst. Nat.* 1. i. p. 405 (1788.—ex Daubenton, *Pl. enl.* 746, fig. 1.—Cayenne).]
Bucco pulmentum Schater, *P.Z.S.* 1855. p. 194, tab. cvi. (Jan. 1856.—Upper Amazons).

No. 1176. ♀ ad. in worn plumage, Humaytha, 28. viii. 06. “Iris red, feet brownish grey, bill black.”—Wing 75; tail 60; bill 24 mm.

Agrees with the type and other Upper Amazonian skins in the British Museum. *B. t. pulmentum* is but a slightly differentiated geographical form of *B. t. tamatia*, from which it may be distinguished by its much paler throat, which is light buff yellow (Ridgw. vi. 19) instead of deep tawny. There is generally more rufous on the forehead and vertex than in the typical race, but this is by no means constant.

As far as I know, this is the first record of *B. t. pulmentum* for Brazil. I suspect, however, that the specimens obtained by Natterer in western Matto Grosso and near Borba, on the Rio Madeira, which are enumerated in Pelzeln’s work * s.n. *B. tamatia*, will also turn out to belong to the present form.

150. *Bucco chacuru* Vieill.

Bucco chacuru Vieillot, *Nouv. Dict.* iii. p. 239 (1816.—ex Azara No. 261: Paraguay).

Nos. 1235, 1245, 1262. ♂♂ ad. (in worn plumage), Humaytha, 14, 16, 18. ix. 06. “Iris yellow or pale brown, feet dark grey, bill red.”—Wing 82—85, tail 71—74, bill, 31, 34, 35 mm.

No. 1247. ♀ ad. (in worn plumage), Humaytha, 16. ix. 06. “Iris greyish yellow, feet black, bill red.”—Wing 86; tail 70; bill 31½ mm.

According to Mr. Hoffmanns this bird is exclusively found in the “campos.”

These specimens do not differ from a series of Paraguay and South Brazilian skins except by lacking the blackish cross-lines on the breast and foreneck, the flanks alone being banded with dusky-brown. The under parts are nearly pure white in the Humaytha birds, not washed with buff or ochreous, as in southern specimens. The plumage of the former is, however, so much worn that I cannot say if these differences are of any value.

151. *Malacoptila rufa* (Spix).

Bucco rufus Spix, *Av. Bras.* i. p. 52, tab. xl, fig. i. (1824.—“in sylvis fl. Amazonum”).

No. 1256. ♀ ad. (slightly moulting), Humaytha, 17. ix. 06. “Iris dark red, feet grey, bill black.”—Wing 88; tail 67; bill 27 mm.

Differs from a female from Pará by its deeper ferruginous frontal band and rather more rufescent brown back.

* *Zur Ornith. Brasil.* i. 1867. p. 22 (Engenho do Gama, S. Vicente, Borba).

152. *Nonnula sclateri* Hellm.

Nonnula sclateri Hellmayr, *Bull. B.O.C.* xix. (Feb. 1907), p. 55 (Humaytha).

No. 1093. ♀ ad., Humaytha, 16. viii. 06. "Iris brown, feet grey, bill black."—Wing 62; tail 53½; bill 22½ mm.—*Type of the species.*

Upper parts warm brown, rather duller on the head; distinct frontal edge and lores deep ochraceous buff; cheeks, ear-coverts and temporal region uniform dark grey; malar region and sides of the neck dull olive-brown. Quills blackish, the secondaries exteriorly edged with pale buff-brown; rectrices dusky, with very narrow edges of a paler brown along the outer web, central pair uniform brown. Chin bright ochraceous buff, throat and chest greyish fulvous, sides of the belly paler, more brownish buff; middle of the abdomen and under tail-coverts white. Axillaries, under wing-coverts, and quill-lining ochraceous buff. **Eyelid slightly protruding, bright red**, with but a few feathers of bright buff here and there.

This new species, which is named after Mr. P. L. Sclater, author of an excellent monograph of the Puff-birds, belongs to the group of *N. rubecula* (Spix), from the wood region of S.E. Brazil, and *N. cineracea* (Sel.), from the Rio Javari; but is distinguished at a glance by its much smaller size, deep ochraceous buff frontal band, lores, and chin, by lacking the white patch below the eye, so conspicuous in both the allied species; and especially by the eyelid being bright red and almost entirely bare, while in its affines it is black and covered with numerous feathers of pure white.

Unfortunately Mr. Hoffmanns sent only a single specimen of this nunlet, the discovery of which adds another striking form to the many peculiar types of the Rio Madeira district.

153. *Chelidoptera tenebrosa tenebrosa* (Pall.).

Cf. *suprà*, p. 84.

No. 1284. ♀, Humaytha, 22. ix. 06. "Iris dark brown, feet and bill black." Identical with Surinam examples.

154. *Urogalba dea amazonum* Sel.

Cf. *suprà*, p. 27.

Galbula paradisea (nec Linn.), Pelzeln, *Zur Ornith. Bras.* i. 1867. p. 24 (part: Salto do Girão, Rio Madeira.—specimens examined).

No. 1244. ♂ ad., Humaytha, 16. ix. 06. "Iris brown, feet and bill black."—Wing 90; tail 144; bill 52½ mm.

In my report on Mr. Hoffmanns' collection from the Rio Tapajoz I had already observed that two young birds from the Rio Madeira, obtained by Natterer, seemed to belong to *U. d. amazonum*, and this supposition is fully confirmed by the specimen in the present consignment. It agrees with our male from Margoary and the three examples in the British Museum in having the top of the head very pale brown and distinct whitish superciliaries. The smoky-brown chin-spot is perhaps a trifle larger (though still decidedly smaller than in *U. d. dea*), but of exactly the same tint. It is, therefore, evident that *U. d. amazonum* inhabits not only the Pará district, but is also found all along the south bank of the Amazons and on its southern tributaries.

Miss Sneathlodge* has lately published some very interesting notes about this form, which seems to be fairly common in the Pará district.

* *Journ. f. Ornith.*, 1906. p. 519.

155. *Galbula cyanicollis* Cass.

Cf. *suprà*, p. 84.

No. 1060. ♂ ad., Humaytha, 7. viii. 06. "Iris dark brown, feet and bill yellow, apical half of upper mandible black."—Wing 78; tail 83; bill 41½ mm.

No. 1061. ♀ ad., Humaytha, 7. viii. 06. "Iris dark brown, feet and bill yellow, apical half of upper mandible black."—Wing 76; tail 73; bill 37 mm.

Both specimens differ from our Pará series by having the cheeks and malar region pure golden green instead of blue. In this respect they agree with *G. a. albirostris* and *G. a. chalcocephala*; the throat in the male, however, is deep ferruginous, like the belly, not white, as in the males of the two last-named forms.

156. **Galbula tombacea cyanescens* Dev.

[*Galbula tombacea* Spix, *Ar. Bras.* i. p. 55, tab. lviii. (1824—"in sylvis fl. Amazonum").]
Galbula cyanescens Deville, *Rev. Mag. Zool.* 1849, p. 56 ("les bords de l'Amazone").

Nos. 944, 963. ♂♂ ad., Humaytha, 17, 20. vii. 06. "Iris and feet brown, bill black."—Wing 82½; tail 98; bill 44, 48 mm.

These skins agree with others from Central Peru (Chanchamayo, Huánuco) and the Rio Juruá in having the forehead and crown shining green with bluish reflections, but the chin and upper portion of the throat are mostly greyish white, while in the Peruvian and Juruá birds there is only a small smoky-grey spot on the chin.

I hope to discuss the geographical variation of *G. tombacea* on another occasion, meanwhile cf. the remarks in my revision of Spix' types, pp. 601, 602.

G. t. cyanescens is new to the Brazilian fauna.

157. *Ceryle torquata torquata* (Linn.).

Alcedo torquata Linnaeus, *Syst. Nat.* xii. 1. p. 180 (1766.—ex Brisson: Mexico and Martinique—we accept Mexico as typical locality).

Ceryle torquata Pelzeln, *Zur Ornith. Bras.* i. 1867, p. 23 (Borba).

No. 1403. ♀ ad., Borba, 26. xi. 06. "Iris black, feet grey, bill black."

158. *Ceryle americana americana* (Gm.).

Alcedo americana Gmelin, *Syst. Nat.* 1. i. p. 451 (1788.—ex Daubenton, *Pl. cul.* 591, fig. 1. 2—Cayenne).

Ceryle americana Pelzeln, *l.c.* p. 23 (Rio Gnaporé, Borba).

No. 1305. ♀ ad., Humaytha, 30. ix. 06. "Iris dark brown, feet and bill black."

159. *Ceryle superciliosa superciliosa* (Linn.).

Cf. *suprà*, p. 84; Pelzeln, *l.c.* p. 24 (Borba).

No. 1223. ♂ juv., Humaytha, 12. ix. 06. "Iris brownish black, feet pale yellowish, bill black."

Identical with Surinam examples.

160. *Trogon atricollis atricollis* Vieill.

Trogon atricollis Vieillot, *Nouv. Dict.* viii. p. 318 (1817.—ex Levaillant, Couroucous, pl. 8.—“Guyane, Surinam et à la Trinité”).

No. 1026. ♂ ad., Humaytha, 31. vii. 06. “Iris dark brown, feet grey, bill yellowish green.”—Wing 109½ mm.

Differs from a large number of males by the coppery golden instead of bronze-green central tail-feathers.

161. *Urospatha martii martii* (Spix).

Prionites martii Spix, *At. Bras.* i. p. 64. tab. lx. (1824.—“in sylvis Parae”; cf. my revision of Spix’ types, p. 611).

Momotus martii Pelzeln, *Zur Ornith. Bras.* i. 1867. p. 19 (Borba).

No. 1411. ♀ ad., Borba, 27. xi. 06. “Iris dark red, feet and bill black.”—Wing 159; tail 266; bill 44½ mm.

Differs from a series of skins from the Rio Napo, Eastern Ecuador, in having the upper back not pure green, but slightly suffused with ochreous. The material in the Tring Museum fully bears out what I said (*l.c.*) about the differences between *U. m. martii* and *U. m. semirufa* (Scl.).

The ♀ from Humaytha, three ♂♂ and one ♀ from Coca on the Rio Napo, and an adult male from La Merced, Chanchamayo, Central Peru, have the tail mainly green, and the central rectrices **not** spatulated; while in a large series of *U. m. semirufa* from Bogotá collections, Western Ecuador, Costa Rica, etc., the tail-feathers are nearly uniform blue, and the middle pair invariably spatulated in the adults. Even young birds (without the rakets) of the western form can always be recognized by their blue tail.—Cf. also Berlepsch, *Journ. f. Ornith.* 1889. p. 308.

162. **Prionirhynchus platyrhynchus pyrrolaemus* Berl. & Stolz.

[*Momotus Platyrhynchus* Leadbeater, *Trans. Linn. Soc.* xvi. p. 92 (1833.—“Brazil.”—errore!).]

Prionirhynchus platyrhynchus pyrrolaemus Berlepsch & Stolzmann, *P. Z. S. Lond.* 1902. vol. ii. Part i. p. 35 (Oct. 1902.—La Merced, Central Peru).

No. 1225. ♂ ad., Humaytha, 12. ix. 06. “Iris dark brown, feet and bill black.”—Wing 114; tail 198; bill 37 mm.

Count Berlepsch and Dr. Stolzmann (*l.c.*) pointed out that specimens from Peru (Borgoña, La Merced) and Bolivia differed from the Central American ones by having the central rectrices not spatulated, and the series in the Tring Museum clearly proves the constancy of this character. We have the following examples: 1 ♂, 1 ♀, La Merced, Central Peru, Schunke coll.; 1 ♂, Chanchamayo, Central Peru, Schunke coll.; ♂, Suno, Rio Napo, ♀, Coca, Rio Napo, Eastern Ecuador, Goodfellow and Hamilton coll.; and the male sent from Humaytha by Mr. Hoffmanns: none of which has the middle pair of the tail-feathers ebarbed; whereas in fourteen adults from Western Ecuador (Gualea, S. Domingo, Parumba, etc.), Rio Dagua (Colombia), Panama, Chiriqui, and Costa Rica they are always spatulated.

The other character mentioned by Berlepsch and Stolzmann, however, is apparently not constant, for all our six specimens of *P. p. pyrrolaemus* have the chin yellowish green or bluish green, as in the western forms.

As shown by Dr. Hartert,* the original locality, “Brazil,” assigned to

* *Nov. Zool.* viii. 1898, pp. 497—498.

Momotus platyrhynchus by Leadbeater was doubtless erroneous, his description being evidently referable to the large racket-tailed form found in Western Ecuador and Western Colombia.

Accordingly, we have three distinct races :

a. *P. platyrhynchus platyrhynchus* (Leadb.).

Western Ecuador (S. Domingo, Gnalea, Paramba, Lita, etc.) and Western Colombia: Rio Dagna (Rosenberg), Remedios (Salmon), etc.

b. *P. platyrhynchus minor* Hart.

Panama, Chiriquí, Costa Rica, Nicaragua (Rio Grande: Richardson coll. in Tring Museum).

c. *P. platyrhynchus pyrrholoemus* Berl. & Stolzm.

Upper Amazonian district: Eastern Ecuador (Coca, Rio Napo—Goodfellow); Peru: Borgoña, Chanchamayo, La Merced (Kalinowski and Schunke coll.); North Bolivia (G. Garlepp coll.—Mus. H. v. Berlepsch); West Brazil: Humaytha, Rio Madeira (Hoffmanns).

P. p. pyrrholoemus is new to the Brazilian fauna.

163. *Conurus aureus* (Gm.).

Psittacus aureus Gmelin, *Syst. Nat.* 1. i. p. 329 (1788—ex Brisson: ex Edwards, *Glean.* v. tab. 235.—“supposed to be a native of Brazil”).

Nos. 1220, 1221, 1242, 1266, 1274. ♂♂♂, ♀♀, Humaytha, 11, 15, 19, 20. ix. 06. “Iris greyish brown or pale brown, feet and bill black.”

These birds agree perfectly with a series from Bahía and Mattogrosso.

The Tring Museum also possesses a pair collected by Professor J. B. Steere near Boa Vista in the Pará district, in September 1879, and several specimens obtained by Mr. G. Garlepp at Descalvados, Mattogrosso.

164. *Conurus weddellii* Dev.

Conurus Weddellii Deville, *Rev. Mag. Zool.* 1851. p. 209 (“Pebas, sur le Haut-Amazone”).

Conurus canibuccalis Rothschild, *Bull. B. O. C.* xix. p. 48 (1907.—Humaytha).

No. 1076. ♂ ad., Humaytha, 11. viii. 06. “Iris yellowish white, feet and bill blackish.”—Wing 147; tail 123; bill 25 mm. Type of *C. canibuccalis* Rothschild.

No. 1192. ♀ ad., Humaytha, 30. viii. 06. “Iris yellowish white, feet and bill blackish.”—Wing 139; tail 120; bill 24 mm.

These birds agree exactly with several others from Elvira, on the Peruvian Amazons, in the British Museum collection. By some unaccountable oversight for which I am partly responsible, they have been described by Mr. Rothschild as belonging to a new species.

Not yet recorded from the Rio Madeira, but Natterer obtained a series at the sugar-mill of Captain Gama on the Rio Guaporé, farther to the south.

165. *Pyrrhura picta lucianii* Dev.

Conurus Lucianii Deville, *Rev. Mag. Zool.* 1851. p. 210 (“la rivière des Amazones”).

C. Luciani Pelzeln, *Zur Ornith. Bras.* iii. 1869. p. 259 (Ribeirão, Salto Theotonio).

No. 1264. ♂ imm., Humaytha, 18. ix. 06. “Iris brown, feet and bill black.”—Wing 119; tail 97; bill 16½ mm.

In addition to this specimen I have before me three of those obtained by Natterer on the Rio Madeira and kindly lent by Dr. von Lorenz. Unfortunately

these birds are even younger than our female from Humaytha. Nevertheless I have very little doubt that the four skins belong to *P. p. lucianii* and **not** to the newly-described *P. p. amazonum*, although none of them have any red on the forehead. This is proved by the colour of the ear-coverts, which are pale buffy brownish (not clear golden buff, as in *P. p. amazonum*) and by the very small amount of bluish on the forehead. Besides, in No. 1264 there are some bright red feathers to be seen above the eye and lores!

166. *Brotogeris sanctithomae* (P. L. S. Müll.).

Brotogeris sanctithomae (lapsu), *suprà*, p. 88.

Nos. 972, 1041. ♂ ♀ ad., Humaytha, 22. vii., 2. viii. 06. "Iris yellow, feet light grey, bill brown."

No. 1309. ♀ imm., Paraizo, 15. x. 06. "Iris yellowish white, feet pale grey, bill brown."

Agreeing with specimens from Tefé and Northern Peru. None of them have a yellow streak behind the eye.

167. *Ara macao* (Linn.).

Psittacus Macao Linnaeus, *Syst. Nat.* x. p. 96 (1758—"in America meridionali").

Sittace macao Pelzeln, *Zur Ornith. Bras.* iii. 1869. p. 254 (Rio Mamoré, Cachoeira do Bananeira, Ribeirão, Borba).

No. 1042. ♂, Humaytha, 2. viii. 06. "Iris yellow, feet black, bill black, tip whitish."

168. *Ibycter ater* (Vieill.).

Daptrius ater Vieillot, *Analyse Ornith. élém.* p. 68 (1816—"le Brésil"; cf. *Nouv. Zool.* ix. 1902. p. 111).

No. 1345. ♂ ad., Borba, 16. xi. 06. "Iris brown, feet yellow, bill dark plumbeous."

169. *Micrastur brachypterus* (Temm.).

Fulco brachypterus Temminck, *Rec. Pl. col.* tab. 116 (juv.), 141 (adult) (1822—"au Brésil, à la Guyane, et au Paraguay").

Micrastur brachypterus Pelzeln, *l.c.* p. 7 (Borba).

Micrastur semitorquatus and *M. melanoleucus* auct.

No 1448. ♀ juv., Borba, 6. xii. 06. "Iris greyish brown, feet yellow, bill blackish grey."

I quite agree with Mr. Ridgway* that the description of *Sparrius semitorquatus* does not apply to the present species, but the name *S. melanoleucus* Vieill.† cannot stand either (cf. my revision of Spix' types, 1906. p. 570). The next available specific name is the one given above.

170. *Micrastur gilvicollis* (Vieill.).

Sparrius gilvicollis Vieillot, *Nouv. Dict.* x. p. 323 (1817.—*loc. cit.*, we substitute: *Cayenne*).

Micrastur gilvicollis Pelzeln, *Zur Ornith. Bras.* i. 1867. p. 7 (Borba).

No. 1412. ♀ imm., Borba, 27. xi. 06. "Iris whitish grey, feet yellow, bill blackish grey, cere yellow."—Wing 184; tail 145 mm.

* *Proc. Acad. N.S. Philad.* 1875. p. 481.

† *Nouv. Dict.* x. 1817. p. 327.

This is an immature bird of *M. concentricus*—as defined by Mr. Ridgway—with the outer and inner toe of equal length, and agrees in coloration with specimens, in corresponding plumage, from Pozuzo (Peru), Pará and Cayenne. When lately in Paris, I examined the types of *S. gilvicolis* Vieill. (locality unknown) and *Nisus concentricus* Less. (Cayenne—Poiteau coll.), and found them both to belong to the same species. The correct name of this bird is, therefore, *M. gilvicolis*.

171. *Rupornis magnirostris magnirostris* (Gm.).

Cf. *suprà*, p. 38.

Astur macrorhynchus Pelzeln, *Zur Ornith. Bras. i.* 1867. p. 6 (Borba).

Nos. 995, 1280. ♂ ad., ♀ jr., Humaytha, 26. vii., 21. ix. 06. "Iris and feet yellow, bill black."

In coloration like specimens from British Guiana, Surinam, etc., but somewhat larger.

172. *Busarellus nigricollis* (Lath.).

Cf. *suprà*, p. 38.

No. 1300. Adult (not sexed), Humaytha, 28. ix. 06. "Iris dark brown, feet greyish white, bill black."

173. *Leucopternis schistacea* (Sundev.).

Asturina schistacea Sundevall, *Ofv. k. Vet. Akad. Förh.* 1849. p. 132.*

Urubitinga schistacea Selater, *Trans. Zool. Soc. Lond.* iv. 1862. p. 261. tab. 58 (Rio Javarri; interior of Bolivia); Pelzeln, *Zur Ornith. Bras. i.* 1867. p. 2 (Borba).

No. 1078. ♀ ad., Humaytha, 12. viii. 06. "Iris and feet yellowish red, bill black, cere yellowish red."—Wing 285; tail 192 mm.

No. 1032. ♂ imm., Humaytha, 1. viii. 06. "Iris and feet yellow, bill black, cere yellow."—Wing 265; tail 180 mm.

No. 1032 differs from the adult bird in having the axillaries, under wing-coverts and the edge of the wing banded with blackish and white, the thighs closely barred with plumbeous and white, and the under tail-coverts white at the base. The tail-feathers have two white cross-lines (besides the apical margin, which, however, is worn off in our specimen) and the base of the inner webs also white.

174. *Ictinia plumbea*.

Falco plumbeus Gmelin, *Syst. Nat.* l. i. p. 283 (1788—ex Latham: Cayenne).

No. 1126. ♂ ad., Humaytha, 12. ix. 06. "Iris pale brown, feet yellow, bill black."

175. *Pulsatrix perspicillata* (Lath.).

Strix perspicillata Latham, *Ind. Ornith.* i. p. 58 (1790.—Cayana—ex "Spectacle Owl," Latham, *Gen. Syn. Birds Suppl.* p. 50. tab. cvii. = av. juvenis!).

Athene torquata Pelzeln, *Zur Ornith. Bras. i.* 1867. p. 8 (Borba).

No. 946. ♂ ad., Humaytha, 17. vii. 06. "Iris yellow, feet grey, bill greyish yellow."—Wing 320; tail 200 mm.

Agreeing with specimens from Guiana, Surinam, etc.

P. pulsatrix (Wied) from Eastern Brazil is quite distinct (cf. Berlepsch, *Bull. B. O. C.* xii. p. 4, 5, and DuBois, *Syn. Ar.* p. 892, pl. xvi.).

* I have not been able to verify this Quotation.

176. *Syrnium supercilare* Pelz.

Syrnium supercilare Pelzeln, *Verhandl. zool. bot. Gesellsch. Wien*, 1863, p. 1125 (Mattogrosso).

No. 1449. ♀ ad. (slightly moulting), Borba, 7. xii. 06. "Iris brown, feet pale yellow, bill yellowish green."—Wing 250; tail 150; bill 33 $\frac{3}{4}$ mm

This bird agrees well with von Pelzeln's description, except that the cross-bands of the tail-feathers are white, tinged with pale greyish brown on the outer webs. In general coloration this species bears a strong resemblance to *S. hylophilum* (Temm.) from S.E. Brazil, and *S. albitarse* Sel. from the mountains of Merida and Colombia, but differs at a glance by its more blackish upper parts, there being but narrow wavy lines of dull rufous; by the much darker rufous facial ruff; by the white (not ferruginous) tail-bands; and by having no transverse markings whatever on the abdomen. The thighs, too, are much darker, deep tawny (instead of buff), etc., etc.

177. *Pisorhina watsonii* (Cassin).

Ephialtes Watsonii Cassin, *Proc. Acad. Philad.*, iv, p. 123 (Dec. 1848.—"South America"); *Journ.*

Acad. Philad., ii, pt. ii, Jan. 1852, p. 95, tab. xii, fig. 1.

Scops usta Selater, *Trans. Z. S. Lond.*, iv, p. 265, tab. 61 (1862.—"Ega, on the Upper Amazon [H. W. Bates].")

No. 1096. ♂ ad., Humaytha, 16. viii. 06. "Iris yellow, feet greyish yellow, bill greyish green."—Wing 167; tail 90; bill 20 $\frac{1}{2}$ mm.

This bird agrees perfectly with several specimens from Eastern Ecuador. Cassin's account and figure leave not the slightest doubt that he described the species afterwards named *S. usta* by Mr. Selater (cf. also Berlepsch, *Bull. B. O. C.*, xii, 1901, p. 10).

It is scarcely to be understood why Mr. R. B. Sharpe* should have treated it as a "subspecies" of *Pisorhina choliba* (= his *Scops brasiliensis*), since a geographical form of the latter, *P. e. crucigera* (Spix), occurs in the same district where *P. watsonii* is met with.

This species may be distinguished by the much longer ear-tufts, which are almost uniform black, with only a few minute dots of buff along the inner web of the feathers. The pileum is also mainly blackish, the back and tail are much darker, blackish brown, with very narrow buff vermiculations; the upper wing-coverts entirely lack the large buff spots so conspicuous in *P. e. crucigera* and allies; and the lower parts are deep fulvous (not white with buff patches), etc., etc.

Some specimens show a distinct nuchal collar of bright buff. The Tring Museum also possesses two adult birds obtained by Mr. E. André near Snapuré in the Caura valley, Venezuela.

178. *Geotrygon montana* (Linn.).

Columba montana Linnaeus, *Syst. Nat.*, xii, 1, p. 281 (1766.—ex Edwards [and Brisson].—Jamaica).

No. 994. ♂ imm., Humaytha, 26. vii. 06. "Iris yellow, feet light red, bill reddish grey."

Nos. 985, 1001, 1201. ♀♀ juv., Humaytha, 25, 27. vii., 4. ix. 06. "Iris yellow, feet dark red, bill greyish red."

* *Cat. Birds Brit. Mus.*, ii, p. 111.

179. *Columbula picui* (Temm.).

Columba picui Temminck, *Hist. Nat. Paj. et Gall.* i. p. 435, 498 (1813.—ex Azara No. 324.—Paraguay).

No. 1127. ♀ ad, Humaytha, 21. viii. 06. "Iris greyish white, feet reddish blue, bill black."—Wing 91; tail 75; bill 12 mm.

Agreeing with females from Bahia and Buenos Ayres.

The species has not yet been recorded from Rio Madeira, but Natterer obtained examples on the Rio Guaporé and at other places in western Matto Grosso.

180. *Penelope superciliaris superciliaris* Temm.

Penelope superciliaris Temminck, *Hist. Nat. Paj. et Gall.* iii. p. 72 (1815.—"Brésil et plus particulièrement dans le district de Pará").

Penelope superciliaris var., Pelzeln, *Zur Ornith. Bras.* iii. 1869. p. 283 (Borba).

No. 1388. ♂ ad., Borba, 23. xi. 06. "Iris and feet dark red, bill black, bare skin of the throat red."—Wing 250; tail 298; bill 32 mm.

Like a young bird from Igarapé-Assú, Pará, this specimen has the foreneck and chest strongly glossed with bronze green, and scarcely any indication of ashy superciliaries. Skins from Bahia, S. Paulo, and Minas Geraes are rather duller, more greenish ash on the foreneck and chest, and, as a rule, possess a broad ashy white eyebrow. Since, however, the latter is barely apparent in one of my Bahia examples, this character would seem to be of little value. Moreover, Temminck, who based his description upon Pará specimens, sent by Sieber to Count von Hoffmannsegg, expressly says: "une . . . bande composée de plumes **blanches**, part de la racine du bec . . . et aboutit . . . à l'oreille." About the distinctness of *P. s. jacupemba* Spix, cf. *Abhandl. Akad. Wissensch. München*, (ii. Kl.) Bd. xxii. 3. 1906, p. 690—691.

181. *Penelope jacquacu* Spix.

Penelope jacquacu Spix, *Ar. Bras.* ii. p. 52. tab. lxxviii. (1825.—"in sylvis fluminis Solimões").

Penelope Boliviana Pelzeln, *Zur Ornith. Bras.* iii. 1869. p. 282 (Salto do Girão).

Nos. 1239, 1246, —. ♂ ad, ♀♀ ad., Humaytha, 17. viii., 15, 16. ix. 06. "Iris brown, feet red, bill grey or black."

Perfectly identical with specimens from Huánuco, Peru, which had previously been compared with Spix' type in the Munich Museum.

This species differs at a glance from the preceding one by lacking the cinnamon-rufous edges to the scapulars and secondaries.

About the nomenclature cf. my revision of Spix' types, p. 688.

182. *Tinamus serratus serratus* (Spix).

Przus serratus Spix, *Ar. Bras.* ii. p. 61. tab. lxxvi. (1825.—"in sylvis campestribus fl. Nigri").

Tinamus brasiliensis (nec Lath.) Pelzeln, *l.c.* p. 291 (Cachoeira da Bananeira, Borba).

Tinamus major (nec Gmelin!) Salvadori, *Cat. Birds Brit. Mus.* xxvii. p. 502 (part: ♀ only!).

Nos. 1189, 1193. ♀♀ ad., Humaytha, 30, 31. viii. 06. "Iris brown, feet pale plumbeous, bill grey."—Wing 230; bill 32 mm.

Nos. 1207, 1208. Young in down, Humaytha, 4. ix. 06. "Iris black, feet greyish black, bill black."

The adult birds agree exactly with the female from S. Pedro, Upper Rio Negro, in the British Museum (coll. Natterer), and with an adult from the Caura valley, Venezuela, in the Tring collection. The forehead, pileum, and ear-coverts are clear cinnamon-rufous, the remainder of the sides of the head ochraceous-buff; the foreneck and chest pale greyish brown, and the middle of the abdomen plain white without dusky cross-lines.

For characters and nomenclature of this species cf. *Abhandl. Akad. Wissensch. München* (ii. Kl.) Bd. xxii. 3. 1906, p. 699—701, 719.

183. *Tinamus guttatus* Pelz.

Tinamus guttatus Pelzeln, *Verhandl. zool. botan. Gesellsch. Wien* 1863, pp. 1126, 1128 (Borba : S. Carlos, Rio Negro; Pará: Rio Vampó—we fix Borba as the typical locality).

Nos. 1106, 1181, 1217. ♂♂ ♀, Humaytha, 18, 29. viii., 11. ix. 06. "Iris brown, feet greenish, bill black or blackish grey."—Wing 185—190; bill 30—31 mm.

The top of the head is dark cinereous, some of the feathers being narrowly fringed with blackish; the under parts (except the white throat and the variegated foreneck) are rather pale brownish buff, almost white along the middle of the abdomen. In Nos. 1006 and 1217 there are no white dots on the lower back and rump, while they are very well pronounced in No. 1181.

A specimen from the island of Marujó, near Pará, has the top of the head blackish, and the under surface much brighter and more ochreous buff.

The numerous white spots on the wings and the clear chestnut under tail-coverts render this species easily recognizable among its affines.

184. *Crypturus cinereus* (Gm.).

Cf. *Nor. Zool.* xiii. 1906. p. 385.

Tinamus cinereus Pelzeln, *Zur Ornith. Bras.* iii. 1869, p. 292 (Borba).

Crypturus cinereus Schlegel, *Mus. Pays-Bas* viii. : Tinami (1880). p. 20 (Pale variety from Borba disscsed).

No. 1218. ♂ imm., Humaytha, 11. ix. 06. "Iris dark yellow, feet greyish brown, bill dark grey."

Nos. 1000, 1198. ♀♀ juv., Humaytha, 28. vii., 31. viii. 06. "Iris yellow, feet brown, bill dark grey."

The first-named specimen is practically identical with others from British Guiana and Surinam, and I doubt, therefore, the possibility of separating a "pale variety" from the Rio Madeira.

The young birds are more brownish than the adults, and distinctly, though narrowly barred with rufescent buff on the back, upper wing-coverts, and outer webs of the secondaries.

185. *Crypturus soui* (Herm.).

Tinamus soui Hermann, *Tab. Aff. Anim.* pp. 164, 235 (1783. - ex Daubenton, *Pl. enl.* 829--Cayenne).

Tinamus pileatus Pelzeln, *Zur Ornith. Bras.* iii. 1869, p. 294 (Borba).

Nos. 1115, 1122, 1196. ♀♀ ad. et imm., Humaytha, 19, 20, 31. viii. 06. "Iris light brown, feet grey or greyish brown, bill dark grey or blackish grey."

Agreeing with specimens from British Guiana, the Caura valley, and the Orinoco in the deep ochraceous or tawny ochraceous under parts, but without any

chestnut on the upper tail-coverts. Skins from north-east Brazil (Pará, Pernambuco) are similar in the latter respect, differ, however, by their much paler and duller ochraceous lower surface. (Cf. my remarks in *Noe. Zool.* xiii. 1906. p. 385.

186. *Crypturus parvirostris* Wagl.

Crypturus parvirostris Wagler, *Syst. Ic. Crypturus*, sp. 13 (1827.—Brasilia).

Nos. 1219, 1241, 1248, 1269, 1270, 1278, 1286. ♀♀ ad. and imm., Humaytha, 11, 15, 16, 20, 21, 23. ix. 06. "Iris light brown, feet and bill clear red."

These specimens are not different in coloration from a series of skins obtained by Mons. Robert in Pernambuco and Bahia, and others collected near Victoria, S. Paulo, by Mr. Adolph Hempel, but have considerably shorter wings (106—110 mm.). *C. parvirostris* differs from *C. tataupa* by its smaller size, much smaller and weaker bill, pale brownish chest, and bright red legs.

Adult birds have the top of the head pure schistaceous, and the upper parts bright chestnut brown; in young birds the former is mainly pale brown, and the back much duller, and less castaneous.

187. *Crypturus adpersus adpersus* (Temm.).

Timanus adpersus Temminck, *Hist. Nat. Ptg. et Gall.* iii. p. 585 (1815.—Pará—coll. Hoffmannsegg).
T. undulatus (nec Temm.) Pelzeln, *Zur Ornith. Bras.* iii. 1869. p. 292 (part.: Borba).

No. 1391. ♀ ad., Humaytha, 29. ix. 06. "Iris light brown, feet greyish green, bill greyish black."—Wing 177; bill 29½ mm.

I gave a review of *C. adpersus* and its allies in my revision of Spix' types, *Abhandl. Akad. Wissensch. München*, Kl. ii. Bd. xxii. 3. 1906. pp. 702—705, 720.

The present specimen differs from typical examples in having the black cross-markings on the back rather broader and more regular, thus pointing towards *C. a. radiatus* (Gray), which, however, is much brighter chestnut above, with the bars still broader and blacker.

188. **Crypturus bartletti* ScL. & Salv.

Crypturus bartletti Selater & Salvin, *P. Z. S. Lond.* 1873. p. 311 (Santa Cruz on the Ucayali river, Eastern Peru).

No. 1095. ♂ ad., Humaytha, 16. viii. 06. "Iris light brown, feet greenish yellow, bill grey."—Wing 140; bill 22½ mm.

Nos. 1034, 1035. ♀♀ ad., Humaytha, 1. viii. 06. "Iris and feet brown, bill greyish brown, paler below."—Wing 142, 145; bill 22½, 23 mm.

Nos. 1033, —. ♂ juv., juv. (not sexed), Humaytha, 1. viii. 06. "Iris brown, feet and bill brownish grey."

These specimens agree exactly with the types in the British Museum. The male has the nape and mantle uniform, while the lower back, rump, and upper tail-coverts show irregular black bars on an olive-brown ground; the inner median and greater wing-coverts are likewise broadly, though not very distinctly, banded with pale buff; the breast is dull ochraceous buff (Ridgw. v. 10), on the sides washed with olive-brown and finely vermiculated with dusky. In the females the whole back is regularly banded with black and olive-brown (No. 1035) or deep ochraceous-brown (No. 1034), all the upper wing-coverts (except those along the bend of the wing) have broad buff (No. 1035) or deep ochraceous (No. 1034) cross-bars; the breast is much deeper, more ochraceous, and not only the flanks,

but also the sides of the breast are banded with dusky olive or blackish. The pileum, too, is rather duller blackish, being obscured by brownish edges to the feathers.

The young bird (No. 1033), besides being much smaller, differs from the adult ones by its paler under parts, clear olive-brown (not blackish) upper wing-coverts, and by having white dots on the latter as well as on the foreneck, while the feathers of the breast and abdomen show broad white apical bands followed by a subterminal bar or spot of black. In the white spotting it resembles the young of *C. variegatus*, which, however, has the neck all round deep ochraceous-rufous. *C. bartletti* is most nearly allied to *C. parvirostris* Pelz., and apparently its southern representative. In fact, the two species are perfectly alike in size of the bill, proportions, pattern of the wings, back and under wing-coverts, etc., but *C. bartletti* is easily distinguishable by having the top of the head uniform black, the hindneck, sides of the head and neck dull brown (instead of deep ferruginous) and the foreneck brownish (not deep ferruginous like the chest).

C. bartletti is new to Brazil.

189. *Crypturus strigulosus* (Temm.).

Timanus strigulosus Temminck, *Hist. Nat. Pige. et Gall.* iii. p. 594, 752 (1815.—"dans la province de Pará"—Siber coll.); Pelzeln, *Zur Ornith. Bras.* iii. 1869. p. 293 (Borba).

No. 1107. ♂ ad., Humaytha, 18. viii. 06. "Iris brown, feet pale grey, bill blackish grey, below yellowish."—Wing 155; tail 27½ mm.

This bird answers well to Temminck's original description

190. *Rhynchotus rufescens cattingae* Reis.

[*Timanus rufescens* Temminck, *Hist. Nat. Pige. et Gall.* iii. pp. 552, 747 (1815.—"Brésil"—Mus. Paris.) *Rhynchotus rufescens cattingae* Reiser, *Anzeiger Akad. Wissensch. Wien* 1905. no. xviii. p. 324 (1905.—Piauhy, N.E. Brazil).

Nos. 1224, 1282. ♂ ♀ ad., Humaytha, 12, 22. ix. 06. "Iris pale yellow, feet greyish brown, bill blackish, below yellow."—Wing 179, 190; bill 39, 41½ mm.

As far as I can judge from Reiser's short diagnosis, these birds seem to belong to his *R. r. cattingae*. They differ from a good series of specimens from Bahia, southern Mattogrosso, S. Paulo, and Buenos Aires in their shorter wings and by having the under parts much darker and more greyish. The flanks are barred with black, as in ordinary *R. r. rufescens*. This is quite a new locality for the species. Both specimens have been shot in the campos of the hinterland of Humaytha.

191. *Butorides striata* (Linn.).

Ardea striata Linnaeus, *Syst. Nat.* x. p. 141 (1758—Surinam: Rolander).

No. 1304. ♂ juv., Humaytha, 29. ix. 06. "Iris yellow, feet yellowish green, bill black, below yellow."

192. *Tigrisoma lineatum* (Bodd.).

Ardea lineata Boddaert, *Tabl. Pl. enl.* p. 52 (1783.—ex Daubenton, *Pl. enl.* 860: Cayenne).

No. 1258. ♀ juv., Humaytha, 17. ix. 06. "Iris pale brown, feet greyish green, bill yellowish grey."

193. *Zebrilus pumilus* (Bodd.).

Ardea pumila Boddart, *Tabl. Pl. col.* p. 54 [1783.—ex Daubenton, *Pl. col.* 898. "Le Crabier, des Philippines" (=rufous phase)—errore! we substitute *Cayenne* as typical locality.]

No. 1299. Adult (blackish phase), Humaytha, 28. ix. 06. "Iris yellow, feet greyish black, bill brownish black."—Wing 138; tail 56; tars. $37\frac{1}{2}$; bill 47 mm.

Differs from three other specimens in the same plumage by having the ground-colour of the lower parts whitish or buffy white (instead of bright buff) and by its rather longer, heavier bill.

Cf. *Ornis*, xiii. Part i. (June 1905) p. 56—58.

194. *Aramides cajanea* (P. L. S. Müll.).

Cf. *suprà*, p. 90.

Aramides ruficollis Pelzeln, *Zur Ornith. Bras.* iii. 1869. p. 316 (Borba).

No. 1294. ♂ imm. Humaytha, 1. ix. 06. "Iris reddish brown, feet dark red, bill yellowish green."

This bird agrees perfectly with our very large series. I have examined the two specimens (one from Borba, the other from the Rio Curicuriari) mentioned by Pelzeln s.n. *A. ruficollis*, which differ by the under parts being much darker, more chestnut. As, however, similar examples occur in Cayenne, Surinam, etc., along with pale-bellied ones, this variation appears to be purely individual.

195. *Creciscus viridis viridis* (P. L. S. Müll.).

Cf. *Nor. Zool.* xii. 1905. p. 304.

No. 1138. ♂ ad., Humaytha, 22. viii. 06. "Iris light red, bill black, feet red."—Wing 86; tail 39 mm.; bill (damaged).

196. *Eurypyga helias* (Pall.).

Ardea Helias Pallas, *New Nord. Beytr.* ii. p. 48. tab. iii. (1781.—Brasilien).

Nos. 1297, 1301, 1303, one without number. ♀ ad., ♀♀ imm. ♂ imm., Humaytha, 20, 27, 29. ix. 06. "Iris red or yellowish red, feet yellowish grey, bill grey, below yellow."

197. *Psophia leucoptera* Spix.

Psophia leucoptera Spix, *Ac. Bras.* ii. p. 67. tab. lxxxiv. (1825.—"in sylvis campestribus fl. Rio Negro"—errore!); Pelzeln, *Zur Ornith. Bras.* iii. 1869. p. 299 (Cachocira das Pederneiras, Rio Madeira).

Nos. 1157, 1158, 1291. ♂ ad., and two adult birds (not sexed), Humaytha, 24. viii., 25. ix. 06. "Iris brownish red or dark brown, feet bluish green, bill yellowish green."

NEW AMERICAN *SATURNIIDAE* AND *CERATO-*
CAMPIDAE.

BY THE HON. WALTER ROTHSCHILD, Ph.D.

1. *Rothschildia chiris* spec. nov.

♂. Similar to *R. aurota* Cram. (1775). Branches of the antenna a little longer. Claspers much more extended fawny. Legs and metanotum less white. Ground-colour more or less deep chestnut, at least in centre of wings on *upperside*.—Forewing: white (semitransparent) discal line straight from costa to two-thirds of hindmargin, strongly undulate, its black border broad, not sharply defined on basal side, the blackish brown line outside the white line less shaded with white scales than in *R. aurota*; the broad whitish pink lobate band very distinct; the halfmoon situated outside the black subapical submarginal spot filled in with two black spots; vitreous patch triangular, the proximal margin incurved.—Hindwing: the submarginal spots all black, the upper ones alone being faintly reddish; the vitreous patch triangular, with the proximal edge incurved.

On *underside* the pinkish white subapical area of forewing separated from the pinkish white band by two patches of the ground-colour; the halfmoon which stands outside the black subapical spot bears a black dot, not a red one; the submarginal spots of hindwing black, except the five upper ones, which are reddish. Upper lobe of clasper much wider than in the various forms of *R. aurota*, the lower lobe on the contrary reduced to a slender non-spatulate process.

Hab. S. Domingo, Carabaya, South-East Peru, 6000 ft., June and July, dry season (G. R. Ockenden).

2 ♂♂.

2. *Rothschildia orizaba peruviana* subsp. nov.

♂. Similar to the ♂ of the preceding subspecies. The discal line of both wings still more strongly dentate. The transparent spot larger, on the basal side incurved or straight. All the submarginal spots of the underside of the hindwing red.

Hab. Carabaya, South-East Peru: La Oroya, Rio Inambari, 3100 ft., and Tinguri, 3400 ft.

5 ♂♂.

3. *Rothschildia orizaba equatorialis* subsp. nov.

♂ bright fawny, ♀ ochraceous; the disc also in ♂ more or less ochraceous between the buff submarginal spots and the white-shaded pinkish fuscous discal area. Discal line of both wings strongly dentate, the pinkish fuscous area situated outside the same broader than in Mexican specimens, and the white scaling of this area less dense. On forewing the halfmoon situated distally to the black subapical spot filled in with red; the white line standing proximally to the subapical spot straight. The proximal edge of the transparent spot rounded, rarely almost straight, the spot rather small on hindwing, with the proximal edge strongly

rounded. The submarginal line of hindwing better defined than in Mexican individuals.

Hab. Western Ecuador: Balzapamba (Haensch), Chimbo and Paramba (Rosenberg), S. Javier at the Rio Cachabi (Flemming & Miketta), Quevedo (Buchwald), S. Domingo de los Colorados (Goodfellow).

4. *Rothschildia orizaba cauca* subsp. nov.

♂. Dark chocolate-tawny. Transparent spots smaller than in Central American specimens of this species, that of forewing proximally almost straight, standing widely separate from the antemedian band and distally not quite reaching to the white discal line; the latter not quite so strongly dentate as in *R. o. orizaba*, at least not so deeply incurved between the two median veins, being also thinner and a little farther from the margin than in that subspecies; the pink discal scaling wider, but not so prominent as in *R. o. orizaba*; the halfmoon situated distally to black subapical spot filled in with reddish, and the white line at the proximal side of that spot nearly straight.—The transparent spot of the hindwing triangular, the anterior and posterior sides being of the same length, the proximal side rounded and much shorter; the pinkish scaling outside the discal line not prominent; the upper submarginal spots very large, reddish.

Underside: the costal margin of forewing of the same deep chestnut colour as the central area of the wing, there being hardly a trace of grey scaling along the costal edge; the pinkish grey area of both wings much extended, the subapical portion of the area on the forewing not being distinctly separated from the discal portion; the submarginal spots of forewing ill-defined on their proximal side, the upper ones of the hindwing large, those in the first four cellules more or less merged together in pairs; the submarginal line black also at apex of wing.

Hab. Cauca valley, Colombia.

1 ♂.

5. *Rothschildia orizaba bogotana* subsp. nov.

♂. Brighter tawny than the preceding subspecies. The abdomen beneath almost entirely white like the elaspers. The transparent spot of the forewing triangular, with nearly straight sides, the proximal and distal sides being of the same length, while the costal side is only half the length, the spot just touching the black discal line, as on hindwing, and standing widely separate from the antemedian band; pink scaling of the disc more concentrated and less extended in width than in *R. o. cauca*.—On the hindwing the transparent spot rounded off distally, the straight proximal side being longer than the costal side; submarginal spots all of nearly the same size, the upper ones reddish.

On *underside* the discal scaling more pink than in *R. o. cauca*, the submarginal spots of the forewing all well defined, and the hindmarginal area paler than in *cauca*.

Hab. Santa Fè de Bogota.

1 ♂.

6. *Rothschildia orizaba meridana* subsp. nov.

♂♀. Similar to *bogotana*. The underside of the abdomen much less extended white. The proximal side of the transparent spot of the forewing only one-third longer than the costal side, sometimes not longer than that side, being often

incurved. On the hindwing the proximal side of the transparent spot shorter than the costal side, which is as long as, or longer than, the hind side.

Hab. Merida, Venezuela (Briceño).

A series of both sexes.

7. *Rothschildia orizaba triloba* subsp. nov.

♂. Transparent spot on both wings deeply incurved on proximal side; in forewing the apex of the spot projecting beyond the rufous border of the discal line, and the lower lobe almost twice the length of the upper one, the lower lobe being also in the hindwing much longer than the upper.

Hab. Tuis and Carreblanco, Costa Rica.

2 ♂♂.

8. *Rothschildia aurota andensis* subsp. nov.

♂♀. Body and median area of wings tawny chestnut, much darker than in *R. aurota aurota*. The mesonotum posteriorly with a more or less distinct white belt, which sometimes merges together with the belt of the metanotum. The grey-pink discal area of both wings more prominent. The white discal line on the whole less strongly undulate, its black border less conspicuous (on account of the deep ground-colour). The hindwing somewhat shorter.

Hab. Carabaya, South-East Peru: La Oroya, Rio Inambari, 3100 ft.; Tinguri, 3400 ft.; La Union, 2000 ft.

A small series.

9. *Rothschildia aricia xanthina* subsp. nov.

♂. White patch on abdomen larger than in *R. a. aricia*. Collar usually with a distinct tawny line. Wings more pervaded with yellow; the discal line on both wings more deeply incurved between the median veins; the submarginal area of forewing yellow from R^2 to M^2 , or at least bearing three orange-yellow patches.

Hab. Carabaya, South-East Peru: S. Domingo, 6000 ft., and Oconeque, 7000 ft.

A series of ♂♂.

10. *Rothschildia jorulla inca* subsp. nov.

♂. Pinkish discal area farther extending forward, deeply dentate on the forewing, far less dilated posteriorly on the hindwing than in *R. j. jorulla* Westw. (1853) and *aroma* Schaus (1905), more sharply defined, being distinctly dentate. The white discal line thinner than in the two Central American subspecies mentioned, its tawny outer border on forewing also thinner, especially towards the costa. The posterior submarginal spots of the hindwing larger than in *jorulla* and *aroma*. Anal hook (of ♂) slender in side-view.

Hab. Carabaya, South-East Peru: La Union, Rio Huacamaya, 2000 ft., and La Oroya, Rio Inambari, 3100 ft. (G. R. Oeckenden).

2 ♂♂.

11. *Rothschildia prionia* spec. nov.

♂. Closely related to *R. jorulla* Westw. (1853), differing essentially in the genitalia. Discal line of both wings strongly dentate, even more so than in West Mexican *jorulla*, both the white line and its red border broad; the pinkish grey

band outside the discal line of the forewing extending costally to near the apical patch, which is brighter pink than in the allied species; the costal angle of the transparent spot of forewing rounded off, the proximal edge of the spot oblique.—The transparent spot of hindwing large, more than twice as long as broad, its basal end obliquely truncate anteriorly and rounded off posteriorly; the pinkish grey discal band narrow, hardly at all dilated posteriorly, dentate, as on forewing; the posterior submarginal spots small, except the last one, which is large above and beneath.—Tenth abdominal tergite (of ♂) slender in side-view, the apical processes short and acutely pointed. The apical lobe of the clasper broad. The penis-sheath with three black teeth, two standing on the soft portion, and one at the strongly chitinised apex on the **left** side.

Length of forewing: 57 mm.

Hab. Maceo, North-East Brazil.

1 ♂.

Resembling also *R. jorulla lebeau* Guér. (1869), but the discal line of the forewing is much more dentate, both wings are rather narrow, the transparent spot of the hindwing is longer, and the pinkish grey discal area of the hindwing is less dilated behind and more distinctly dentate, and the genitalia are quite different.

12. *Rothschildia erycina nigrescens* subsp. nov.

♀. Central area of both wings much washed with black: the pinkish discal area narrower than the space from this band to the margin of wing; outside this pinkish area, which on forewing extends to the tip of the transparent spot, there is a brownish black band, which extends forward to R¹ on hindwing. Between this band and the margin the forewing bears Vandyke-brown patches, followed by a drab band, while the hindwing has a row of large black double spots, outside which there is a row of heavy black bars; transparent spots smaller than in *R. e. erycina*. The *underside* shows similar differences from *R. e. erycina* as the upper.

Hab. Tuis, Costa Rica.

1 ♀.

13. *Rothschildia erycina martha* subsp. nov.

♀. Similar to the preceding subspecies, but approaching *R. erycina erycina*. Central area of both wings more shaded with black than in *erycina*, but less than in *nigrescens*; discal pinkish area of hindwing broader than the marginal area, the brown band outside this area narrower than in *nigrescens* and somewhat lighter brown; the black submarginal spots of hindwing smaller than in *nigrescens*, and the bars situated distally to them thinner. Transparent spots still smaller than in *nigrescens*.

Hab. Onaca, Santa Marta, 2200 ft. (Chas. Engelke).

1 ♀.

14. *Rothschildia erycina vinacea* subsp. nov.

♂♀. Brighter wine-red than *R. e. erycina*; the black borders of the ante-median and discal lines wider; the transparent spots larger. Forewing: the patch at the apex of the transparent spot black; the pinkish discal area narrower, bordered distally by an undulate, creamy or nearly white, line between R³ and M²; outside this creamy line a blackish brown line, which is narrower

than in *nigrescens* and *martha*.—On hindwing the spots situated just outside the pinkish discal area deeper brown than in *erycina*, the submarginal spots also somewhat more blackish; on underside, at outside of pink area, a blackish patch in centre and another before anal angle.

Hab. A long series of both sexes from various places in Carabaya, South-East Peru (G. R. Oekenden).

15. *Rothschildia erycina luciana* subsp. nov.

♀. Antenna blackish brown. Ground-colour of wings dirty tawny, the central area being only faintly tinged with red; the white antemedian and discal lines broad, the discal one of forewing non-dentate from costa to transparent spot; the tawny ochraceous border of this line also broad. Forewing: the disc at tip of transparent spot only slightly darker than the apical costal area; the greyish discal area distally bordered with dirty tawny; the white line extending from apex of wing towards the transparent spot posteriorly farther away from the blackish postdiscal line than in the other subspecies; the clayish drab admarginal band dilated into lobes on the proximal side midway between the veins from R^1 to M^2 .—Hindwing: black proximal border of transparent spot very thin, as on forewing; submarginal spots black, but not large; submarginal bars situated outside them olive-brown.

Hab. Sta. Lucia (S. Branch).

1 ♀.

16. *Dysdaemonia platydesmia* spec. nov.

♂ ♀. In shape similar to *D. pluto* Westw. (1853). Base of forewing and the bands dark brown or bright chestnut; between base and apex of cell there is one broad band which stands nearly at right angles to the hind margin and reaches costal margin at apex of cell, the band being less oblique than the two narrow bands which replace it in *D. pluto* and *kadeni* H.S. The pale interspace situated at the proximal side of this band much dusted with white posteriorly. The short discocellular band joining the antemedian band in front. On disc a broad band corresponding to the double band of *D. kadeni*, deepest in colour at its proximal edge, slightly paling in its centre. The black discal line curved or angulate as in *kadeni* and reaching inner margin at two-thirds, but the point of curvature lying a little farther back than in *kadeni* (at or just in front of M^1); this line as well as its pale outer border in costal region better defined and narrower than in the allied species. Distally to the discal double line a white blotch at inner margin and two between R^3 and M^2 . Distal margin from near apex to about centre of the same colour as the bands.—Hindwing as in Brazilian *pluto*.

Underside nearly as in *kadeni*; the marginal band of forewing tawny.

Antenna more feebly pectinate than in the allied species, the pectinations of all segments being shorter than the segments themselves in both sexes.

Hab. Peru and Costa Rica, in two subspecies.

16a. *Dysdaemonia platydesmia platydesmia*.

Bands of forewing very dark chocolate; the ♀ somewhat brighter than the ♂; the white discal band of hindwing very faint towards costal margin. Under-

side of ♀ pervaded with tawny, especially on hindwing; forewing with a blackish discal band broadly bordered with creamy buff on both sides.

Hab. La Union, Rio Huacamayo, Carabaya, South-East Peru, 2000 ft., November and December, 1904 (G. R. Ockenden).

One pair.

16b. *Dysdaemonia platydesmia castanea* subsp. nov.

♀. Larger than the preceding. Upper- and underside extensively pervaded with chestnut; bands of forewing and anterior half of outer margin of both wings bright chestnut. White band of hindwing extended to costal margin.

Underside: the black discal band of both wings more sharply defined than in the previous subspecies, there being an indistinct tawny band at its proximal side; the marginal area of forewing with two large, connected, buff patches at the median veins; the black marginal line of hindwing broad.

Body chestnut.

Hab. Tuis, Costa Rica.

2 ♀♀.

17. *Dysdaemonia pluto andensis* subsp. nov.

♂. Similar to Brazilian specimens of *pluto*. Forewing: distal margin more rounded between R^3 and M^2 , the marginal area wider between these veins, the double line bordering this area more straight; the discal band which touches the lower angle of cell narrower.—On hindwing the upper portion of the white discal band much nearer the margin, the blackish discal band very wide, being about twice as broad as in Brazilian *pluto*.

Underside: almost uniformly brown, without prominent speckles of brown and buff. Forewing with traces of three fuscous bands in central half, uniting behind; a clayish ochraceous marginal band from the lobe backwards.—On hindwing the basal half hardly paler than the outer half, with a faint fuscous central band; a faint trace of a black spot at apex of cell; a clayish ochraceous patch at apex of SC^2 , another at apex of tail and a few speckles of the same colour along the margin in front of and behind the tail; marginal line thin.

Hab. S. Domingo, Carabaya, South-East Peru, 6000 ft., July 1902, dry season (G. R. Ockenden).

1 ♂.

18. *Dysdaemonia boreas brasiliensis* subsp. nov.

♂♀. Differs from *D. boreas boreas* Cram. (1775) in the curved submarginal line of the upperside of the hindwing fading away towards the tail.

Hab. Rio de Janeiro and farther south.

Machaerosema nom. nov.

Rhescyntis Hubner, *Verz. bek. Schmett.* p. 157 (1822?) (partim).

The type of *Rhescyntis* being *armida* Cram. (1779), a new name is necessary for the genus composed of *hippodamia* Cram. (1777), *martii* Perty (1834), *norax* Druce (1879), and the new species described below. Name-type: *hippodamia*.

19. *Machaerosema hermes* spec. nov.

♂. Forewing much narrower than in *M. hippodamia* Cram. (1777), measuring 38 mm. from hind angle to costa, and 85 mm. from base to apex.

Upperside greyish olive, the markings placed nearly as in *hippodamia*, the antemedian double-line and the median line olive, feebly marked, the median line not accompanied by additional lines; the postdiscal line deep olive-brown, with a greyish olive outer border, upon which follow large olivaceous brown confluent patches which are dusted with dispersed white scaling; the black subapical costal spot smaller than in *hippodamia*.—Hindwing much more rounded than in *hippodamia*, the abdominal margin being shorter, the outer border of the thin olivaceous black postdiscal line greyish olive, the band of transverse submarginal spots much paler than in *hippodamia*, being pale greenish buff.

Underside almost uniformly olive; on forewing the discocellular bar and two lines in outer half, and the discal line of hindwing olive-black; the distal border of the postdiscal line on both wings olive like the ground of the wings.

Hab. British Guiana.

1 ♂.

Grammopelta gen. nov.

♂. Nearest to *Machaerosema*. Antenna dentate. Forewing with four subcostals, the first branching off from the second near apex of wing, stalk of third and fourth subcostals and of the first radial from upper angle of cell; cell shaped as in hindwing, the acute lower angle projecting farther distal than the upper angle.—Hindwing rounded, costal margin somewhat longer than abdominal margin.

20. *Grammopelta cervina* spec. nov.

Body and wings clayish fawn-colour, slightly irrorated with fuscous speckles; beneath slightly paler than above.

Upperside with the following dark sepia-brown lines: on forewing a very oblique line across submedian vein at one-third, a second on the discocellulars, a slightly curved discal line from two-thirds of costa to four-fifths of inner margin, a submarginal line vanishing below apex, the veins also being partly streaked with brown; on hindwing the markings as on forewing, but the discal line quite straight.

Underside marked as above, but the oblique line across the submedian vein absent and the other lines somewhat paler brown; at apex of forewing a patch of white dispersed scales, slightly marked also on upperside.

Apex of forewing somewhat produced, rounded off, the distal margin evenly incurved, not lobate or dentate.

Length of forewing: 63 mm.; width: 31 mm.

Hab. La Oroya, Rio Inambari, Carabaya, South-East Peru, 3100 ft., September 1905 (G. R. Ockenden).

1 ♂.

21. *Rhescyntis championi columbiana* subsp. nov.

♂. Body and wings of a more blackish hue than in Central American specimens, especially the markings; the outer third of underside more grey.

Hab. Santa Fe de Bogotá.

2 ♂♂.

22. *Rhescyntis cymonia* spec. nov.

♂ ♀. Body and legs blackish brown, somewhat russet in pale specimens; soles of tarsi clayish; antenna buff; stigma-spots of abdomen creamy buff.

Upperside: forewing blackish brown, shaded with walnut-brown; the costal area from base to discal line greyish, speckled with brown-black, this area almost extending to hindmargin at base, the wider basal portion being limited by the antemedian line; an elliptical black discocellular spot with grey centre; a black postdiscal line, strongly excurved below costa, twice angulate below middle, bearing on outer side whitish spots on the veins, which spots form a discontinuous line in pale specimens; a black subapical spot contiguous with a double drab-coloured patch, which is followed backwards by a white-edged, drab, undulate line, the white borders extending also partly around the subapical patches; apex reddish; an oblique reddish brown streak below apex, widened to a large submarginal patch, the marginal area being almost entirely of the colour of this patch, or the patch gradually fading away; between the postdiscal line and cell there is another line, which is broad, being distinct only at costal margin in the dark specimens.—Hindwing: a blackish brown broad line beyond middle, a black postdiscal line with pale outer border, angulate below third radial; a more or less continuous row of black, white-edged submarginal spots; disc blackish between the discal and postdiscal lines; a blackish discocellular spot; tail triangular in ♂, resembling that of *R. armida* Cram., indicated by a small notch in ♀.

Underside blackish, more or less pale brown from base to discal line, irrorated with blackish all over; a broad blackish discal line across both wings, followed by a more or less indistinct postdiscal line; in submarginal area dispersed white scales corresponding to the white borders of the submarginal markings of upperside, being more distinct on hind- than on forewing, and easily rubbed away; the area proximally to these markings washed with white, especially on hindwing.

Length of forewing: ♂ 65—70 mm. : ♀ 70—78 mm.

Hab. S. Domingo, Carabaya, South-East Peru, 6000 ft., and Chirimayo, South-East Peru, 1000 ft. (G. R. Ockenden), also from Marepata and Chamamayo.

3 ♂♂, 2 ♀♀.

Nearest to *sylla* Cram. (1779); smaller, forewing proportionately broader, the postdiscal line of forewing continued to costa, more strongly biangulate below middle, etc.

23. *Rhescyntis ponderosa guianensis* subsp. nov.

♂. The lines in basal half of forewing thinner than in *R. ponderosa ponderosa* Rothsch. (1895), described as *Arsenara*; the postdiscal line double; the interspace between this line and the discal one wider than the marginal area.

Hab. British Guiana.

1 ♂.

The species is nearest to *R. batesi* Feld., but is easily recognised by the large buff spot situated on the forewing in front of the third radial vein within the postdiscal double-line.

24. *Citheronia fenestrata* spec. nov.

♂. Head, upper- and underside of thorax, legs, base and apex of abdomen above ferruginous, rest of upperside of abdomen more or less deep brown, underside of abdomen yellow. Two spots at bases of antennae and a transverse black-edged band on metanotum yellowish white.

Upperside of wings like abdomen. At base of forewing a white spot including a black line; one or two patches near base and two below apex of cell ferruginous, ill-defined, sometimes very faint, between which there is a shadowy fuscous antemedian line; at apex of cell a rounded yellowish or ferruginous patch; a black discocellular bar centred by a grey line; beyond this bar usually some ill-defined yellowish or ferruginous patches; on disc a row of three or four transparent spots as in *C. principalis* Walk. (1855); beyond these spots a shadowy band, and before margin a ferruginous yellow zigzag line.—Hindwing with a pale yellow patch at and beyond apex of cell, consisting of two to four spots; discocellular bar black with grey centre, situated in the yellowish patch; below apex of cell a deeper yellow or ferruginous patch, and before margin a zigzag line as on forewing.

Underside: forewing tawny-olive, more fuscous distally; fuscous discal and yellowish submarginal zigzag line vestigial on both wings; hindwing pale yellow like underside of abdomen, fuscous distally and along costa.

Length of forewing: 45–55 mm.

Hab. South-East Peru (type), Upper Amazons, and British Guiana.

6 ♂♂.

Nearest to *C. principalis* Walk. (1855), but very much darker, the hindwing bearing a yellowish white central patch which is absent from *principalis*.

25. *Citheronia collaris* spec. nov.

♀. Body, tibiae and apex of tarsi dark hair-brown, face, palpi and anterior side of forecoxae rufescent; upperside of head, collar (except a thin mesial line), a spot on metanotum, and the underside of the body yellow; abdomen somewhat indistinctly washed with yellow at the base and sides, the tip also being yellowish.

Upperside of wings dark brown, slightly russet, with an ceru-drab gloss. Forewing with a spot at base, an interrupted antemedian line, a large apical patch consisting of two discal and two submarginal spots which are almost completely united, a discal spot before M^1 and traces of a spot before M^2 and of a double spot before SM^1 all yellow; apex of cell bordered by a yellowish tawny halfring; a tawny submarginal zigzag line.—Hindwing small for a ♀, the anal angle almost rectangular, the outer margin much less rounded than in the ♀♀ of other species; costal area as far backwards as centre of cell cinnamon rufous; a submarginal zigzag line tawny; at costal margin beyond middle traces of two yellow spots; a sharply defined, band-like, yellow spot from lower angle of cell to near abdominal edge.

Underside for the greater part yellow; costal area of forewing, except at apex, a large discocellular spot, some patches on disc, the costal margin of hindwing and a small discocellular spot, and on both wings a sharply defined distal marginal band, which measures 10 mm. in width on the forewing and

12 mm. on the hindwing and includes a yellowish zigzag line, all fawn-colour, being slightly vinaceous.

Length of forewing : 52 mm.

„ „ hindwing : 32 mm.

Hab. Paramba, Western Ecuador, June 1899.

1 ♀.

26. *Citheronia consobrina* spec. nov.

♂. In colour close to *C. mexicana aroa* Schaus (1902). Hindwing distinctly produced at anal angle, with a discal band which terminates at anal angle in a fuscous patch. Light markings of underside sulphur-yellow; hindwing washed with ferruginous and yellow below cell. Hair-scales of clasper, except at apex, short; apex of clasper produced into a slender process; harpe much longer than in *C. mexicana aroa*; penis-sheath blade-like, being long, narrow, pointed.

Hab. La Union, Rio Huacamayo, South-East Peru, 2000 ft. (G. R. Ockenden).

5 ♂♂.

27. *Citheronia armata* spec. nov.

♂ ♀. Foretibia of both sexes produced into a long apical process. Body and the vein-streaks of both wings chestnut red in ♂, ferruginous in ♀. Frons, except a thin mesial line, two spots on the pronotum, in ♂ the mesonotum except four lines, nearly the whole pectus, part of the metanotum, the bases of the abdominal segments and the underside of the abdomen yellowish cream-colour, except the stigma-spots and two rows of ventral spots as well as the last segment.

Upperside, forewing: a basal spot, a large median costal patch including six red dots and continued to hindmargin in ♂, a row of discal spots and at the distal margin a row of long arrowhead-shaped spots which merge together to a zigzag line except the upper ones, all yellowish cream-colour; the red veins accompanied by black streaks, which before the outer margin are separated from the veins by the creamy markings.—Hindwing yellowish cream-colour; a discocellular spot chestnut-red; outer fourth, in ♀ outer third, occupied by chestnut-red (♂) or ferruginous (♀) vein-streaks and pairs of black streaks, which are edged with yellowish cream-colour, this latter colour occupying the greater part of the submarginal area between R² and SM²; fringe creamy in ♂, ferruginous in ♀.

Underside similar to upper; the creamy colour rather more extended; both wings with a rounded chestnut-red or ferruginous discocellular spot.

Length of forewing: ♂ 33 mm.; ♀ 40 mm.

Hab. Caldos, Minas Geraes, February, 2 ♂♂ (coll. J. Arp); Sapucay, Paraguay, November (W. Foster), 1 ♀ in Mus. Tring.

28. *Citheronia hamifera* spec. nov.

♂ ♀ Similar to *C. brissoti* Boisd. (1868). The veins of the forewing very slightly reddish. Hindwing always with a tawny marginal band on upperside, the discal line of the underside being obsolescent or ill-defined and the costal margin more or less tawny or fuscous. Harpe (of ♂) very large, curved upwards to the dorsal margin of the clasper, forming nearly a semicircle.

Hab. Trinidad; British Guiana; South-east Peru.

Perhaps the extra-Brazilian representative of *C. brissoti*.

28a. *C. hamifera hamifera*.

Forewing tawny in ♂, more fuscous in ♀; yellow submarginal band of hindwing above vestigial, or at least narrower than the tawny marginal band, sometimes the upperside of the hindwing all tawny, with only a vestige of yellow.

Hab. Trinidad and British Guiana.

10 ♂♂, 2 ♀♀.

28b. *C. hamifera fuscalis* subsp. nov.

Forewing of ♂ fuscous; the yellow submarginal band of the hindwing above broader than the tawny marginal band.

Hab. La Union, Rio Huacamayo, Carabaya, South-East Peru, 2000 ft. (G. R. Ockenden).

2 ♂♂.

29. *Citheronia laocoön lobesis* subsp. nov.

♂. The reddish brown colour of the upperside of the forewing so much extended that the yellow area is reduced (as in some ♀♀ of *C. laocoön*) to a large discocellular patch, below which there are some small yellow spots, and to a very large subapical patch continued backwards by a row of widely separated spots—namely, a small spot, a larger one, two small ones, and again a larger one, the last standing at the hindmargin; the reddish brown distal marginal area narrower at apex and wider behind than in Brazilian *laocoön* ♂♂.—On hindwing the subbasal tawny patch merged together with the rather ill-defined discal band.

On *underside* the costal margin and disc of forewing more extended tawny than in *laocoön*; discal line of hindwing shadowy.

Hab. Bebedero, Costa Rica (J. Underwood).

1 ♂.

30. *Eacles imperialis oslari* subsp. nov.

♂. As broad-winged as Atlantic specimens of *imperialis* Drury (1773). Hindwing on both sides with a broad discal line, which is wider in front than in all the specimens of *E. i. imperialis* which we have seen, the discal line of the underside of the forewing also being continued to the hindmargin. Antenna as in *imperialis*.

Hab. Nogales, Arizona, July 1903 (E. Oslar).

4 ♂♂.

31. *Eacles imperialis tucumana* subsp. nov.

♂. Similar to *E. i. magnifica* Walk. (1855); the forewing very acute, the discal line broad above and below, being continued to the hindmargin. Hindwing also with a broad discal line on both sides.

Hab. Tucuman, N.W. Argentina.

1 ♂.

32. *Eacles imperialis decoris* subsp. nov.

♂. Similar to *E. i. imperialis*. Antenna the same, *i.e.* more segments are pectinated than in *E. i. magnifica* Walk. (1855) from South America. Forewing narrower than in *E. i. imperialis*, but much less acute and falcate than in *E. i. magnifica*. The process situated between the clasper and the anal segment larger than in *imperialis*; the penis-sheath without a tooth on the dorsal surface.

♀. The discal line of both wings as broad as in *E. i. imperialis*, being broader than in *magnifica*; the basal area yellow, but the antemedian line nearly as broad as in *imperialis*.

Hab. Guatemala (type) and Vera Cruz.

♂ ♂♂, 2 ♀♀.

33. *Eacles masoni fulvaster* subsp. nov.

♂. Ground-colour deeper yellow than in the Central American form of *masoni*, the reddish tawny colour more extended, the yellow patch at the apex of the cell of forewing larger, the anterior discocellular spot of the forewing absent; underside of abdomen and face more or less shaded with reddish tawny. Genitalia very different: anal tergite without a tubercle or process on the dorsal surface; clasper truncate at apex, bearing a strongly chitinised, obliquely transverse ridge close to tip; penis-sheath with numerous conical teeth on the soft portion.

Hab. La Union, Río Huacamayo, Carabaya, South-East Peru, 2000 ft., December 1904 (G. R. Ockenden).

4 ♂♂.

34. *Eacles callopterus* spec. nov.

♂. Body as in *E. masoni masoni* Schaus (1896). Wings, *upperside*: forewing much narrower than in the two subspecies of *E. masoni*; postdiscal line nearer to margin, and, like the marginal band, of a rose-pink colour; disc proximally to the postdiscal line yellow from the costa to the hindmargin, this yellow area very ill-defined on the proximal side, rest of wing yellowish tawny, with a delicate rosy pink line; at basal third an indistinct rosy pink line; one discocellular spot, which is round, transparent, bordered with rosy-pink.—Hindwing narrower than in *E. masoni*, longer behind than in front, the distal margin less rounded than in *masoni*, the subbasal patch, discal line and marginal band rosy-pink, the round discocellular spot as in *E. masoni*.

Underside yellow, irrorated with brown and pink speckles; costal margin of forewing, marginal band and postdiscal line of both wings pinkish; discocellular spot of forewing larger than that of hindwing, with a minute dot in front, which is indicated also on the upper surface.

Anal tergite (of ♂) sinuate at apex. Clasper ending in a slender process, the ventral margin bearing a lobe before this process; dorsal basal process of clasper long. Penis-sheath armed with many conical teeth on the soft portion, bearing a dentate ridge on the reverse side.

Hab. Santo Domingo, Carabaya, South-East Peru, 6000 ft., July 1902 (G. R. Ockenden).

1 ♂.

Apparently nearest to *E. acuta* Schaus (1905) from British Guiana, which we know only from the description.

35. *Othorene klagesi* spec. nov.

♂. Upperside of thorax and wings olivaceous walnut-brown; head, upperside of abdomen and sides of metanotum more or less ferruginous, underside of abdomen and sides of breast butlish clay, somewhat vinaceous.

Wings, *upperside*: forewing with a white spot at the base; before apex from costa parallel to margin and extending to about middle an ecru-drab shade.—

Hindwing ferruginous tawny from base to about centre, or the whole wing of that colour, except the costal and distal margins.

Underside: ochraceous from base to disc, this colour gradually shading into drab in apical third.—Hindwing drab, distally fawn-colour, more or less vinaceous clay-colour from abdominal margin into cell, both wings having a faint trace of a brown discal line in costal region.

Length of forewing: 35 mm.

Hab. Aroewarwa Creek, Maroewym Valley, Surinam (S. M. Klages), and British Guiana.

2 ♂♂.

36. *Othorene polybia longispina* subsp. nov.

♂. In colour almost identical with *O. p. polybia* Cram. (1782), = *subochreate* Schaus (1904), from the Guianas, but the discal line on the underside of the wings rather more distal in position. Genitalia different; the dorsal process of the anal tergite much longer; the anal sternite flat, truncate; ventral edge of clasper with a short obtuse lobe instead of the hook found in *O. p. polybia*; a bundle of black spines in proximal half of the ventral edge of the clasper and another bundle of long spines basally at the dorsal edge, these latter spines projecting almost to the apex of the process of the anal tergite.

Hab. La Union, Rio Huacamayo, South-East Peru, 2000 ft., December 1904 (G. R. Oekenden).

4 ♂♂.

37. *Othorene carabaya* spec. nov.

♂. Agrees in colour and shape of the wings best with *O. arpi* Schaus (1892), the forewing being a trifle more elongate than in *O. polybia* Cram. and the distal margin of the hindwing less rounded. The antemedian line of the forewing either joins the discal line at or behind the second median vein, or there remains a narrow interspace before the hindmargin filled in with white; in the former case the lines either stop short at the second median vein (name-type) or are continued as one to the hindmargin. The chief difference is found in the genitalia—which deviate remarkably from those of *O. polybia* Cram., *arpi*, and *jancira* Schaus (1892). The anal tergite is sinuate at the apex and bears just above this sinus two small sharp hooks as in *O. polybia*, but there is no dorsal process; the anal sternite is flat, short, broad, and truncate; the clasper bears a number of black spines ventrally in the basal half, there being no dorsal bundle of such spines; the harpe of the clasper is long, ending in a sharply pointed black hook which almost extends to the apex of the clasper; the penis-funnel, situated beneath the penis-sheath, is compressed, bearing a mesial dentate ridge.

Hab. S. Domingo, Carabaya, South-East Peru, 6000 ft. (G. R. Oekenden).

A series of ♂♂.

38. *Othorene ocellata* spec. nov.

♂. Tawny, ochraceous, patagia and basal and distal areas of upperside of forewing shaded with vinaceous.

Wings, *above*: forewing with two lines as in *O. jason* Boisd. (1872) and *nisa* Druce (1904); a white discocellular spot, usually double.—Hindwing reddish tawny, the distal and costal margins paler.

Underside: forewing red from base to disc, distal marginal area vinaceous

bordered by a deep vinaceous discal line, costal area from apex of cell to discal line yellowish tawny; a large black discocellular spot centred with white.—Hindwing vinaceous buff, the costal margin darker; a feeble discal line from near apex to about middle of disc.

Genitalia: Anal tergite sinuate at apex, each lobe bearing two black transverse teeth; on upperside of the tergite a large, pale, transversely folded, proboscis-like projection. Clasper large, sole-shaped or truncate, with a basal ventral ridge which terminates in an obtuse tooth. Penis-sheath produced into one or two apical processes.

Hab. Peru and Venezuela.

Two subspecies.

The large, black, white-centred discocellular spot on the underside of the forewing easily distinguishes this insect from its near allies, the genitalia, moreover, being very different.

38a. *Othorene ocellata ocellata*.

♂. Less than twenty segments of the antenna pectinate. White discocellular spot of forewing transverse, at least on the underside. Clasper long, sole-shaped, subacuminate. Penis-sheath with one conical apical process.

Hab. Carabaya, South-East Peru; La Oroya at the Rio Inambari, Tinguri and Santo Domingo (G. R. Oeckenden).

A series.

38b. *Othorene ocellata bidens* subsp. nov.

♂. Antenna with more than twenty segments pectinate. Black discocellular spot of underside of forewing rounded, with rounded white centre. Dorsal process of anal tergite longer than in the preceding subspecies; the clasper truncate, much shorter than in *O. o. ocellata*, with an additional low ridge, which ends at the ventral margin before the apex. Penis-sheath with two long apical processes, the one conical, the other spatulate, being dentate at the edges.

Hab. Merida, Venezuela (Briceño).

2 ♂♂.

39. *Othorene adusta* spec. nov.

♂. Body orange-buff on upperside, head and underside of body creamy buff, slightly vinaceous. Sides of mesonotum and the basal and distal areas of forewing shaded with vinaceous fawn-colour.

Wings, *above*: forewing with a straight antemedian and a nearly straight discal line, both brownish black, the area between these two lines orange, as are also some large patches situated outside the discal line between 3. radial and hindmargin.—Hindwing much more rounded, especially at anal angle, than in *O. jason* Boisd. (1872), *nisa* Druce (1904), and the species described above, orange-buff from base to the faint discal line and as far backwards as middle of cell; rest of wing tawny, being somewhat reddish below apex of cell.

Underside: forewing orange-ochraceous shaded with brown towards apex, the costal margin from base to three-fourths, and the distal marginal area except a triangular space at hindmargin vinaceous fawn-colour; on discocellulars a faint brownish spot.—Hindwing creamy buff, the costal and distal margins broadly vinaceous fawn-colour; a brownish shade from costal margin near apex parallel to distal margin, gradually fading away between the median veins.

Genitalia: the general structure as in *O. nisa*, with which *O. adusta* occurs together, but different in the detail. Anal tergite broad, flat, slightly curved downwards, the tip feebly sinuate. Lateral portion of the clasper feebly chitinised, sole-shaped, the ventral portion incrassate, convex on the ventral surface, concave inwardly, bearing a number of short conical teeth at the edge; from the dorsal edge of the clasper there projects a very long slender process, lying above the anal tergite and being recurved at the apex, which is obtuse; a second long slender process between clasper and the small anal sternite, this second process also extending above the anal tergite, being sharply pointed; in *O. nisa* the first process is only slightly curved and has a pointed tip, while the second process is bent downwards and then upwards again, both processes being longer than in the new species.

Hab. S. Domingo, Carabaya, South-East Peru, 6000 ft., July 1902 (G. R. Oeckenden).

1 ♂.

40. *Othorene purpurascens intermedia* subsp. nov.

♂ like that sex of *O. p. purpurascens* Schaus (1906) from the Guianas, but the blackish antemedian and discal lines of the forewing more distinct, and the clasper acuminate, not truncate or sinuate at apex.

♀ similar to that sex of *O. verana* Schaus (1900) from Mexico and Guatemala, but the ground-colour deeper and the lilacine shading along the lines more pronounced.

Hab. Tuis, Costa Rica.

One pair.

41. *Othorene pelias* spec. nov.

♀. Head, upperside of thorax and base of abdomen ochraceous, the abdomen gradually shading into pinkish buff behind; underside of body dirty pinkish buff, the legs washed with fawn-colour; patagia edged with fuscous. No projecting scent-organ at apex of abdomen.

Upperside of wings clayish ochraceous. Forewing with an antemedian and a discal line, both straight and blackish, the distal marginal and the basal areas pink-buff; a rounded white discocellular spot at lower angle of cell; the whole wing, which is more elongate than in *O. boisduwali* Donm. (1859), minutely irrorated with fuscous; hindmargin thinly edged with fuscous.—Hindwing ovate, being distally evenly rounded, ochraceous, shading into clayish at distal margin; a diffuse blackish distal line, not quite extended to abdominal margin, curved, situated at one-third the distance from lower angle of cell to outer margin; fringe white.

Underside clayish pinkish buff, distal marginal area greyish; the discal line as above, but broader; disc shaded with fuscous towards costal margin, being more densely irrorated with fuscous speckles than the rest of the wings; forewing buff at base below cell.

Length of forewing: 52 mm.

Hab. Reyes, Bolivia (Maxwell Stuart).

1 ♀.

42. *Othorene tristygma amazonica* subsp. nov.

♂. Similar to *O. tristygina plateada* Schaus (1906) from the Guianas; the blackish markings rather more pronounced, the forewing beneath bearing a large

black angle-shaped discocellular spot. The long process and the fork of the clasper more strongly dentate.

Hab. Fonte Boa, Upper Amazons, May 1906 (S. M. Klages).

1 ♂.

43. *Othorene vinacea* spec. nov.

♂. Head, thorax, and the extreme base and tip of abdomen tawny ochraceous, patagia and abdomen vinaceous, underside of body vinaceous buff, the coxae partly ochraceous; 13 segments of the antenna pectinate.

Wings, *upperside*: forewing vinaceous buff in distal marginal and basal areas, the median area which extends close to the tip of wing being tawny ochraceous; no lines, but the whole wing faintly speckled with fuscous; no distinct discocellular spot.—Hindwing vinaceous red, deepest in tint between apex of cell and abdominal margin; distal edge nearly straight.

Underside: basal half of forewing and abdominal area of hindwing vinaceous red, rest of wings vinaceous pink; no markings, but costal area of hindwing and distal area of forewing more or less irrorated with fuscous.

Anal tergite divided into two short lobes, which bear each a small conical tooth on the upperside; anal sternite flat, triangular. Clasper modified, bearing a scent-organ; on inner side a black thorn-like process, and another longer one near base. Apex of penis-sheath widened, resembling the involucre of an Arum lily.

Length of forewing: 32 mm.

Hab. S. Domingo, Carabaya, South-East Peru, 6000 ft., January and July (G. R. Oekenden).

3 ♂♂.

44. *Othorene catoxantha* spec. nov.

♂ ♀. Similar to *O. subangulata* H. S. (1855), larger, forewing more pointed, with the antemedian and discal lines more prominent; the underside of forewing yellow instead of red. Antenna in ♂ with 16 or 17 pectinated segments, in ♀ with 23 to 25.

Length of forewing: ♂ 35—38 mm., ♀ 48 mm.

Hab. Fonte Boa, Upper Amazons (S. M. Klages); La Oroya and Tinguri, Carabaya, South-East Peru (G. R. Oekenden).

A series.

O. acuta Schaus (1905) is a closely allied species which is paler and smaller, the hindwing bearing above a large red patch instead of being all red, and the black discocellular spot of the underside of the forewing having a white dot. We have *acuta* from Venezuela and also from Carabaya, South-East Peru.

45. *Othorene diluta* spec. nov.

♀. About twenty segments of the antenna pectinated. Body creamy buff, upperside of abdomen washed with pink.

Wings, *upperside*: forewing in shape resembling that of *O. crocata* Boisd. (1872), but more elongate, with the tip more pointed; creamy buff, distal marginal area slightly shaded with fuscous, especially along the fuscous discal line, which extends from apex to two-thirds of hindmargin; a diffuse fuscous antemedian line, angulate in cell; on discocellulars a faint fuscous patch.—Hindwing rosy red, shading into creamy buff at distal margin.

Underside creamy buff. Forewing rosy from cell to hindmargin; discal line as above, becoming rosy behind.—Hindwing with incurved costal margin as in *O. crocata* Boisd. (1872), *pelota* Schaus (1906), *invalida* Schaus (1900), and others; a broad fuscous line from near apex to centre; the wing palest behind.

Length of forewing: 32 mm.

Hab. Rio Pilcomayo to Rio Grande, North Argentina, December 1903 (J. Steinbach).

1 ♀.

46. *Adelocephala hypoxantha* spec. nov.

♂. Collar, upperside of abdomen, and sides of breast ochraceous; upperside of thorax, legs, underside of abdomen, and both sides of wings fawn-colour.

Wings, *above*, minutely speckled with drab.—Forewing narrow, the hindmargin comparatively long; a faint trace of an antemedian line and a more distinct broadish discal line hair-brown; a rather large discocellular spot blackish.—Hindwing elongate-ovate, the distal margin strongly and almost evenly rounded; basal area washed with ochraceous; a diffuse discocellular spot fuscous.

Underside similar to upper, both wings shaded with ochraceous at base below cell; discal line of forewing still less distinct than above and the cell more or less fuscous.

Length of forewing: 27—30 mm.

Hab. Tucuman (J. Steinbach).

A series.

47. *Adelocephala affinis* spec. nov.

♂ ♀. Almost exactly like the Brazilian *A. cinerea* Schaus (1900); the pale distal marginal area of both wings broader and the genitalia very different, the anal tergite of the ♂ terminating in a short sharp hook, being somewhat dilated proximally to this hook and bearing two small tubercles or vestiges of tubercles on this widened portion. The clasper bears a dorsal process which is slender, very feebly chitinised, and lies above the anal tergite; between the clasper and the anal sternite there is a lanceolate or triangular, flat, black process; the clasper of the right side has a long slender basal ventral process which projects anad, being somewhat twisted; this process represented by a small tooth on the left-side clasper.

Hab. Venezuela, the Guianas, Upper Amazons, and Pern.

Perhaps a representative of *A. cinerea*, but the genitalia are so different that we think it wiser to treat the insects as being specifically different till we are acquainted with an intermediate form.

47a. *Adelocephala affinis affinis*.

♂. Collar more ochraceous than in *A. cinerea*; hindwing more rounded. Anal tergite without distinct tubercles on upperside, the widened portion being merely impressed mesially. Upper process of clasper very thin, almost thread-like; the black inner process elongate-triangular, produced into a rather long point, the ventral edge serrate.

♀. Pale marginal area of both wings half as wide again as in *A. cinerea*.

Hab. Merida, Venezuela.

Several ♂♂, 1 ♀.

47b. *Adelocephala affinis photophila* subsp. nov.

♂. Distal margin of hindwing straight or even slightly incurved, the wing resembling in shape that of *A. cinerea*; pronotum and centre of mesonotum much less ochraceous than in *A. affinis affinis*. Anal tergite with two small tubercles on upperside; dorsal process of clasper widened near its origin, then narrowed again; this process much broader, and the black internal process of the clasper very much shorter than in the previous subspecies. The ground-colour is either pinkish brown or more olivaceous, the forewing being devoid of a discocellular spot or bearing a white spot, which is sometimes double.

♀. Deeper in colour than our ♀ of *A. affinis affinis*, especially the body less bright ochraceous.

Hab. Aroewarwa Creek, Surinam and Fonte Boa, Upper Amazons (S. M. Klages).

A long series of ♂♂ and some ♀♀.

48. *Adelocephala hemirhodia* spec. nov.

♂. Head pinkish ochraceous buff, thorax hair-brown, slightly purplish, abdomen ochraceous pink.

Wings, *upperside*.—Forewing dark hair-brown, with a slight pink tint, very densely irrorated with hair-brown, distal marginal area shaded with grey, no lines, but a diffuse fuscous stigma.—Hindwing buff pink, the outer edge shaded with hair-brown; fringe whitish, a deeper pink discocellular spot.

Underside of forewing dull pink-red; costal margin and distal marginal area washed and speckled with hair-brown, there being a shadowy fuscous line at the proximal side of the marginal area; a dark hair-brown bar on discocellulars.—Hindwing buff pink, irrorated with hair-brown along costa; the costal edge almost straight, slightly rounded near base, but not incurved beyond middle.

Genitalia: anal tergite slightly narrowing towards tip, the latter black, a little widened, obtuse, slightly incised mesially, each lobe subtruncate in side view, the upper angle being feebly acuminate. Clasper small, with long hairs, a long, thin, black, pointed process dorsally at base, not extending to apex of anal tergite. Anal sternite triangular, the apex being somewhat rounded.

Length of forewing: 25 mm.

Hab. Tuenman (J. Steinbach).

1 ♂.

49. *Adelocephala sabulosa* spec. nov.

♂. Upperside of thorax dark brown; abdomen lighter in colour; underside pinkish.

Wings, *upperside*.—Forewing variable in ground-colour, dark brown or clayish, very densely speckled with blackish; a blackish line from apex to two-thirds of hindmargin, slightly incurved below centre; the distal marginal area bordered by this line greyish; no antemedian line; a white bar on discocellulars, often separated into two spots.—Hindwing pinkish brown or pinkish vinaceous, with a faint trace of a fuscous discal line.

Underside dull vinaceous buff.—Forewing dull reddish in centre; costal edge shaded with fuscous; a discocellular spot and a discal line blackish brown; distal marginal area greyish vinaceous buff, with a few blackish

speckles.—Hindwing fuscous in costal third from base to discal line, the latter thin, blackish, not reaching abdominal margin; rest of wing greyish vinaceous buff; costal area speckled with black; costal margin rounded at base, then slightly incurved.

Genitalia: anal tergite narrow, divided into two short slender processes, which are rounded above at the tip; anal sternite long, gradually tapering to a point. On each side of the penis-sheath a long, nearly membranaceous, truncate process covered with minute hairs. Clasper much reduced, the distal portion membranaceous, being modified into a scent-organ.

Length of forewing: 25 mm.

Hab. Tucuman (J. Steinbach).

2 ♂♂.

50. *Adelocephala lanaris* spec. nov.

♂. In shape and colour very close to *A. brevis* Walk. (1855). Antenna with 16 pectinated segments. Forewing less elongate, the distal marginal area wider, the discal line thinner and more distinctly edged with grey on the proximal side. Hindwing more rounded, especially at the anal angle, the reddish patch smaller. On *underside* the forewing clayish behind, not ochraceous; a diffuse subcostal fuscous cloud from middle of cell to apical fourth of wing; apex of forewing and the hindwing more brownish than in *A. brevis*, and more speckled with fuscous; the discal line of hindwing less sharply marked.

Genitalia quite different: anal tergite compressed, wide in vertical direction, mesially deeply impressed, being bicarinate; apex sinuate in dorsal aspect, each short lobe irregularly dentiform, the real apical edge being straight; anal sternite divided into two strongly chitinised, black, triangular plates. Clasper with strongly developed scent-organ, the distal half of the clasper being reduced and membranaceous, bearing long wool; inside the clasper a curved lamella, the edge of which is more strongly chitinised and ends in a short thorn, this chitinised edge forming almost a semicircle; at base of clasper a thorn-like process. Penis-sheath obtusely acuminate; beneath the sheath two further thorn-like black processes.

Hab. Bahia.

2 ♂♂, ex coll. Felder.

51. *Adelocephala anthonilis analis* subsp. nov.

♂. Forewing broader than in *A. a. anthonilis*, the two lines wider apart, the discal line standing farther away from the cell; wool of the clasper ochraceous, and the long ribbon-like process of the clasper gradually tapering, not being widened before apex.

Hab. La Union, Rio Huacamayo, South-East Peru, 2000 ft. (G. R. Oekenden).

6 ♂♂.

52. *Adelocephala homoea* spec. nov.

♂. Similar to *A. anthonilis*; larger; body and wings washed with vinaceous, being pale vinaceous buff.* Forewing more elongate, the hind angle more rounded, the two lines as widely separate at hindmargin as in *A. anthonilis analis*, but the proximal line more oblique, reaching costal edge nearer to apex of cell; costal and distal margins of hindwing less rounded. Anal tergite and the ventral process of

* Ridgway, *Nomencl. Colours*, Pl. 5, No. 15.

the clasper broader, the long ribbon-like process of the clasper much widened beyond the middle, the thorn-like apical portion being long; the long hair-scales of clasper concolorous with the abdomen, not being ochraceous as in the Peruvian form of *A. anthophilis*.

Length of forewing : 38 mm.

Hab. S. Domingo, Carabaya, South-East Peru, 6000 ft. (G. R. Ockenden).

4 ♂♂.

53. *Adelocephala tibialis* spec. nov.

♂. Fore- and midtibiae ending in a naked process. Antenna with 27 pectinated and 11 simple segments. Collar, base of abdomen and underside of body pinkish; upperside of thorax wax-yellow, patagia edged with pink, abdomen clayish, the bases of the segments creamy, anterior coxa rose-pink.

Wings, *upperside* : forewing chrome-yellow, a discal line running from tip of wing to three-fifths of hindmargin, diffuse on outer side, and the distal and hindmargins pink: a small white stigma situated in a pink ring.—Hindwing pink.

Underside like body, creamy white, flushed with pink; the discal line of forewing just visible; costal edge of hindwing rounded at base, then slightly incurved.

Length of forewing : 19 mm.

Hab. Estancia Cooper, Alto Paraguay (Th. Inslay).

1 ♂.

Resembling *A. pamala* Schaus (1900) in colour, but easily recognised by the armed tibiae.

54. *Anisota oslari* spec. nov.

♀. Head, front part of thorax, breast and upperside of abdomen ochraceous; mesonotum, underside of abdomen except the edges of the segments, and the legs clayish buff.

Wings, *above* : forewing clayish buff, basal area and a discal line very faintly grey; stigma white, rounded; no fuscous irroration; distal margin more straight and hind angle less rounded than in *A. stigma* F. (1775)—Hindwing clay-colour, washed with reddish, especially in costal half; no line on disc; costal edge distinctly longer than abdominal edge.

Underside clay-colour, washed with reddish, especially in proximal half of forewing and costal half of hindwing; no markings.

Length of forewing : 35 mm.

Hab. Nogales, Arizona, July 1903 (E. J. Oslar).

2 ♀♀.

Mr. Oslar says he "obtained these two specimens from chrysalids dug from the roots of the century or mescal plant." Nearest to *assimilis* Druce (1886), of which only the ♂ is known.

NOTES ON PAPUAN BIRDS.

BY THE HON. WALTER ROTHSCCHILD, PH.D., AND ERNST HARTERT, PH.D.

(Continued from Volume X, 1903, p. 489.)

[For the localities mentioned in these notes see the "Introduction" to this series of articles in *Nor. Zool.* 1901, pp. 55—61, and the maps, Pls. II. and III. in the same volume of this Journal. The former portions of this series are as follows: Vol. viii, pp. 55—88 (Introduction, *Pittidae*, *Psittaci*), and pp. 102—162 (*Columbae*, *Megapodiidae*, *Rallidae*, *Limicolae*, *Alcedinidae*); Vol. x, pp. 65—116 (*Paraliseidae*, *Corvidae*, *Laniidae*, *Dicruridae*, *Oriolidae*, *Artamidae*, *Sturnidae*), pp. 196—231 (*Meropidae*, *Coraciidae*, *Podargidae*, *Caprimulgidae*, *Cypselidae*, *Campoplegidae*, *Nectariniidae*, *Dieneidae*, the genus *Myzomela*, *Motacillidae*, *Sylviidae*, *Timeliidae*); and pp. 435—480 (*Meliphagidae*, the genus *Zosterops*, *Hirundiinidae*, *Muscicapidae*, additions to *Dicaeidae*, *Laniidae*, and *Tinidiidae*). We hope to continue the subject shortly.]

XXX. CUCULIDAE.

Cuculus saturatus Blyth.

Cuculus saturatus Blyth, *Journ. As. Soc. Bengal* xii, p. 942 (1843: ex Hodgson, MS.; Nepal).

♂ fere ad., Pigén in the St. David's or Mapia group, north of Arfak, October 1896. W. Doherty coll.

2 ♀ ♀ juv., Punatch or Bras, in the St. David's or Mapia group, October 1896. W. Doherty coll.

♂ ad., Mysol, 16. i. 1900. H. Kühn coll. (No. 1776.)

2 ♂ ♂ fere ad., 1 ♀ ad., Milue Bay 12. xii. 1898, 17. i. 1899. A. S. Meek coll. (Nos. 2168, 2174, 2181.)

1 ♂ ad., Avera, Aroa River, 9. iii. 1903. A. S. Meek coll. (No. A. 386.)

THE GENUS *CACOMANTIS*.

The species of the genus *Cacomantis* are not too well known and their nomenclature has so often been changed that it is not easy to name a *Cacomantis*. The Papuan forms were well explained by Salvadori in the immortal *Ornitologia della Papuasia*, far less clearly in vol. xix. of the *Cat. B. Brit. Mus.* Their nomenclature has afterwards been involved, because partially wrongly interpreted by Finsch in *Notes Leyden Museum* xxii, pp. 81—89, though some valuable notes on types and others were added.

The species inhabiting New Guinea—as far as they are known to us—may be distinguished as follows:

Upper surface deep bluish schistaceous, underside bright chestnut-rufous. Wing about 115—120 mm. Young unbarred above and below: *C. castaneiventris*.

Upper surface bluish schistaceous, underside dirty clouded chestnut-brown. Wing about 137—142 mm. Young unbarred above, barred below: *C. excitus*.

Upper surface pale greyish olivaceous,* underside pale grey, washed with

* There appears to be a clerical error in *Cat. B. Brit. Mus.* xix, p. 272, where the head is said to have barely a trace of grey, while, as a rule, it is almost entirely grey with only a tinge of olivaceous.

buffy cinnamon, under tail-coverts cinnamon buff. Young barred above and below : *C. variolosus*.

Upper surface olive-brown with a bronzy gloss ; underside rufous-cinnamon, more or less washed with grey or almost entirely grey, under tail-coverts bright rufous cinnamon. Young barred above and below : *C. assimilis*.

***Cacomantis assimilis assimilis* (Gray).**

(In our former writings we accepted [*Nor. Zool.* 1901, p. 185 ; 1903, p. 5] for this cuckoo the name *insperatus* of Gould. That bird, however, is described as blue-grey above, and it came from Australia, where the present form has not been found. Dr. Finsch used the name *dumetorum* of Gould, but the same objections as to *insperatus* are to be made to the term *dumetorum* : it is described as blue-grey above, and occurs in New South Wales. Neither of the two names can therefore be accepted for a bird which is above olive-brown with a bronzy gloss which does not come from New South Wales. The nomenclatures of Shelley and Finsch are thus erroneous, and we must follow Salvadori, who accepted the next early name—*assimilis* of Gray.)

Cuculus assimilis Gray, *P.Z.S.* 1858, pp. 184, 195 (Aru Islands).

Cacomantis infaustus Cabanis and Heine, *Mus. Hein.* iv. p. 23 (1862 : Mysol. Finsch [*Notes Leyden Museum* xxii. p. 81] accepts the name *infaustus* for the bird correctly to be called *castaneiventris* ; the description, however, does not fit *castaneiventris*, but an immature *assimilis*).

We have the following specimens belonging to *C. assimilis* :

3 immature birds from Dobbo and Kabroor, Aru Islands, collected by H. Kühn.

6 adult and 4 young birds from the Key Islands, collected by H. Kühn. These were formerly mentioned under the name of *C. insperatus* (*Nor. Zool.* 1903, p. 239).

1 ♂ ad., Kisoei, 3 fairly adult ♂ ♀ Teoor, 2 ad. 1 juv. Gorom, also enumerated as *C. insperatus*, l.c.

2 ♂ ad., 1 med., 3 juv., Mysol, January 1900 (Nos. 1771, 1773, 1775, 1873, 1979, 1980). Collected by H. Kühn.

1 ad., 2 juv., Obi Major, collected by Lucas (No. 4) and Waterstradt.

4 ad., 5 med., 3 juv., Batjan, Doherty and Waterstradt coll.

1 ♂ ad., 1 ♀ juv., Kapaur, Dutch New Guinea, December 1896, W. Doherty coll. "Iris purplish brown, darker inwardly. Feet orange, claws black. Bill black, gape and base of lower mandible reddish."

3 ♂ ad., 1 ♀ juv., Mafor, May and June 1897. W. Doherty coll.

1 ♂ ad., Simbang, Kaiser Wilhelm's Land, 18. viii. 99. Dr. Nyman coll.

2 ♂ ad., 2 ♀ juv., Avera, Aroa River, January to March 1903. A. S. Meek coll. (Nos. A 11, 252, 432, 458.)

1 ♂ ad., Bibagi, head of Mambare River, north side of Owen Stanley Mountains, January 1896. (No. A 2317.) A. S. Meek coll.

1 ad., 1 med., 1 very young, Milne Bay, east coast of British New Guinea, December 1898, April 1897. (Nos. 2176, 2479, 2482.) A. S. Meek coll.

1 ♂ ad., Collingwood Bay, June 1899. (No. 2557.) A. S. Meek coll.

***Cacomantis assimilis websteri* Hart.**

Cacomantis websteri Hartert, in Webster's *Through New Guinea* p. 370, and *Ibis* 1899, p. 278 (New Hanover).

Besides the type specimen we have now two more, which were preserved in spirits, and both are also slaty grey on the under surface, with hardly a suspicion

of a rufous tinge. One has the under tail-coverts grey with rufous tips and bars, the other rufous but grey towards the base.

This seems to be a fairly distinct subspecies of *assimilis*. In our large series of *assimilis*, as enumerated above, there are only two or three specimens which are uniformly grey underneath, and in those the grey is paler than in the *websteri*. Moreover, the under tail-coverts in the former are brighter and always rufous. It would be a very strange thing if all three adult New Hanover specimens were aberrations! Moreover, the young specimen from New Hanover is darker than any of our young *C. a. assimilis*.

So far we are quite at ease; but there are also *Cacomantis* of this group on New Ireland, New Britain, and on the d'Entrecasteaux Islands. About these we are not at all certain. Years ago we have discussed the specimens from Fergusson Islands, and we still find that they have longer bills than nearly all *assimilis* from other places. The few skins before us from New Ireland (three adult ones) are grey underneath, almost without a rufous wash, and their tails are very long. This has already been pointed out by Finsch. Their under tail-coverts are uniform cinnamon rufous. One from Duke of York Island (coll. by Kleinschmidt) is more rufous underneath. Few of the tails are complete, and we consider this material too meagre to deduct any conclusions from. The questions are:

1. Are the birds from New Ireland, Duke of York, and New Britain the same as *C. a. websteri*?

2. Are they a closely allied form, different from *websteri*, and still more so from *C. a. assimilis*?

3. Is the form from the d'Entrecasteaux Islands another new subspecies, standing somewhat between *websteri* and *assimilis*, differing from the former by its larger bill and mostly more rufous undersurface, from the latter by its larger bill?

We are inclined to think that the Fergusson form requires a name, and that the one from New Ireland, etc., may perhaps be united with *websteri*.

Cacomantis castaneiventris Gould.

Cacomantis castaneiventris Gould, *Ann. & Mag. Nat. Hist.* (3), xx. p. 269 (1867: Cape York, Australia).

Cacomantis infaustus (non Cabanis & Heine!) Finsch, *Notes Leyden Museum*, xxii. p. 81.

1 ♂ ad. Cooktown, May 1900. Olive coll. (No. A 75.)

1 ad. Cooktown, without date. Olive coll.

1 ad. Mountains of British New Guinea, no exact locality. E. Weiske coll.

1 ad. "Between Rivers Laroki and Vanapa," Owen Stanley Mountains. E. Weiske coll.

1 "♀" ad. Kotoi district, 4000 ft., 13. viii. 1898. A. S. Anthony coll.

3 ♂ ad. Avera, Upper Aroa River, January, February 1903. (Nos. A 177, 207, 313.) A. S. Meek coll.

1 ♂, 2 ♀♀, 1 unsexed, all ad., 1 ♂ juv., Owgarra, Angabunga River, November and December 1904, January 1905. (Nos. A 1874, 1884, 1916, 1977, 2105.) A. S. Meek coll.

3 ♂, 2 ♀ ad., 1 ♂ juv. Bihagi, head of Mambare River, north side of Owen Stanley Mountains, February to April 1906. (Nos. A 2379, 2402, 2537, 2614, 2665, 2727.) A. S. Meek coll.

1 ♂, 1 ♀ ad., 1 ♂ juv. Milne Bay, January, February 1899. (Nos. 2200, 2236, 2330.) A. S. Meek coll.

Salvadori (*Aggiunte Orn. Pap.* I. pp. 48, 49) has separated a northern form, which, he says, is distinguished by somewhat smaller size, longer bill, and lighter under-surface, under the name of *C. arfakianus*. Its distribution is said to be the Arfak Peninsula, Salwatti, Mysol and Aru, while *C. castaneiventris* inhabits S.E. New Guinea and the Cape York Peninsula. Dr. Finsch says (*l.c.* p. 82) that he agrees with Shelley in not considering *arfakianus* a distinct species. As we have not seen a series of the latter, we cannot venture to decide about this, but we are *a priori* convinced that Salvadori is a better judge than either Shelley or Finsch, as the former **had** compared examples of both forms, while Shelley had before him only adult specimens of the true *castaneiventris*, and Finsch evidently only such of the northern form, from Aru, Mysol, Salwatti, and the Arfak Peninsula. The young bird from Key and other young ones mentioned by Finsch are evidently young *assimilis*.

Our series, as enumerated above, is very constant, though there is certainly some individual variation in the brightness and intensity of the colour underneath. The young of *C. castaneiventris* differs entirely from that of *C. assimilis*. While the latter is above dark olivaceous brown with rufous crossbars and spots, and beneath also heavily barred, that of *C. castaneiventris* has the upperside chocolate brown with an olivaceous bronzy shine, **without bars**, the under-surface pale rusty brown, the tail dark slate with edges and bars. From this plumage they moult straight into that of the adult bird.

We have, however, a very peculiar bird, obtained at Wanumbai, on Kobroor Island, Aru Group, 31. viii. 1900, by Heinrich Kühn. This is above like the young of *C. castaneiventris*, but the underside is creamy white, with parts of the flanks and some few patches rufous-chestnut, as fresh feathers appear here and there. Is this the juvenile plumage of *C. c. arfakianus*? Or is there a third, hitherto unrecognised, subspecies on the Aru Islands? Only the comparison of a series of adult and young birds from Arfak as well as from the Aru Islands, with our series from British New Guinea can decide these questions.

Cacomantis excitus sp. nov.

Supra saturate schistaceus, alis nitore aeneo-virescente, rectricibus chalybeis, albo terminatis, lateralibus albo notatis ut in formis congeneribus similibus. Mento, gula superiore, capitisque lateribus schistaceo-cinereis, collo antico, pectore, abdomine plus minusve sordide castaneo-brunneis; alarum flexuris albis, plus minusve rufescente lavatis, remigum pogoniis internis basin versus late cinerascenscente-albidis, ut in congeneribus; subcaudalibus saturate cinnamomeo-rufis. Al. 137—142; caud. 132—140; culmen 21—23 mm.

Hab. In montibus Novae Guineae meridionalis orientalis.

This most interesting new form is nearest to *Cacomantis meeki* from Isabel Island, Solomon Archipelago, but differs at a glance by its much smaller bill (culmen 21—23, against 26—28 in *C. meeki*), darker, more or less dirty or clouded chestnut-brown under-surface, as well as darker, more slaty chin and throat. It is doubtless a subspecies of *C. meeki* from Isabel. The latter is evidently a form representing *C. addendus* from Kulambangra and New Georgia, but we find it difficult to decide to which form of New Guinea it is nearest allied. Evidently

C. simus and *schistaccigularis* of the Fiji Islands and New Hebrides are their representatives. Probably the representative on New Guinea is *castaneiventris*, but we prefer, in order to avoid an error, to name the new form binomially, *Cacomantis excitus*.

The type is No. A 2104, Owgarrā, Angabunga River, 16. ii. 05. "Iris brown (light brown), feet yellow (chrome yellow, lemon yellow, dirty yellow), bill black."

We have the following skins in addition to the type :

♂, Avera, Aroa River, 21. ii. 03. (No. A 262.) A. S. Meek coll.

2 ♂♂, Bihagi, head of Mambare River, north side of Owen Stanley Mountains, 16. ii. 06. (Nos. A 2426, 2362.) A. S. Meek coll.

1 ad., Aroa River. E. Weiske coll.

The following young bird appears to belong to this form :

1 nestling, Mt. Knutsford 11,000 ft., 19. viii. 1898. A. S. Anthony coll. Upperside brown, unbarred, with rusty edges to the feathers, rectrices (quite short, not yet half-grown) bluish slate-black, the middle ones edged, the lateral ones also barred with rufous, underside barred.

Cacomantis variolosus (Horsf.).

Cuculus variolosus Vig. & Horsf., *Trans. Linn. Soc. London*, xv. p. 300 (1826 : Australia).

Cuculus symbononius Müller, *Verh. Nat. Gesch., Land- u. Volkenk.*, p. 177 (1839-41 : Timor).

Salvadori, *Orn.-Pap.* I. p. 340, and Finsch, *Notes Leyden Mus.* xxii. p. 89, reject the name *variolosus*, probably because the type is a young bird : an arbitrary proceeding which, if followed, would—like the introduction of philological scruples—go far to endanger stability in nomenclature.

Besides a series from Australia, the Key Islands, Ceramlaut, Batjan, Kissar and Obi, we have an adult bird shot by William Doherty near Dorey, in June 1897, and two young ones from German New Guinea, shot by Dr. Nyman and Captain Webster.

Chrysococcyx meyeri Salvad.

Chrysococcyx meyeri Salvadori, *Ann. Mus. Civ. Gen.*, vi. p. 82 (1874 : Arfak).

1 ♀ ad., Arfak (Mori), 29. iv. 1875. Beccari coll. (Specimen *f* of Salvadori's list, *Orn. Pap.* i. p. 346.)

1 ♂ ad., Kapaur, 3000 ft., December 1896. W. Doherty coll.

3 ♂ ad., 3 ♀ ad., Bihagi, head of Mambare River, March 1906. A. S. Meek coll. (Nos. A 2515, 2552, 2599, 2611, 2612, 2653.)

1 ♂ ad., Aroa River, 5900 ft., January 1900. E. Weiske coll.

2 ♂ ad., Avera, Aroa River, 28. i., 28. ii. 03. A. S. Meek coll. (Nos. A 142, 323.)

1 ♀ ad., 1 ♂ juv., head of Aroa River, 24, 27. iv. 05. A. S. Meek coll. (Nos. A 2115, 2130.)

1 ♂ ad., 1 ♀ ad., 1 juv. Owgarrā, Angabunga River, 6000—8000 ft., 16. xi. 04 ; 17. 10. i. 05. (Nos. A 1857, 1963, 1973.)

1 ♀, Kone District, British New Guinea, June 1898. A. S. Anthony coll.

1 ♂ ad., Mt. Cameron, Owen Stanley Range, 7000 ft., 12. viii. 1896. A. S. Anthony coll.

2 ♀ ad., Milne Bay, British New Guinea, 9. ii., 12. iv. 1899. A. S. Meek coll. (Nos. 2286, 2460.)

The adult male has the crown and forehead metallic green, while in the female the forehead and often the crown nearly as far as the nape, are chestnut.

The young in first plumage is very different: Upper surface yellowish brown, head and hind-neck with an ashy tinge. Quills dark brown, basal half of primaries edged and washed with chestnut rufous; bases of all the quills buff, washed with cinnamon-red. Rectrices brown with a wide blackish subterminal bar; lateral ones: outer web with two blackish and a white patch near the base, inner web with blackish base, three distinct and an indistinct blackish and three more or less sharply defined white bars on the basal half. Under-surface greyish buff, under wing-coverts cream-coloured. Bill black, base of lower mandible light, feet very light brown, iris brown.

Chrysococcyx ruficollis (Salvad.).

Lamprococcyx ruficollis Salvadori, *Ann. Mus. Civ. Gen.*, vii. p. 913 (1875: Hatam, Arfak).

3, Aroa River, 5000 ft., January 1900. Émil Weiske coll.

1 ♂, Owgarrá, Angalunga River, 6000—8000 ft., 14. xi. 04. A. S. Meek coll. (No. A 1847.)

2 ♂ ♀, Bihagi, head of Mambare River, north-east side of Owen Stauley Range, 16, 17. ii. 06. A. S. Meek coll. (Nos. A 2435, 2441).

“Iris reddish brown, feet greenish slate, bill blackish slate.”

This series of six specimens, evidently all adult, differ from other species of *Chrysococcyx* by the sides of the head and neck being cinnamon rufous, the throat and jugulum more or less strongly washed with rufous-cinnamon; the throat and jugulum as well as the rest of the under-surface and under tail-coverts are barred with purplish or sometimes greenish bronze, the bars on the throat being narrower and sometimes evanescent. The upper surface is dark bronzy green, more or less washed with dark purplish bronze. Outer rectrices black, tips, four bars on outer webs and two (sometimes incomplete) bars on inner webs white, the latter partly edged with cinnamon; second pair blackish, inner webs with a round white spot at the tip and usually two rufous-cinnamon bars, central pair dark metallic green with ill-defined black base and black subapical bar.

This rare species was hitherto only known from the type from Arfak. It would, of course, be desirable to compare a series from the latter place with our series, but at present there is no reason to doubt their identity.

Chrysococcyx poecilurus Gray.

Chrysococcyx poecilurus Gray, *P.Z.S.* 1861. pp. 431, 437 (“Mysol & New Guinea”) (Type from Mysol in Brit. Museum).

1 ♂ ad., Mysol, 13. i. 1900. Heinrich Kühn coll. (No. 1772). “Iris chocolate, eyelids carmine, feet dark plumbeous, bill black.”

1 ♂ ad., 2 ♀ ad., 1 ♂ juv., Fergusson Island, May and June 1897. A. S. Meek coll. (Nos. 349, 391, 421, 555.)

The young is paler, less greenish above, under-surface, including the under wing-coverts, white, throat washed with dirty buff.

1 ♀ ad., Sungey Bark, Kobroor, Aru Islands, 29. viii. 1900. Heiur. Kühn coll. (No. 2259).

We have also specimens from Cape York, collected by D'Albertis and Meek, and one from Atajupu, Timor, collected by Everett.

Chrysococcyx plagosus (Lath.).

Cuculus plagosus Latham, *Iul. Orn. Suppl.* p. xxxi. (1801—Australia).

1 ♀, Ron Island, July 1897. W. Doherty coll. "Iris reddish, feet iron-grey, bill black."

1 ♀, St. Aignan, Louisiade Islands, 28. viii. 1897. A. S. Meek coll. (No. 910.)

5 ♂♂, 1 ♀, Woodlark Island, April 1897. A. S. Meek coll. (Nos. 188, 193, 214, 216, 217, 217A.) Nearly all these specimens have the head and neck above metallic green, but they appear to be more or less immature, and therefore we have no doubt that they belong to *C. plagosus*.

1 juv., Owen Stanley Mountains, 11,000 ft., 23. viii. 1895. A. S. Anthony coll. This bird we believe to belong to *Ch. plagosus*, though we are not certain about this. It is above dark metallic green, underneath greyish, the feathers of the throat and jugulum with ante-apical white bars, the sides of the breast and abdomen and the under tail-coverts distinctly barred with bronzy brown, the middle of the abdomen white. Under wing-coverts with bronzy brown bars, the usual bar across the underside of the wing white with a buffy tinge. The feet are orange in the skin.

1 ♂, Aola, Guadalcanar, 4. v. 1887. C. M. Woodford coll.

1 ♂, 2 ♀♀, Guadalcanar, April, May 1901. A. S. Meek coll. (Nos. 2959, 3044, 3122.)

1 ♀, Isabel, Solomon Islands, 26. vi. 1901. A. S. Meek coll. (No. 3406.)

All these specimens from the Solomon Islands have hardly any coppery colour on the head and mantle, but again most of them are not fully adult. We therefore (in concord with all other ornithologists) cannot separate them from *C. plagosus*. Larger series might, however, show that Australian specimens have longer wings than those from New Guinea and the Papuan Islands.

In *Nor. Zool.* 1905, p. 258 we recorded a male of *C. plagosus* from Bongainville, but this specimen is a *C. levidus*, an error which we herewith correct.

Calliechthrus leucolophus (Müll.).

Cuculus leucolophus S. Müller, *Verh. Nat. Gesch. Ned. Ind.*, "Land- en Volkenkunde," p. 22 (1844—Lobo Bay).

Known from New Guinea, Salwatti, Waigin and Mysol. We have the following specimens:

2 without labels, Dutch New Guinea. (Preparation of Bruijn's hunters.)

1 ♂, North coast of Dutch New Guinea, between 136° and 137° long. (Bruijn's hunters.)

2 ♂♂, Kapaur, December 1896, February 1897. William Doherty coll.

1 juv., Constantinhafen, Kaiser Wilhelm's Land. Kulary coll.

3 ♂♀, Milne Bay, 18, 26. iii., 9. iv. 1899. A. S. Meek coll. (Nos. 2383, 2479, 2450.)

1 ad., 1 immat., Mountains of British New Guinea. (Purchased.)

1 immat., Brown River, British New Guinea. E. Weiske coll.

2 immat., Mount Cameron, Owen Stanley Mountains, August 1896. A. S. Anthony coll.

4 ♂♂, 1 ♀, Avera, Aroa River, January, February, March 1903. A. S. Meek coll. (Nos. A 83, 123, 274, 381, 431.)

1 ♂, Owgarrá, Angabunga River, 28. x. 04. A. S. Meek coll. (No. 1807.)

2 ♂♂, 1 ♀, Bihagi, head of Mambare River, February, March 1906. A. S. Meek coll. (Nos. A 2443, 2597, 2657.)

1 ad., Sattelberg, German New Guinea, January 1905. C. Wahnes coll.

Eudynamis orientalis cyanocephalus (Lath.).

(For a review of the genus see Hartert, *Nov. Zool.* 1903. pp. 235-238.)

Cf. *Nov. Zool.* 1903. p. 237.

1 ♀ ad., "Popo inland, W. district," 5. vi. 1896. A. S. Anthony coll.

1 ♂ ad., Mount Cameron, Owen Stanley Mountains, 19. viii. 1896. A. S. Anthony coll.

We must, from its size (wing 206 mm.), regard the male specimen as a *cyanocephalus*. The female is quite typical, and proves the occurrence of this form in S.E. New Guinea.

Eudynamis orientalis rufiventer (Less.).

Cf. *Nov. Zool.* 1903. p. 238.

1 ♂ ad., 1 ♂ juv. Arfak preparation. No exact locality.

2 ♂♂, 1 ♀, "Talandjang" (?), Dutch New Guinea. (Ex Bruijn.)

2 ♀♀, Taraway, May 1884. (Ex Bruijn.)

♂♀ ad., Ron Island, July 1897. W. Doherty coll.

1 ♂ ad., "Southern New Guinea"? D'Albertis coll., original label lost.

1 ♂ ad., Yule Island, November 1875. D'Albertis and Tomasinelli coll. (Wing 195 mm.)

Eudynamis orientalis alberti subsp. nov.

Eudynamis orientalis subsp. nov.? Rothschild & Hartert, *Nov. Zool.* 1905. p. 257.

1 ♂ ad., Gizo, Solomon Islands, 31. x. 03. A. S. Meek coll. (No. A 696.)

2 ♂ ad., Choiseul, Solomon Islands, December 1903. A. S. Meek coll. (Nos. A 886, 1041.)

Besides being smaller (wings 180—185 mm.), the upperside, especially the head and mantle, are deeper and more of a bluish black, and we therefore no longer refrain from naming this form.

Type: ♂ ad., Gizo, 31. x. 03. (No. A 696.)

We hope to see the females of this form before long.

Named in honour of Mr. Albert Meek.

Eudynamis orientalis salvadorii Hart.

Cf. *Nov. Zool.* 1900. p. 232; 1903. p. 238.

♂ ad., New Ireland. Collected by a missionary. Type of *E. o. salvadorii*.

♂ ad., New Britain. Bought from the "Linnaea" in Berlin.

♀ ad., New Ireland. Collected by a missionary.

♀ ad., New Britain. Kleinschmidt coll. (Ex Mus. Godeffroy.) (No. 15553.)

Microdynamis parva (Salvad.).

Eudynamis parva Salvadori, *Ann. Mus. Civ. Gen.* vii. p. 986 (1875—? Tidori, Beccari coll.).

♂ ad., Ron Island, July 1897. W. Doherty coll. "Iris scarlet, feet slaty-grey, bill black."

- 1 juv., Mount Maori, near Humboldt Bay, January 1899. J. M. Dumas coll.
 1 juv., near Humboldt Bay. J. Dumas coll.
 1 (♀ ?), Sattelberg, German New Guinea, December 1905. C. Walnes coll.
 1 ♂, 2 ♀♀, Milne Bay, 39. i., 14. ii., 18. iv. 1899. A. S. Meek coll.
 (Nos. 2213, 2316, 2478.)
 1 ♂ ad., Kone district, British New Guinea, June 1898. A. S. Anthony coll.
 1 ♂ ad., Oriori district, British New Guinea, 20. i. 1896. A. S. Anthony coll.
 1 juv., Kotoi district, British New Guinea, August 1898. A. S. Anthony coll.
 1 ♂, 2 ♀♀ or juv., Owen Stanley Mountains. Emil Weiske coll.

It is possible that there is a northern, darker, and a southern, lighter and more rufescent form of *M. parva*, but the present material is not sufficient to decide this question, as there is great variation between the specimens from one place. It is certain that the adult male has the crown and moustachial stripe glossy blue-black, and that it moults into this plumage from a barred juvenile dress without black crown or moustachial stripe. The adult female has been described as having a broad greenish black collar at the back of the neck, but probably this is wrong, and the female has no black collar, the birds with the latter being juvenile males in moult. The evidently young birds as well as the old ones differ strikingly in the shades of colour. A larger series, with trustworthy sex-notes and dates, from different places, is desired to clear up the questions raised above.

Scythrops novaehollandiae Lath.

Scythrops novaehollandiae Latham, *Ind. Orn.* i. p. 141 (1790—Australia).

- 1 ad., Arfak (?), native skin.
 1 ♀ ad., Duke of York Island, June 1880. Th. Kleinschmidt coll. (No. 4679.)
 Ex Mus. Godeffroy.
 ♂ ♀, Trobriand Islands, 12. 15. iv. 1895. A. S. Meek coll.
 2 Nicnra, British New Guinea, August 1893. Lix coll.
 1 ♂, Yule Island, 3. vi. 1875. D'Albertis coll. (No. 192.) Specimen *f* of Salvadori's list in *Orn. Pap.* i. p. 374.

Centropus menbeki menbeki Less. & Garn.

Centropus menbeki (sic) Lesson & Garnier, *Voy. Coquille, Zool. Atlas* pl. 33 (1826—N.W. New Guinea).

- ♂ ad., Mysol, l. xii. 1883. Guillemard coll.
 2 ♂♂, 1 ♀, Mysol, January 1900. Heinr. Kühn coll. (Nos. 1871, 1872, 2059.)
 1 ♂ ad., 2 not sexed, Andai, Arfak. Bruijn coll.
 1 ad., Hatau, Arfak, February 1877. Ex Bruijn.
 1 ♀, Arfak. Bruijn coll.
 1 ♂, Arfak. Bruijn coll. Specimen *g* of Salvadori's list, *Orn. Pap.* i. p. 378.
 ♂ ♀, Dorei, Arfak, June 1897, October 1896. W. Doherty coll.
 2 ♂♂, 1 (?), Takar, October and November 1896. W. Doherty coll.
 1 ♂, Kapaur, November 1896. W. Doherty coll.
 1 ♂, Awek, Jobi Island, April 1875. Ex Bruijn. Specimen *g* of Salvadori's list, *l.c.* p. 378.
 ♂ juv., ♀ ad., Surui, Jobi Island, January 1883. Ex Bruijn.
 1 juv., Kaririri, Jobi Island. Bought from native by W. Doherty.
 1 ad., Triton Bay, 25. vii. 1896. Capt. Webster coll. (No. 291.)

1 ♂, Sattelberg, 20. vii. 1897. E. Nyman coll.

1 ♀, Fly River, 31. v. 1877. D'Albertis coll. (No. 34). No. 23 of Salvadori's list, *l.c.*

1 ♂, Mailu, British New Guinea, 5. viii. 1895. A. S. Anthony coll.

1 ♂, 1 (?), Mount Cameron, Stanley River, 2000 ft., 20. ix. 1896. A. S. Anthony coll.

The amount of greenish gloss varies. Some examples, especially those from the Fly River and Jobi, show a lot of bluish, almost purplish gloss, thus approaching the Arn form. The specimens collected by Anthony have very huge bills. A better series from the Mountains of British New Guinea should be compared to show if there is any constant difference.

Centropus menbeki aruensis Salvad.

Centropus aruensis Salvadori, *Ann. Mus. Civ. Gen.* xii. p. 317 (1878—Aru Islands).

♂ ad., Soengej Wanumbai, Kobroor Island, Arn Islands, 3. ix. 1900. Heh. Kühn coll. (No. 443.)

This specimen is very typical, showing a strong, almost purplish blue gloss on the entire upper surface and tail.

1 ♂ ad., Trangan, Arn Islands, 20. ix. 1900. Heh. Kühn coll. (No. 2448.)

This example is not so typical, showing very little of a blue sheen, thus being similar to some specimens of *C. m. menbeki*. There is no other difference than the blue gloss, and single specimens are sometimes not separable, therefore *C. menbeki menbeki* and *C. menbeki aruensis* are only subspecies.

Centropus violaceus Quoy & Gaim.

Centropus violaceus Quoy & Gaimard, *Voy. Astrolabe, Zool.* i. p. 299 (1830—New Ireland).

1 ♂ ad., New Ireland. Collected by a missionary.

Differs from *C. menbeki* in the uniform purple or violet-blue colour, perfectly black bill, but light (reddish) bare skin round eyes and yellow feet. Probably subspecies of *menbeki*.

Centropus chalybeus (Salvad.).

Nesocentor chalybeus Salvadori, *Ann. Mus. Civ. Gen.* vii. p. 915 (1875—Misor).

2 ♀ ♀, Korrido, 1879 (Misor). Ex Bruijn coll.

Differs from *C. menbeki* and agrees with *violaceus* in having a quite black bill. The bare facial skin and feet are dark, the gloss dark steel-blue. Probably subspecies of *menbeki* and the rest. About the names Korrido (Kordo) and Misor see *Nov. Zool.* 1901. p. 58.

Centropus nigricans (Salvad.).

Polophilus nigricans Salvadori, *Ann. Mus. Civ. Gen.* ix. p. 17 (1876—Naiabui and Yule Island).

♂ fere ad., Naiabui, British New Guinea, October 1875. D'Albertis coll. Specimen *c* of Salvadori's list, *Orn. Pap.* i. p. 390.

3 jun., Nicura, British New Guinea. Lix coll.

1 ♂ ad., Fergusson Island, D'Entrecasteaux group, 12. x. 1894. A. S. Meek coll.

Centropus ateralbus Less.

Centropus ateralbus Lesson, *Férussac's Bull. Sc. Nat.* viii. p. 113 (1826—New Ireland).

2 ad., 2 semi-ad., New Ireland. Collected by a missionary.

♀ ad., New Britain, 3. vii. 1886. Kubary coll.

♂ juv., New Britain, 25. v. 1886. Kubary coll. Native name: "A kamaük."

2 ♂♂ ad., Blauche Bay, New Britain. Otto Finsch coll.

Centropus bernsteini Schleg.

Centropus bernsteini Schlegel, *Ned. Tijdschr. v. Dierk.* iii. p. 251 (1866—?) Salwatta.

1 ad., Sattelberg, German New Guinea. C. Wahnes coll.

1 ♂ juv., Stephansort, German New Guinea, December 1899. G. Nyman coll.

XXXI. STRIGES.

Ninox theomacha (Bp.).

Spiloglaur theomacha Bonaparte, *Compt. Rend.* xli. p. 654 (1855—Triton Bay).

1 ♀, Arfak (one of Bruijn's skins).

1, Ambernoh River. J. Dumas coll.

1 ♀, "North coast British New Guinea," 8. xi. 03. H. G. Liverey coll.

1 ♂, Aroa River, 5000 ft. E. Weiske coll.

2 ♀♀, Avera, Aroa River, February 1903. (Nos. A 191, 285.) A. S. Meek coll.

4 ♂♂, 1 ♀, Owgarrā, Angabunga River, October, November 1904, January 1905. (Nos. A 1895, 1896, 1819, 1825, 1951.) A. S. Meek coll. "Iris orange-yellow, feet lemon-yellow, bill slate, darker at base."

1 ♂, Waigiū, 28. xii. 02. J. Waterstradt coll.

1 ♀, Mysol, 26. i. 1900. (No. 1909.) H. Kühn coll.

It is quite possible that there are two or three subspecies united here under *N. theomacha*. The specimens from Dutch New Guinea are perhaps a little smaller, and so is certainly that from Mysol, which, moreover, is less rufous, more chocolatine, underneath. If the Mysol bird differs, its name will be *N. t. hoedti* Schleg. 1871.

Ninox dimorpha (Salvad.).

Athene dimorpha Salvadori, *Ann. Mus. Civ. Genova* vi. p. 308 (1874—Sovong).

1 ad., 1 pull., Dutch New Guinea (from dealers).

1 ad., Ambersoh River. J. Dumas coll.

1 ad., Mount Victoria, Owen Stanley Range, 5000—7000 ft., April—June 1896. Native coll.

1 ad., Babooni, British New Guinea, September 1903. A. E. Pratt coll.

1 ♂, Milne Bay, British New Guinea, 3. ii. 1899. (No. 2251.) A. S. Meek coll.

1 ♂, Collingwood Bay, British New Guinea, 15. vi. 1899. (No. 2613.) A. S. Meek coll.

"Iris bright yellow, feet lemon-chrome, bill dark slate, zinc-colour along the culmen."

Ninox variegata (Quoy & Gaim.).

Noctua variegata Quoy & Gaimard, *Voy. Astral. Zool.* i. p. 166. pl. i. (1833—New Ireland).

We have two specimens collected on New Hanover by Capt. Webster.

Ninox goldii goldii Gurney.

Ninox goldii Gurney, *Ibis* 1883 p. 169 (S.E. New Guinea. Probably this is erroneous, as in many other cases with Goldie's birds, and the types were from Fergusson Island). (Cf. *Nor. Zool.* 1896. p. 246.)

Ninox goodenoriensis De Vis, *Report on Birds from Brit. New Guinea* (Government Report) 1890.

Besides the examples from Fergusson we have now two from Goodenough, 1 ♂ ad. 1 juv. The latter has more white on the scapulars and wing-coverts, and the inner secondaries have large round white spots on the inner webs, these spots getting larger towards the base. The under-surface is not bright rusty rufous spotted with white, as in the adult bird, but whitish with brown longitudinal spots and pale rusty tips to the feathers. *Ninox goodenoriensis* is undoubtedly the same as *goldii*.

We cannot find that the description of Ramsay's *N. terricolor* (*Proc. Linn. Soc. N. S. Wales*, iv. 1879. p. 466) can apply to *N. goldii*. The description is very confused, but that of the tail and wings does not fit *N. goldii*, moreover the measurements are considerably smaller. We therefore think that *N. terricolor* must be a species or subspecies not yet known in Europe.

Ninox rufa humeralis (Bp.).

Athene humeralis Bonaparte, *Consp.* i. p. 40 (1850—"Oceania." Ex Homb. et Jacq., *Voy. Pôle Sud*, *Atlas*, pl. iv. fig. 1. "New Guinea").

1 juv., moulting to adult plumage, Dutch New Guinea. Ex Boucard. (No. 46.)

1 ad., Ambernoh River, Dutch New Guinea. J. Dumas coll.

1 ad., Brown River, British New Guinea. E. Weiske coll. 1898.

1 juv., Mt. Kebea, 4000 ft., June 1902. A. E. Pratt coll.

1 ♂, 1 ♀, Milne Bay, 13, 17. ii. 1899. (Nos. 2300, 2344.) A. S. Meek coll.

1 ♀, Collingwood Bay, 28. v. 1899. (No. 2530.) A. S. Meek coll.

"Iris lemon chrome, light lemon, pale yellow. Feet light lemon chrome. Bill: bluish enamel down centre on top, sides blue-slate, under-mandible bluish enamel."

The downy young is white.

Ninox ??

A young owl in light cinnamon down, with wings and tail developed, which are brown with rufous bars, does not seem to belong to any owl we know of. Possibly it is the young of a hitherto unknown species. It is from British New Guinea, and was bought from Messrs. Burnes, Philp & Co.

Ninox connivens connivens (Lath.).

Falco connivens Latham, *Ind. Orn. Suppl.* ii. p. 12 (1801—Australia).

This is an Australian large form with very distinct bars on the tail. We have specimens from Cairns and other places in Queensland.

Ninox connivens occidentalis Rams.

Ninox connivens occidentalis Ramsay, *Proc. Linn. Soc. N. S. Wales* i. (2) p. 1086 (1886—N.W. Australia).

A more western form, smaller, with the stripes on the underside more rusty. Cf. *Nor. Zool.* 1905, p. 210.

Probably *N. peninsularis* Salvador, from Cape York is a closely allied form of this species.

Ninox connivens assimilis (Salvad. and D'Alb.).

Ninox assimilis Salvadori and D'Albertis, *Ann. Mus. Civ. Genova* vii. p. 809 (Southern New Guinea).

Very much smaller than the Australian allies, and with the bars on the tail less conspicuous, because they are only of a paler brown than the rest of the tail.

We have only one specimen of this owl, without reliable locality, but doubtless from the mountains of British New Guinea, purchased from Messrs. McIlwraith & Co., in London. Wing 260 mm.

Ninox connivens rufostriata (Gray).

Athene rufostriata G. R. Gray, *Proc. Zool. Soc. London* 1860. p. 344. (Gilolo).

Quite like *N. c. assimilis*, with the bars to the tail equally inconspicuous, but much larger.

We have two specimens from Morty (J. Dumas coll.), wings about 285 mm., one ♂ ad. from Batjan (J. Waterstradt coll.), wing about 278, a pullus from Batjan (Doherty coll.), and a bird, marked ♂, obtained on Obi Major by Waterstradt's hunters; this is at first glance a puzzling bird, agreeing in size with our *assimilis*, but the primaries are not fully grown.

Strix tenebricosa arfaki Schleg.

Strix arfaki Schlegel, *Notes Leyden Museum* i. p. 101 (1879—Arfak).

Mr. Meek sent a series of eight specimens from the Upper Aroa River. The males agree with other males from the mountains of British New Guinea, while the females are considerably larger. *Strix arfaki* is merely a darker and somewhat larger Papuan form of the North Australian *Strix tenebricosa* Gould.

1 ♀, Avera, Aroa River, 4. vi. 03. (No. A 601.) Wing about 293 mm.

2 ♂♂, Owgarra, Angabunga River, above 6000 ft., 9, 13. i. 05. (Nos. A 1969, 1985.) Wings about 255 mm.

1 ♂, 4 ♀♀, Head of Aroa River, 4000—6000 ft., April and May 1905. (Nos. A 2132, 2133, 2139, 2161, one without number.) Wing, ♂ 255 mm., ♀ 285—305 mm.

1 ♀ (? ♂!), Collingwood Bay, 8. vi. 1899. (No. 2585.) Wing 270 mm.

"Iris black, brown, dark brown, bluish black. Feet dirty greenish slate, vandyke-brown, smoky brown. Bill blackish horn, black, slate on top, light brown underneath."

A quite young bird, not yet fully grown (No. A 2088), has on the upper side, which is strongly mottled with black, some broader buffy white shaft-lines and is less decidedly cross-banded, the bars running together and forming irregular blackish markings. Eleven females—apparently adult, but possibly not so—(Nos. A 2012, 2044, 2050, 2057, 2058, 2059, 2061, 2076, 2087, 2089, B 115) are all much more brown above. Each feather has a white or buffy white shaft-line (not merely a white shaft), the inner web is black, sometimes quite uniform, but mostly with large rufous spots or cross-markings; sometimes both webs are black with rufous markings. The outer web, however, is generally brown with some blackish mottlings. The under-surface is always strongly marked with somewhat harpoon-shaped cross-lines, which are broader than in the males. Another specimen marked "female" (No. 105) has underneath narrow cross-lines as in the males; the upper surface is less deep and more of a rusty brown, the outer webs of the feathers uniform, some with a greyish tinge, the inner webs with large black cross-patches and rufous spots. I suspect that this specimen is really a male. A very young bird (B 3), obtained on Yule Island, 14. x. 04, has the middle of the chest and the ground-colour of the abdomen buffy white, and may possibly not belong to *S. plumbeus* but to another species or subspecies. Count Salvadori has considered specimens from Port Moresby as belonging to *S. corvinus* Gould, which is said to be a northern form of *S. australis*, but its distinctness is doubtful. Mr. Meek describes the iris of the males as dark red or yellowish, that of the females as pale yellowish and dark red; bill slaty blue with black ridge, bluish slate, or slate-colour; feet greenish yellow, sage-green, or dirty yellow.

An egg from Owgarrā (26. xii. 05) has a very thick shell with numerous little pits, as if from the point of a needle, and is of a greenish buff-colour, almost without gloss. It measures 32.5 × 25 mm.

2. *Turnix maculosus* (Temm.).

Hemipodius maculosus Temminck, *Pig. et Gallin.* iii. pp. 361, 757 (1815—Australia). (Cf. *Nor. Zool.* 1904. p. 177.)

♂ ♀. Upper Aroa River, 6. xii. 04. (Nos. B 92, 93.)

"Iris pale yellowish white. Feet sage-green. Bill: ♂, greenish yellow ♀, greenish yellow, brownish towards the tip."

3. *Ptilinopus superbus* (Temm. & Knip).

Cf. *Nor. Zool.* 1901. p. 102.

2 ♂♂, Avera, Aroa River, 20. i., 16. xi. 03. (Nos. A 23, A 236.)

2 ♂♂, Upper Aroa River, 18. i., 20. iv. 05. (Nos. B 173, 230.)

4. *Ptilinopus pulchella* (Temm.).

Cf. *Nor. Zool.* 1901. p. 102.

1 ♂, Bubuni, Aroa River, 23. iv. 05. (No. B 244.)

5. *Ptilinopus coronulatus coronulatus* Gray.

Cf. *Nor. Zool.* 1901. p. 102.

2 ♂♂, Upper Aroa River, January 1905. (Nos. B 131, 181.)

6. **Ptilinopus iozonus iozonus** Gray.

Cf. *Nov. Zool.* 1901. p. 104.

4 ♂♂, Upper Aroa River, January 1905. (Nos. B 156, 171, 172, 180.)

7. **Ptilinopus gestroi gestroi** D'Alb. & Salvad.

Cf. *Nov. Zool.* 1901. p. 105.

5 ♂♂, Avera, Aroa River, February 1903. (Nos. A 250, 293—296.)

1, Owgarrá, Angabunga River, 6000—8000 ft., without data.

8. **Ptilinopus rivolii bellus** Sel.

Cf. *Nov. Zool.* 1901. p. 107.

4 ♂♂, 2 ♀♀, Avera, Aroa River, January, February, March 1903. (Nos. A 79, 116, 130, 244, 275, 357.)

2 ♂♂, 2 ♀♀, Owgarrá, Angabunga River, 6000—8000 ft., November 1904, January, February 1905. (Nos. A 1832, 2027, 2047, one without label.)

2 ♂♂, Head of Aroa River, May 1905. (Nos. A 2160, 2190.)

9. **Ptilinopus perlatus zonurus** Salvad.

Cf. *Nov. Zool.* 1901. p. 106.

2 ♂♂, Upper Aroa River, January, February 1905. (Nos. B 170, 223.)

10. **Megaloprepia magnifica poliura** Salvad.

Cf. *Nov. Zool.* 1901. p. 111

2 ♂♂, 1 ♀, Upper Aroa River, January 1905. (Nos. B 179, 203, 204.)

1 ♂, Avera, Aroa River, 25. i. 03. (No. A 97.)

11. **Carpophaga chalconota** Salvad.

Cf. *Nov. Zool.* 1901. p. 113.

2 ♂♂ 2 ♀♀, Owgarrá, Angabunga River, November, December 1904, January 1905, 6000—8000 ft. (Nos. A 1890, 1915, 1920, 1989.)

1 ♂, 1 ♀, Avera, Aroa River, 16. 23. iii. 03. (Nos. A 425, 452.)

♂♀, Head of Aroa River, 14. 28. v. 05, 4000—6000 ft. (Nos. A. 2183, 2259.)

12. **Columba albertisii** (Salvad.).

Gymnophaps albertisii Salvadori, *Ann. Mus. Civ. Gen.* vi, p. 86 (1874); *Nov. Zool.* 1901. p. 117.

♂, Upper Aroa River, 13. i. 05. (No. B 164.) "Iris pinkish red, skin round eye vermilion; feet dark pinkish red; bill base dark red; tips flesh-colour; lower mandible with greenish white sides."

13. **Macropygia amboinensis cinereiceps** Tristr.

Cf. *Nov. Zool.* 1901. p. 125.

3 ♂♂, Avera, Aroa River, January—February 1903. (Nos. A 165, 169, 219.)

1 ♀, Owgarrá, Angabunga River, 16. xii. 04. (No. A 1906.)

Strix candidus Tick.

Strix candidus Tickell, *Journ. As. Soc. Bengal* ii, p. 572 (1833—"Throughout Bengal and the upper provinces in tracts of long grass. . .").

♂ ♀, Owgarrá, Angabunga River, 6000—8000 ft., 29. i. 05, 22. xi. 04. (Nos. A 1888, 2031.) A. S. Meek coll. "Iris dark brown. Feet smoky brown; black and horn-colour. Bill light horn-colour."

This species is new to the Papuan region. The two specimens shot by Mr. Meek are fine adult birds. The first primary is very dark, most of the outer web being deep brown, and the white spots on the upper surface are very small and longitudinal. The contention of ornithologists, so far, is that the "grass-owls" from India to the Philippines and Australia are one and the same. Our material is very meagre, and not sufficient to show whether several races are separable or not.

Strix flammea meeki subsp. nov.

Differs from the Australian *Strix flammea delicatula* Gould by the colour of the tail, the outer two pairs of rectrices being pure white, without or with a few tiny, obsolete spots, the rest cream-colour or pale buff with a few dusky spots and three or four very narrow dusky cross-bars. The spotting on the nape is not so large as, more delicate than in, *S. f. delicatula*. In the narrow bars and very light tail it resembles *S. f. sumbaensis* Hart., but the latter has all the rectrices barred, or only the outermost pair white, almost without or with a few obsolete spots; moreover the bill of *S. f. sumbaensis* is decidedly thicker and higher, also slightly more arched than in *S. f. meeki*.

Type of *S. f. meeki*: ♂ ad., Collingwood Bay, north-east coast of British New Guinea, 5. ix. 06. A. S. Meek coll. (No. 2791.)

Besides the type specimen we have two more skins:

♂ ♀ ad., Collingwood Bay, 5. ix. 06. A. S. Meek coll. (Nos. 2789, 2790.) The underside is of a beautiful silky white with some small dusky spots, almost of the shape of arrow-heads. The inner webs of the outer remiges are white, shaded with yellowish buff along the shaft and spotted with dusky near the tip only. The face-disk is white, with a rust-red spot in front of the eye. Culmen 35—36, wing 292—293, metatarsus about 60, tail 103—113, height of upper bill at nostril 10 mm. (about 11 in *S. f. sumbaensis*).

There is only one record of a "Barn Owl" from New Guinea, and that is one obtained near Port Moresby by Goldie. Count Salvadori recorded it as "*Strix delicatula*."

LIST OF COLLECTIONS OF BIRDS MADE BY A. S. MEEK
IN THE MOUNTAINS ON THE UPPER AROA RIVER
AND ON THE ANGABUNGA RIVER, BRITISH NEW
GUINEA.

By THE HON. WALTER ROTHSCHILD, PH.D., AND ERNST HARTERT, PH.D.

THE following is a list of the remarkable collections of birds made by Albert S. Meek at the places named in the title of this paper. The exact situation of these places and the adventures of Mr. Meek during his trips have been described in *Nov. Zool.* 1905, pp. 448 to 454, and 1906, p. 61.

1. *Synoicus plumbeus* Salvad.

Synoicus plumbeus Salvadori, *Ann. Mus. Civ. Gen.* (2) xiv, p. 152 (1894—Vakena, mountains of British New Guinea).

7 ♂ ♀, Upper Aroa River, December 1905, January 1904. (Nos. B 90, 103, 104, 105, 113, 115, 144.)

♀, Yule Island, October 14, 1904. (No. B 3.)

9 ♂ ♀, Owgarru, Angabunga River, January and February 1905. (Nos. A 2012, 2033, 2037, 2058, 2059, 2069, 2076, 2088, 2089.)

Count Salvadori described this remarkable form from a single adult male. Mr. Meek sent us twenty-three specimens. The variation in this bird is most remarkable. Only one (No. B 90) agrees with Count Salvadori's description, being below plumbeous grey with faint buffy edges to the feathers, the chin a little paler. The feathers of the upper surface are plumbeous grey with brown borders, some of the feathers of the back and inner secondaries mottled with black near the tips. Forehead grey; crown brownish grey in the middle, and with two parallel stripes of blackish spots. Wing 90 mm. Hartert has seen the type in the Genoa Museum, which is similar to our bird, though still a little more greyish above, being more uniform. Another male (Upper Aroa River, 28. xii. 04, No. B 113) is similar above; but whereas only a few white shaft-lines are indicated in the specimen No. B 90, every feather of the back has the shaft distinctly white, and the under-surface is not plumbeous grey but pale rufous-cinnamon, with a plumbeous grey wash in the middle of the feathers, and many, especially those on the sides, with somewhat harpoon-shaped black cross-lines, the latter evidently remains of the juvenile* plumage. Six other males, evidently all more or less immature (Nos. A 2033, 2037, 2055, 2069, B 103, 144), are much more mottled with black above, and their ground-colour is more brownish, while the under-surface is somewhat rufous buffy washed with plumbeous grey, each feather with three or more narrow, somewhat harpoon-shaped cross-lines, the throat uniform buff. One other male (No. B 104) is again less mottled with black on the upper surface, but much more rufous than the first two specimens described above, each feather being grey with a white shaft and broad rufous borders barred with dark brown and with a few black mottlings.

* The Americans have introduced the term "juvinal"; but there is no need for this novelty, juvenile being an English word.—E. H.

14. *Macropygia nigrirostris* Salvad.

Cf. *Nor. Zool.* 1901. p. 126.

♂ ♀, Upper Aroa River, 3. xii. 04, 5. i. 05. (Nos. B 84, 136.)

♂. Head of Aroa River, 26. v. 05. (No. A 2240.)

15. *Reinwardtoena reinwardtsi griseotincta* Hart.

Cf. *Nor. Zool.* 1901. p. 127.

2 ♂♂, 1 ♀, Aroa River, 29. xii. 04, 12. xi. 05. (Nos. B 69, 219.)

1 ♀, Owgarra, Angabunga River, 28. xii. 04. (No. A 1940.)

16. *Geopelia tranquilla* Gould.

Geopelia tranquilla Gould, *P.Z.S.* 1844. p. 56 (Australia); Salvadori, *Orn. Pap.* iii. p. 154 (Hall-Bay).

♂ ♀, Upper Aroa River, 29. i. 05. (Nos. B 177, 178.) "Iris bluish white; feet pale flesh-colour spotted with brownish purple; bill slaty blue."

Possibly there is a larger and a smaller race in Australia, in which case our birds would be the small form (*G. placida* of Gould). Our two examples show a very light, almost pure white throat, while Australian specimens have a grey throat. If this character should be constant, the Papuan form would have to be separated.

17. *Phlegoenas beccarii* (Salvad.).

Cf. *Nor. Zool.* 1901. p. 131.

2 ♂♂, 3 ♀♀, Avera, Aroa River, May, June 1903. (Nos. A 533, 541, 554, 564, 585.)

2 ♂♂, 1 ♀, Owgarra, Angabunga River, January, February 1905, 6000—8000 ft. (Nos. A 2068, 2107, 2025.)

2 ♂♂, Head of Aroa River, May 1905, 4000—6000 ft. (Nos. A 2231, 2232.)
"Iris brown; feet dark purplish red; bill black."

18. *Phlegoenas rufigula rufigula* Bp.

Cf. *Nor. Zool.* 1901. p. 131.

The new material from British New Guinea convinces us that it would be rash and not profitable to separate these birds from *rufigula*, the apparently smaller extent of the grey band on the sides of the occiput being mostly due to preparation, while, on the other hand, *P. r. helveticentris* from the Aru Islands, which has no such grey band at all, is a very well marked subspecies.

3 ♂♂, 1 ♀, Avera, Aroa River, January—March 1903. (Nos. A 158, 315, 356, 358.)

1 ♀, Upper Aroa River, 3. xii. 04. (No. B 83.)

"Iris pinkish brown; feet purple; bill purplish with slate tips."

19. *Trugon terrestris leucopareia* (Meyer).

Cf. *Nor. Zool.* 1901. p. 132.

2 ♀♀, Upper Aroa River, 29. xi., 3. xii. 04. (Nos. B 68, 86.)

20. *Otidiphaps cervicalis* Rams.

Cf. *Nov. Zool.* 1901. p. 132.

♂ ♀ Avera, 5, 6. iii. 03. (Nos. A 364, 374.)

1 ♀, Upper Aroa River, 27. i. 05. (No. 197.)

21. *Hypotaenidia brachypus alberti* subsp. nov.

2 ♂♂, 4 ♀♀ ad., 1 ♀ juv., 2 pull., Owgarrá, Angabunga River, February 1905. (Nos. A 2045, 2051—2054, 2060, 2071, 2075, 2081.)

“Iris chocolate-brown; bill dark horn-brown, reddish at base; feet fleshy grey.”

Type ♂ ad., 6. ii. 1905. (No. A 2051.)

Top of head, hind-neck, and anterior portion of back bright chestnut, rest of back black with broad brown borders and more or less numerous white lateral spots to the feathers. The long and soft scapulars black, with wavy bars of white; secondaries and greater upper wing-coverts similar, but generally with more or less olive-brown edges; primaries blackish brown, with a few white speckles to the edges of the outer webs. Lesser wing-coverts olive-brown; throat dirty or creamy white; sides of head, jugulum and breast slaty grey; rest of abdomen and flanks dull black, with numerous narrow white bars; under tail-coverts black with wide buff tips and a few buff bars. Under wing-coverts dark slate-colour with narrow white edges. Wing in the adult males 93·5—95, in the females 93—96; bill 26—30·5; tail 38—40; metatarsus 30—31·5 mm. Females similar to males, but apparently the abdomen more whitish in the middle, the bars a little wider. The younger bird is more olive above, the breast lighter grey with a rusty tinge. The pullus is covered with glossy black down, and after this first downy stage follows one in which the upper surface is covered with dull black feathers, while the underside is slate, whitish along the middle.

This most interesting new form differs from *Hypotaenidia brachypus exsul* Hart. of Flores (*Nov. Zool.* 1898. p. 59) in the extent of the bright chestnut colour of the head, which reaches to the anterior part of the interseapulum, the shorter wing and more regularly barred larger wing-coverts. This last character is perhaps somewhat doubtful, as they are less barred in one of our females of *H. b. alberti*, and as the type and unique specimen of *H. b. exsul* is evidently somewhat immature.

H. b. exsul differs very considerably from *H. brachypus brachypus* in the following characters: the crown is uniform, without black spots, the rufous-chestnut of the crown extends farther to the back, the back is darker, throat more whitish, size smaller. It is, indeed, doubtful if it is a subspecies, but we believe this is correct, and it certainly expresses the close relationship of these forms if we treat them trinomially.

This is a most valuable addition to the Papuan fauna.

22. *Rallicula forbesi* Sharpe.

Cf. *Nov. Zool.* 1901. p. 142.

4 ♂♂, 2 ♀♀, Avera, Aroa River, January, February, March, June 1903. (Nos. A 34, 111, 185, 186, 470, 581.)

2 ♂♂, 1 ♀, 1 pull., Owgarrá, Angabunga River, November 1904, February 1905. (Nos. A 1852, 1853, 2079, 2080.)

4 ♂♂, 4 ♀♀, Head of Aroa River, April, May 1905. (Nos. 2140—2143, 2154—2156, 2217.)

1 ♀, Bubuni, Aroa River, 14. v. 05. (No. B 259.)

The ♀ from Bubuni has more and larger spots than females from other places, but the specimens vary a little in this respect. The pullus is a lovely creature: the down on the head is rufous with very small black tips, so that the head appears nearly uniform rufous, while the rest of the upper surface is mixed black and rufous brown, each down being blackish at base and tip, with a rufous brown ante-apical band. The underside is paler. "Iris dull amber; feet and bill black."

23. *Salvadorina waigiensis* Rothsch. & Hart.

Salvadorina waigiensis Rothschild & Hartert, *Nor. Zool.* i. p. 683 (1894—Waigiu.).

1 ♂, Aroa, Aroa River, 12. iii. 03. (No. A 404.) "Iris dark brown; feet dirty yellow; bill smoky horn-colour."

For a long time the type has remained unique. The next person to rediscover this remarkable duck was Giulianetti, who shot it on Mount Musgrave, 12,200 ft. high. He collected also the pullus (*Ibis*, 1897, p. 392). Mr. Emil Weiske sent us a male, shot on the Aroa River, 4000 ft. high, in 1899. He describes the iris as "brown, bill and feet yellowish." Mr. J. Livery obtained specimens in the "Mountains of British New Guinea, 2800 ft. high." In the Tring Museum we have thus now five specimens. They agree fully with the type, except that the one from Meek has the sides of the head, throat, and nape more blackish, almost pure black.

For the ARDEIFORMES, ACCIPITRES, and STRIGES (Nos. 24 to 30) see *antè*, p. 443, continuation of "Notes on Papuan Birds." The ARDEIFORMES and ACCIPITRES will follow next year.

31. *Ceyx solitaria* Temm.

Cf. *Nor. Zool.* 1901. p. 145.

3 ♀♀, Aroa River, December 1904. (Nos. B 94, 108, 110.)

32. *Syma torotoro meeki* Rothsch. & Hart.

Nor. Zool. 1901. p. 147 (Milne Bay and other places in British New Guinea).

2 ♂♂, 1 ♀, Upper Aroa River, October 1904—January 1905. (Nos. B 20, 142, 145.)

33. *Halcyon macleayi* Gard. & Selby.

Cf. *Nor. Zool.* 1901. p. 153.

♂♀, Head of Aroa River, 10. ii., 6. v. 05. (Nos. A 1780, B 216.)
♀ juv., Bubuni, Aroa River, 18. iv. 05. (No. B 235.)

34. *Tanysiptera dea galatea* Gray.

Cf. *Nor. Zool.* 1901. p. 160.

2 ♂♂, Upper Aroa River, December 1904—January 1905. (Nos. B 116, B 155.)
♀, Bubuni, Aroa River, 19. v. 05. (No. B 265.)

35. *Chalcopsittacus scintillatus chloropterus* Salvad.

Cf. *Nov. Zool.* 1901. p. 65.

1 ♂, Upper Aroa River, 28. xi. 04. (No. B 61.)

This specimen has no golden shaft-streaks above.

36. *Eos fuscata* Blyth.

Cf. *Nov. Zool.* 1901. p. 65.

♂ ♀, Owingarra, Angabunga River, 6000—8000 ft., 5. i. 05. (Nos. A 1959, 1960.)

4 ♂♂, 2 ♀♀, Avera, Aroa River, January, February 1903. (Nos. A 51, 156, 157, 162, 163, 172.)

37. *Lorius hypoenochrous devittatus* Hart.

Cf. *Nov. Zool.* 1901. p. 66.

♂ ♀, Owingarra, Angabunga River, 6000—8000 ft., December 1904. (Nos. A 1942, 1943.)

1 ♂, Head of Aroa River, 25. v. 05. (No. A 2226.)

1 ♂, Bubuni, Aroa River, 24. v. 05. (No. B 272.)

Specimen B 272 has an indication of the black band, as it is found in typical *hypoenochrous*.

38. *Lorius lory erythrothorax* Salvad.

Cf. *Nov. Zool.* 1901. p. 66.

2 ♀♀, Avera, Aroa River, 22. i. 03. (Nos. A 48, 49.)

39. *Trichoglossus haematodus massena* Bp.

Cf. *Nov. Zool.* 1901. p. 70.

1 ♂, Avera, Aroa River, 12. ii. 03. (No. A 228.)

40. *Glossopsittacus goldiei* (Sharpe).

Cf. *Nov. Zool.* 1901. p. 71.

2 ♂♂, 4 ♀♀, Owingarra, Angabunga River, 6000—8000 ft., December 1904, January 1905. (Nos. A 1930, 1955, 1956, 1962, 1975, 1976.)

“Iris brown, feet ashy blue, bill black.”

41. *Charmosynopsis wilhelminae* (A. B. Meyer).

Cf. *Nov. Zool.* 1901. p. 71; 1905. p. 253.

2 ♂♂, 1 ♀, Owingarra, Angabunga River, December 1904, January 1905. (Nos. A 1924, 1958, 2004.)

4 ♂♂, 2 ♀♀, Avera, Aroa River, January, February, April 1903. (Nos. A 3, 4, 38, 40, 217, 474)

♂ ♀, Head of Aroa River, 28. v. 05. (Nos. A 2257, 2258.)

“Iris chrome yellow, feet green slate, bill dull red.”

42. *Charmosynopsis placentis subplacens* (Scl.).

Cf. *Nor. Zool.* 1901. p. 71; 1905. p. 253.

3 ♂♂, 1 ♀, Avera, Aroa River, February, March, 1903. (Nos. A 193—195, 352.)
♂, Head of Aroa River, 23. iv. 05. (No. B 245.)

Specimen No. 352, ♀, has the wings, tail, and interscapular region marked with irregular patches of golden yellow.

43. *Charmosynopsis pulchella* (Gray).

Cf. *Nor. Zool.* 1901. p. 72.

3 ♂♂, 2 ♀♀, Avera, Aroa River, January 1903. (Nos. A 30, 50, 78, 77, 138.)
"Iris reddish yellow, feet orange yellow, bill bright reddish yellow."

44. *Charmosyna stellae* A. B. Meyer.

Cf. *Nor. Zool.* 1901. p. 72.

3 ♂♂, 2 ♀♀, Avera, Aroa River, January 1903. (Nos. A 60, 95, 112, 113, 125.)

4 ♂♂, 1 ♀, Owgarrar, Angabunga River, February 1905. (Nos. A 2091, 2092, 2096—2098.)

1 ♀ imm., Head of Aroa River, 11. v. 05. (No. 1799.)

"Iris bright red, feet yellowish red, bill bright red."

45. *Oreopsittacus arfaki grandis* Grant.

Cf. *Nor. Zool.* 1901. p. 72.

2 ♂♂, 1 ♀, Owgarrar, Angabunga River, December 1904, January 1905. (Nos. A 1923, 1988, 2000.)

"Iris umber, dark brown, brown; feet ashy blue, slate; bill black."

This large form represents *O. arfaki arfaki* in British New Guinea, and is evidently to be treated trinomially.

46. *Neopsittacus musschenbrockii* (Schl.).

Nanodes musschenbrockii Schlegel, *Nederl. Tijdschr. Dierkunde*, iv. p. 31 (1871).

4 ♂♂, 1 ♀, Owgarrar, Angabunga River, 6000—8000 ft., October, December 1904, January 1905. (Nos. A 1812, 1931, 1972, 1992, 1993.)

"Iris crimson, light red, dull pale red; feet ashy blue, slate; bill yellow."

N. pullicauda, which is quite distinct, is probably a form of higher elevations, but we have no definite notes about its exact distribution.

47. *Cyclopsitta diophthalmus coccineifrons* Sharpe.

Cf. *Nor. Zool.* 1901. p. 74.

2 ♂♂, 2 ♀♀, Avera, Aroa River, February, March 1903. (Nos. A 319, 320 493, 468.)

♂ ♀, Owgarrar, Angabunga River, 5, 12. ii. 05. (Nos. A 2049, 2074.)

♂, Bubuni, Aroa River, 19. v. 05. (B 266.) (Albinistic specimen.)

"Iris blood-red, or dark chocolate; feet greenish slate; bill slate, slaty black

at base." The differences mentioned as belonging to this bird are all very slight. The red colour of the head is apparently a deeper or richer red and the green on the nape lighter, the yellow band on the head more distinct than in *C. diopthalmus diopthalmus*, but at the most is a very poor subspecies.

48. *Cyclopsitta melanogenia suavissima* ScL.

Cf. *Nov. Zool.* 1901. p. 74.

3 ♂♂, 5 ♀♀, Aroa River, October 1904. (Nos. B 6, 10—13, 21, 23.) "Iris dark brown, feet light dirty green, bill black."

49. *Nasiterna bruijni orientalis* De Vis.

Cf. *Nov. Zool.* 1901. p. 79. No. 54.

♂, Owgarrá, Angabunga River, January 1905. (No. A 2021.)

3 ♂♂, 2 ♀♀, Head of Aroa River, April, May 1905. (Nos. A 2136, 2196, 2204, 2242, 2243.)

The character of the orange tips to the tail-feathers mentioned by De Vis apparently holds good in the majority of specimens. The orange-yellow colour of the head is in most specimens of a more ruddy brownish tinge.

50. *Nasiterna pusio* ScL.

Cf. *Nov. Zool.* 1901. p. 81.

1 ♂, Upper Aroa River, January 1905. (No. B 139.)

51. *Geoffroyus personatus aruensis* (Gray).

Cf. *Nov. Zool.* 1901. p. 84.

1 ♂, Upper Aroa River, 10. i. 05. (No. B 154.)

52. *Psittacella madaraszi* A. B. Meyer.

Cf. *Ibis*, 1897. p. 59.

3 ♂♂, 3 ♀♀, Avera, Aroa River, January—March, May, June 1903. (Nos. A 5, 107, 248, 341, 563, 577.)

2 ♂♂, 1 ♀, Owgarrá, Angabunga River, November, December 1904, January 1905. (Nos. A 1870, 1922, 1986.)

1 ♂, 2 ♀♀, Head of Aroa River, April 1905. (Nos. 2125—2127.)

"Iris red, feet slate-blue, bill chalky blue."

53. *Psittacella brehmi pallida* A. B. Meyer.

Cf. *Ibis*, 1897. p. 58.

1 ♂, Avera, Aroa River, 3. vi. 03. (No. A 593.)

2 ♂♂, 2 ♀♀, Owgarrá, Angabunga River, November 1904, January 1905. (Nos. A 1862, 1867, 1876, 2040.)

2 ♂♂, Head of Aroa River, May 1905. (Nos. A 2165, 2195.)

"Iris red, feet ashy blue, bill pale chalky blue."

54. *Aprosnectus chloropterus* Rams.

Cf. *Nor. Zool.* 1901. p. 87.

3 ♂♂ ad., 1 ♂ juv., 2 ♀♀ Avera, Aroa River, January, February, March 1903. (Nos. A 100, 245—247, 253, 448.)

2 ♂♂ ad., 1 ♂ juv., Upper Aroa River, January, February 1905. (Nos. B 199, 201, 209.)

2 ♂♂ ad., Bubuni, Upper Aroa River, April, May 1905. (Nos. B 246, 274.)

“Iris dark yellow, cardamine, feet black, bill black, base of upper mandible bright red.”

(For the UCULIDAE (Nos. 55 to 60) see *ante*, p. 443, continuation of “Notes on Papuan Birds.”)

61. *Podargus papuensis* Quoy and Gaim.

Cf. *Nor. Zool.* 1903. p. 198.

♂ ♀, Owgarrā, Angabunga River, November 1904. (Nos. A 1878, 1879.)

♂ ♀, Avera, Aroa River, 11. iii., 2. vi. 03. (Nos. A 401, 587.)

♀ Head of Aroa River, 15. v. 05. (No. A 2186.)

62. *Podargus ocellatus* Quoy and Gaim.

♂ ♀, Avera, Aroa River, 12. iii. 03. (Nos. A 406, 407.)

“Iris chocolate, feet horn-colour, bill smoky horn-colour.”

1, Upper Aroa River, 14. x. 04. (No. B 2.)

63. *Aegothales insignis pulcher* Hart.

Cf. *Nor. Zool.* 1903. p. 202.

9 ♂♂ ♀, 1 juv., Avera, Aroa River, May, June 1903. (Nos. A 537, 550, 552, 555, 559, 565—567, 570, 576.)

12, Owgarrā, Angabunga River, October, November, December 1904, January 1905. (Nos. 1800, 1802, 1835, 1849, 1850, 1886, 1897, 1903, 1934, 1935, 1957, 1961.)

22, Head of Aroa River, April, May 1905. (Nos. 1787, 1796, 2114, 2129, 2131, 2137, 2145, 2146, 2157, 2158, 2159, 2163, 2172, 2173, 2179, 2181, 2182, 2218, 2233, 2248, 2249, 2254.)

There is a wonderful variation in colour in this beautiful bird. The type and several other specimens obtained by Mr. Meek are cinnamon-rufous, with the back without a sign of buff or whitish spots, and with the rectrices only obsoletely barred. Others are less rufous, more brownish; others again very dark brown, with the head and parts of the underside almost blackish; and most of these have the top of the head and the back covered with small roundish white spots, surrounded by a blackish line, the sides of the breast marked with fine white zigzag lines, and the tail with about eleven strongly marked blackish cross-bars. The length of the wing varies from 166 to 180 mm. The coloration and size do not depend on the sex, though the smaller birds are mostly females. A quite young bird, still with fluffy down to some of the feathers of the back, is exactly like the type specimen, *i.e.* bright cinnamon rufous, with unspotted back and obsoletely barred rectrices. The iris is marked

as brown, light brown or brownish yellow, bill smoky brown or horn-colour, feet light horn or flesh-colour. This form is doubtless a subspecies to *A. insignis* from Arfak, which is very similar. The latter is hitherto unique in the Genoa Museum.

64. *Aegotheles salvadorii* Hart.

Cf. *Nor. Zool.* x. p. 200 (1903).

6 ♂ ♀, Avera, Aroa River, January, May, June 1903. (Nos. A 32, 94, 132, 534, 542, 592.)

7 ♂ ♀, Owgarrá, Angabunga River, October, November, December 1904, January 1905. (Nos. A 1803, 1808, 1811, 1851, 1892, 1979, 1997.)

10 ♂ ♀, 1 pull., Head of Aroa River, April, May 1905. (Nos. A 1783, 1997, 2116, 2122, 2151, 2191, 2192, 2197, 2206, 2211.)

“ Iris brown, feet light horn, bill smoky brown, dark horn.”

No. 2191 is the nestling of bird No. 2184. It is all over of a creamy white. “ Feet white, bill white, with light smoky tips.”

65. *Caprimulgus macrurus macrurus* Horsf.

Cf. *Nor. Zool.* 1903. p. 202.

1 ♂, Upper Aroa River, 24. i. 04. (No. B 48.)

66. *Collocalia esculenta* (L.).

Cf. *Nor. Zool.* 1903. p. 203.

Two, sex uncertain, Owgarrá, Angabunga River, 26. xi. 04; 15. ii. 05. (Nos. 1887, 2083.)

♂ ♀, Head of Aroa River, 16. v. 05. (Nos. A 2188, 2189.)

67. *Macropteryx mystaceus mystaceus* (Less.).

Cf. *Nor. Zool.* 1903. p. 203.

♂ ♀, Avera, Aroa River, 15, 21. iii. 03. (Nos. A 423, 445.)

♀, Owgarrá, Angabunga River, 3. i. 05. (No. A 1954.)

♂ ♀, Aroa River, 19. i. 05. (Nos. B 175, 176.)

68. *Microeca papuana* A. B. Meyer.

Cf. *Nor. Zool.* 1903. p. 470.

1 ♂, 3 ♀ ♀, 1 unsexed, Owgarrá, Angabunga River, November, December 1904, January, February 1905. (Nos. A 1860, 1941, 1971, 2034, 2064.)

1 ♂, 3 ♀ ♀, Head of Aroa River, April, May 1905. (Nos. A 2117, 2121, 2118, 2215.)

5 ♂ ♀, Avera, Aroa River, May, June 1903. (Nos. A 578, 580, 582, 583, 584.)

69. *Microeca flavovirescens* Gray.

Cf. *Nor. Zool.* 1903. p. 471.

♂, Upper Aroa River, 27. x. 04. (No. B 19.)

70. *Microeca flavigaster* Gould.

Cf. *Nov. Zool.* 1903. p. 471.

3 ♂♂, 3 ♀♀, Upper Aroa River, November, December, 1904, January 1905.
(Nos. B 43, 44, 45, 46, 85, 140.)

71. *Gerygone palpebrosa* Wall.

Cf. *Nov. Zool.* 1903. p. 472.

2 ♂♂, Upper Aroa River, 23. i. 05. (Nos. B 186, 187.)
1 ♂, Bubuni, Upper Aroa River, 22. v. 05. (No. B 268.)

72. *Gerygone chrysogaster* Gray.

Cf. *Nov. Zool.* 1903. p. 472.

1 ♀, Upper Aroa River, 3. i. 05. (No. B 132.)
" Iris dark red, feet light slate, bill black."

73. *Gerygone cinereiceps* (Sharpe).

Cf. *Nov. Zool.* 1903. p. 473.

1 ♂, Upper Aroa River, 3. i. 05. (No. B 133.)

74. *Gerygone albigularis cinerascens* Sharpe.

Gerygone cinerascens Sharpe, *Journ. Linn. Soc. London* xiii. p. 494 (S.E. New Guinea, probably Port Moresby); Hartert, *Nov. Zool.* 1905. p. 221.

2 ♂♂, 1 ♂ young, Upper Aroa River, 10. xii. 04, 3. i. 05. (Nos. B 101, 102, 134.)

The young bird is olive-brown above and uniform yellow underneath, including the throat; the white spots on the forehead are absent. There is a yellow line running from the base of the bill to and over the eye, being faintly tinged with white at the base of the bill. Bill only about 5.5 mm. long.

75. *Gerygone cinerea* Salvad.

Cf. *Nov. Zool.* 1903. p. 474.

1 ♂, Head of Aroa River, 26. v. 05. (No. A 2241.)

76. *Cryptolopha giulianettii* (Salvad.).

Cf. *Nov. Zool.* 1903. p. 475.

1 ♂, Owgarru, Angabunga River, 26. i. 05. (No. A 2031.)
2 ♂♂, Head of Aroa River, 12, 28. v. 05. (Nos. A 2177, 2256.)

" Iris brown; feet slate, vandyke-brown; bill black, lighter towards base of under-mandible."

77. *Heteromyias armiti* De Vis.

Cf. *Nov. Zool.* 1903. p. 467. Pl. XIII, fig. 3.

1 ♂ ad., 1 ♂ juv., Owgarrá, Angabunga River, 17. xii. 04, 12. ii. 05. (Nos. A 1910, 2072.)

8 ♂ ♀ ad., 1 ♀ juv., Head of Aroa River, April, May 1905. (Nos. A 1795, 2113, 2144, 2148, 2209, 2212, 2221, 2227, 2234.)

78. *Monachella muelleriana* (Schleg.).

Cf. *Nov. Zool.* 1903. p. 479.

♂ ♀, Owgarrá, Angabunga River, 20. xi. 04, 3. i. 05. (Nos. A 1875, 1953.)

1 ♀, Head of Aroa River, 2. v. 05. (No. A 2162.)

79. *Poecilodryas hypoleuca* (Gray).

Cf. *Nov. Zool.* 1903. p. 468.

3 ♂ ♂, Upper Aroa River, 6. xii. 04 ; 3, 9. i. 05. (Nos. B 91, 130, 153.)

80. *Poecilodryas leucops albifacies* Sharpe.

Cf. *Nov. Zool.* 1903. p. 469.

5 ♂ ♀, Bubuni, Upper Aroa River, April 1905. (Nos. B 226, 243, 247, 250, 252.)

The specimens from Cape York (Queensland) have not only the chin, but nearly the whole throat, for about 1 cm., white, and the pileum is slightly more blackish. This form may be named :

Poecilodryas leucops albigularis subsp. nov.

Type No. 1992. ♂ ad., Cape York, 21. vii. 1898. A. S. Meek coll.

81. *Poecilodryas cyanus subcyanea* De Vis.

Cf. *Nov. Zool.* 1903. p. 470.

3 ♂ ♂, 1 ♀, Avera, Aroa River, May 1903. (Nos. A 481, 521, 513, 558.)

2 ♂ ♂, 1 ♀ ad., 1 ♂ juv., Owgarrá, Angabunga River, 19. xi. 04. (Nos. A 1871, 1872, 1935, 2063.)

5 ♂ ♀ ad., Head of Aroa River, April, May 1905. (Nos. A 2149, 2175, 2168, 2222, 2223.)

82. *Poecilodryas bimaculatus* (Salvad.).

Cf. *Nov. Zool.* 1903. p. 468.

2 ♂ ♂, Bubuni, Upper Aroa River, 5, 19. iv. 05. (Nos. B 225, 238.)

83. *Poecilodryas sigillata* De Vis.

Cf. *Nov. Zool.* 1903. p. 470.

♂ ♀, Head of Aroa River, 9 v. 05. (Nos. A 1789, 1790.) "Iris dark brown, bill and feet black."

84. *Megalestes albonotatus* Salvad.

Cf. *Nor. Zool.* 1903. p. 467.

6 ♂ ♀, Owgarrá, Angabunga River, November 1904, January 1905. (Nos. A 1863, 1881, 1980, 1981, 1990, 2039.)

85. *Aethomyias spilodera guttata* Sharpe.

Cf. *Nor. Zool.* 1903. p. 475.

2 ♂ ♂, 1 ♀, Bubuni, Upper Aroa River, April 1905. (No. B 241, 251, 256.)

86. *Todopsis cyanocephalus bonapartii* Gray.

Cf. *Nor. Zool.* 1903. p. 477.

21 ♂ ♀ ad., 1 ♂ juv., Upper Aroa River, September, October, November, December 1904, January 1905. (Nos. B 13, 14, 25, 26, 27, 28, 35, 36, 40, 41, 100, 125, 126, 129, 141, 146, 147, 200; three without number.)

The female of this form has the blue of the head of a more purplish tinge than those of *T. cyanocephalus cyanocephalus*.

87. *Todopsis wallacei* Gray.

Cf. *Nor. Zool.* 1903. pp. 477, 478.

♀, Upper Aroa River, 29. xii. 04. (No. B 114.)

4 ♂ ♀, Bubuni, Upper Aroa River, April, May 1905 (Nos. B 229, 231, 233, 269.)

88. *Clytomyias insignis oorti* subsp. nov.

[*Clytomyias insignis*. Sharpe *Notes Leyden Museum* i. p. 30 (1878.—Arfak Mountains).]

3 ♂ ♀, Owgarrá, Angabunga River, January, February 1905. (Nos. A 2022, 2023, 2090.)

3 ♂ ♂, Head of Aroa River, May 1905. (Nos. A 1784, 1785, 2171.)

1 ♂, 2 ♀ ♀, Bihagi, head of Mambare River, February, March 1906. (Nos. A 2437, 2438, 2529.)

Clytomyias insignis was hitherto unique in the Leyden Museum, the type being a single female obtained in 1876 by Bruijn's hunters at Tjobouda in the Arfak Mountains. Dr. E. D. van Oort has kindly compared some of our specimens with the type, and as all our specimens are alike it is evident that the birds from British New Guinea belong to a different subspecies, which we are pleased to name after Dr. van Oort of the Leyden Museum. Hartert has also examined the type in Leiden.

The upper-surface of our new subspecies is slightly more brownish, less grey; the throat is ochraceous, not white, the under-surface is light ochraceous, in two females paler, more creamy buff; the flanks are but slightly deeper in colour, and some of the flank-feathers are darker, somewhat tinged with olive, along the middle. The under tail-coverts are dull ochraceous brown, while those of the type of *C. insignis* are "dusky with chestnut tips." The rectrices are slightly brighter in colour. "Iris brown; feet smoky horn-colour, light horn; bill black, base of under-mandible pale brown."

Type of *C. i. oorti*: ♂, No. A 2171, head of Aroa River, 4. v. 1905.

Evidently *Clytomyias* and allied genera have only 10 rectrices!

89. *Malurus alboscapulatus naimii* (Salvad. and D'Alb.).

Cf. *Nov. Zool.* 1903. p. 478.

1 ♂, Owgarra, Angabunga River, 30. x. 04. (No. 1816.)

2 ♂♂, Upper Aroa River, November 1904, January 1905. (Nos. B 51, 128.)

1 ♂ changing plumage, 6. xii. 04. (No. B 89.) Underside black, spotted with white.

1 ♂ changing plumage, Upper Aroa River, 24. xi. 04. (No. 52.) Upperside black and brown, underside white.

2 ♀♀, Upper Aroa River, December 1904, January 1905. (Nos. B 88, 189.) Upperside black, underside white, with a few black edges to the feathers on the breast.

1 ♀, Upper Aroa River, 2. xii. 04. (No. B 98.) Upperside black, underside white with one or two black spots.

All the specimens with perfectly black underside are marked "♂." It seems that the females as well as the young males are white underneath.

90. *Rhipidura atra* Salvad.

Cf. *Nov. Zool.* 1903. p. 465.

2 ♂♂, 2 ♀♀, Owgarra, Angabunga River, November, December 1905, January, February 1906. (Nos. A 1837, 1921, 1951, 2062.)

2 ♂♂, Head of Aroa River, May 1905. (Nos. A 2219, 2225.)

2 ♂♂, Avera, Aroa River, May, June 1903. (Nos. A 486, 580.)

91. *Rhipidura threnothorax* S. Müll.

Cf. *Nov. Zool.* 1903. p. 463.

♂, Bubini, Upper Aroa River, 19. iv. 05. (No. B 239.) "Iris dark brown, feet slaty black, dirty white under-mandible."

92. *Rhipidura setosa gularis* S. Müll.

Cf. *Nov. Zool.* 1903. p. 464.

1 ♀, sexed ♂, not quite adult, Upper Aroa River, 5. i. 05. (No. B 137.)

93. *Rhipidura hyperythra* Gray.

Cf. *Nov. Zool.* 1903. p. 464.

♀, Bubini, Upper Aroa River, 8. iv. 05. (No. B 230.)

94. *Rhipidura rufidorsa* Mey.

Cf. *Nov. Zool.* 1903. p. 465.

♂, Avera, Aroa River, 3. vi. 03. (No. A 596.) This specimen is evidently abnormal, the rectrices being creamy white with a grey tinge, and the feet are very pale. The iris was dark brown. The rump and upper tail-coverts are also lighter. The crown is more rufescent, but this is probably due to immaturity.

95. *Rhipidura auricularis* De Vis.

Cf. *Nov. Zool.* 1903. p. 465.

♂ ♀ ad., Owgarrra, Angabunga River, November, December 1904. (Nos. A 1873, 1917.) "Iris brown, feet black, bill black, underneath light horn."

2 ♂ ♂, Head of Aroa River, May 1905. (Nos. 1792, 1793.)

96. *Myiagra rubecula* (Lath.).

Todus rubecula Latham, *Ind. Orn., Suppl.* p. xxxii (1801.—Australia).—This name has been largely adopted, though its diagnosis is poor and has been thought to be insufficient by Salvadori.

♂ ♀, Upper Aroa River, 8. xii. 04. (Nos. B 96, 97). "Iris dark brown, feet dark slate, bill blue slate."

The specimens appear to be somewhat pale and short-winged, and a good series may prove their distinctness from the Australian form. Our examples are, however, very worn.

97. *Machaerirhynchus xanthogenys xanthogenys* Gray.

Cf. *Nov. Zool.* 1903. p. 476.

2 ♂ ♂, 2 ♀ ♀, Upper Aroa River, 3. xii. 04, 1. i. 05. (Nos. B 81, 127, 34, 107.)
♂, Bubuni, Upper Aroa River, 7. iv. 05. (No. B 227.)

98. *Machaerirhynchus nigripectus* Schleg.

Cf. *Nov. Zool.* 1903. p. 476.

2 ♂ ♂, 2 ♀ ♀, Owgarrra, Angabunga River, October, November 1904, February 1905. (Nos. A 1817, 1854, 1864, 2108.)

♂ ♀, Avera, Aroa River, May, June 1903. (Nos. A 571, 588.)

99. *Arses telescopthalmus henkei* Mey.

Cf. *Nov. Zool.* 1903. p. 461.

3 ♂ ad., 1 ♂ juv., 1 ♀, Upper Aroa River, October, December 1904, January 1905. (Nos. B 4, 5, 9, 99, 168.)

100. *Monarcha guttula* (Garn.).

Cf. *Nov. Zool.* 1903. p. 456.

3 ♂ ♀, Upper Aroa River, October 1904, January 1905. (Nos. B 7, 29, 198.)

101. *Monarcha axillaris* Salvad.

Cf. *Nov. Zool.* 1903. p. 458.

1 ♀, Head of Aroa River, 19. v. 05. (No. A 2191.)

1 ♀, Bubuni, Upper Aroa River, 21. v. 05. (No. B 267.)

♂, Avera, Aroa River, 27. v. 03. (No. A 557.)

102. **Monarcha chrysomela aruensis** Salvad.

Cf. *Nor. Zool.* 1903. p. 459.

3 ♂♂, Upper Aroa River, 29. xii. 04, 12. i., 3. ii. 05. (Nos. B 117, 163, 206.)

Specimens from German New Guinea (Simbang and Sattelberg, cf. *Nor. Zool.* x. 1903. p. 459) are much more golden yellow than birds from British New Guinea, the difference being very marked in the female. They are certainly not *aruensis*, but will probably be found to agree with *aurantiacus* when more material is available for comparison.

103. **Monarcha melanopsis** (Vieill.).

Cf. *Nor. Zool.* 1903. p. 455.

2 ♀♀, Upper Aroa River, November 1904. (Nos. B 33, 62.)

104. **Monarcha periophthalmicus** Sharpe.

Cf. *Nor. Zool.* 1903. p. 455.

1 ♂, Bubuni, Upper Aroa River, 17. iv. 05. (No. B 234.)

105. **Peltops blainvillii** (Less. and Garn.).

Cf. *Nor. Zool.* 1903. p. 454.

♂, Bubuni, Upper Aroa River, 29. iv. 05. (No. B 255.)

♂, Owgarrá, Angabunga River, 16. ii. 05. (No. A 2101.)

106. **Graucalus caeruleogrisea** (Gray).

Cf. *Nor. Zool.* 1903. p. 203.

3 ♂♂, Avera, Aroa River, January, February 1903. (Nos. A 104, 183, 238.)
"Iris dark brown, feet and bill black."

107. **Graucalus longicauda** De Vis.

Cf. *Nor. Zool.* 1903. p. 204.

2 ♀♀, Owgarrá, Angabunga River, 15. xi. 04, 24. i. 05. (Nos. A 1848, 2026.)
"Iris dark brown, feet and bill black."

108. **Graucalus axillaris** Salvad.

Cf. *Nor. Zool.* 1903. p. 206.

♂, Owgarrá, Angabunga River, 4. xi. 05. (No. A 2048.)

109. **Edoliisoma melas meeki** Rothsch. & Hart.

Edoliisoma melas meeki Rothsch. & Hart. *Nor. Zool.* x. 1903. p. 207 (Brit. New Guinea and the Fly River).

♂, Avera, Aroa River, 8. ii. 03. (No. A 221.) "Iris dark brown, feet and bill black."

♂, Upper Aroa River, 31. xii. 04. (No. B 121.)

110. *Edoliisoma montana minus* subsp. nov.

Cf. *Nor. Zool.* 1903. p. 207, No. 17.

♂ ♀, Avera, Aroa River, January, February 1903. (Nos. A 211, 222.)

♀, Head of Aroa River, May 1905. (No. A 1797.) "Iris dark brown, bill and feet black."

We have now about 14 males and several females, which we could compare with 4 males from Arfak. It thus becomes evident that the birds from British New Guinea form a smaller subspecies than the northern ones. The wings of our males from British New Guinea measure only 128 to 132, those of four males from Arfak 136.5 to 141.5 mm. We name the smaller race *Ed. montana minus*. Type: ♂ ad., Bihagi, head of Mambare River, north side of the Owen Stanley Mountains, 29. iii. 1906. (No. A 2672.)

From this latter locality we have also received several specimens.

111. *Lalage karu polygrammica* (Gray).

Cf. *Nor. Zool.* 1903. p. 210.

♂, Avera, Aroa River, 24. ii. 03. (No. 286.)

♂, Bubuni, Upper Aroa River, 29. iv. 05. (No. B 254.)

112. *Eupetes caerulescens nigricrissus* Salvad.

Cf. *Nor. Zool.* 1903. p. 230.

♀, Upper Aroa River, 30. x. 04. (No. B 24.)

113. *Eupetes castanonotus pulcher* Sharpe.

Cf. *Nor. Zool.* 1903. p. 229.

3 ♂♂, 3 ♀♀, Avera, Aroa River, February, March 1903. (Nos. A 254, 280, 361, 370, 438, 446.)

♂, Bubuni, Upper Aroa River, 27. iv. 05. (No. B 253.)

This series fully bears out the difference which we pointed out in 1903, *l.c.*

114. *Eupetes leucostictus loriae* Salvad.

Cf. *Nor. Zool.* 1903. pp. 230, 231.

1 ♀, Head of Aroa River, 26. v. 05. (No. A 2119.)

4 ♂♂, Avera, Aroa River, February, March, May 1903. (Nos. A. 164, 391, 523, 553.)

4 ♂♀ ad., Owgarrá, Angabunga River, November 1904, January, April, May 1905. (Nos. A 2029, 2043, 2247, 1268.)

1 ♂ juv., Owgarrá, Angabunga River, 25. i. 05. (No. A. 2030.)

"Iris of adult dark brown, feet dark brown, bill black."

Two specimens marked as females (Nos. 2119, 2043) differ in no way from the males, except that one of them is browner above.

115. *Drymoedus beccarii* Salvad.

Cf. *Nor. Zool.* 1903. p. 229.

♀, in moult, Avera, Aroa River, 22. ii. 03. (No. A 270.)

♂, Upper Aroa River, 25. i. 05. (No. B 190.)

These two birds are paler beneath, not so rusty, otherwise they resemble those from Arn. The type came from Arfak, but we have, unfortunately, no specimens from there.

116. *Ifrita coronata* Rothsch.

Cf. *Nor. Zool.* 1903, p. 226.

4 ♂♂, 2 ♀♀, Avera, Aroa River, May 1903. (Nos. A 489, 497, 498, 524, 527, 535.)

2 ♂♂, 6 ♀♀, Owgarra, Angabunga River, November, December 1904, January 1905. (Nos. A 1880, 1898, 1899, 1984, 1907, 1994, 2011, 2024.)

3 ♂♂, Head of Aroa River, April 1905. (Nos. A 2120, 2153, one without original label.)

"Iris chocolate brown, brown; feet green slate; bill, upper mandible black, lower light horn."

The only difference in the sexes is the rufous instead of white superciliary line of the females. In some of the males the superciliaries are tipped and edged with light blue.

117. *Crateroscelis murinus* (Scl.).

Cf. *Nor. Zool.* 1903, p. 226.

3 ♂♂, 3 ♀♀, Avera, Aroa River, January, February, March 1903. (Nos. A. 154, 223, 229, 261, 288, 471.)

1 ♀, Bubuni, Upper Aroa River, 4. iv. 1905. (No. B 224.)

1 ♀ juv., Upper Aroa River, without date or number.

The females are tinged with ochraceous on the whole abdomen, while in the males the middle of the breast and abdomen, as well as the throat, is white. In two of our specimens the throat too is pale ochraceous, these examples thus bearing a close similarity to our *C. rufobrunnea* from Humboldt Bay (*Nor. Zool.* 1903, p. 225). It is by no means impossible that the latter is a merely a younger specimen of *C. murinus*, but further research is required.

118. *Crateroscelis pectoralis* Rothsch. & Hart.

Cf. *Nor. Zool.* 1903, p. 227.

4 ♀♀, Avera, Aroa River, February, May 1903. (Nos. A 179, 511, 513, 562.)

2 ♂♂, 1 ♀, Head of Aroa River, May 1905. (Nos. A 1794, 2164, 2169.)

The males are slightly larger (wings 62 to 64 mm., instead of 56 to 59 in the females), the dark band across the chest is darker and much more conspicuous, while in the females it is paler and less distinct. In two of our females the throat is slightly tinged with buff.

119. *Amalocichla brevicauda* (De Vis).

Cf. *Nor. Zool.* 1903, p. 226.

♂ juv., Owgarra, Angabunga River, 22. i. 05. (No. A 2016.)

4 ♂♀ ad., 1 ♂ juv., Head of Aroa River, May 1905. (Nos. A 2220, 2237, 2238, 2239, 2245.)

"Iris brown, feet slate, bill black."

The female has a shorter wing, and the pectoral band is more rusty brown.

Two young birds agree with the one described in *Nor. Zool.* x. p. 226, with the exception of the under tail-coverts, which are buff or whitish buff, instead of rufous.

120. *Megalurus macrurus macrurus* (Salvad.).

Cf. *Nor. Zool.* 1903 p. 225.

6 ♂ ♀, Owgarrra, Angabunga River, December 1904, February 1905. (Nos. A 1893, 1894, 1902, 1937, 1946, 2056.)

2 ♀ ♀, Head of Aroa River, May 1905. (Nos. A 2205, 2253.)

1 ♀, Avera, Aroa River, February, May 1903. (Nos. A 196, 569.)

121. *Cisticola exilis* Vig. & Horsf.

Cf. *Nor. Zool.* 1903. p. 225.

2 ♂ ♂, 1 ♀? Upper Aroa River, December 1904. (Nos. B 82, 119, 124.)

122. *Sericornis nigrorufa* Salvad.

Cf. *Nor. Zool.* 1903. p. 228.

4 ♂ ♀, Avera, Aroa River, February, May, June 1903. (Nos. A 243, 495, 539, 574.)

1 ♀, Head of Aroa River, 13. v. 05. (No. A 2180.)

"Iris brown, feet dark brown, bill black."

No. 495 is a very young bird. On the upperside it is exactly like the adult bird, but the feathers of the underside are slightly duller in colour, and have more or less distinct dusky edges or tips. The bill is much shorter, and both mandibles appear to be entirely black.

123. *Sericornis perspicillata* Salvad.

Cf. *Nor. Zool.* 1903. p. 228.

♂, Avera, Aroa River, 17. v. 03. (No. A 485.)

2 ♂ ♂, 1 ♂? Owgarrra, Angabunga River, November 1904, January, February 1905. (Nos. A 1839, 1974, 2100.)

♀, Head of Aroa River, 12. v. 05. (No. A. 2178.)

"Iris brown, reddish brown, feet smoky brown, bill black."

124. *Sericornis olivacea* Salvad.

Sericornis olivacea Salvadori, *Ann. Mus. Civ. Genova* xxxvi. p. 100 (1896—Moroka).

Sericornis pusilla Rothsch. & Hart., *Nor. Zool.* 1903. p. 228 (Mt. Gayata, Richardson Range, 2000—4000 ft.).

In 1903, when describing *S. pusilla*, we had only one example of *S. olivacea* from Mt. Cameron to compare. We have now received four specimens from the Aroa River, and, finding them more or less bridging over the gap between our one *S. olivacea* from Mt. Cameron and the type of *S. pusilla*, we come to the conclusion that they must belong to the same form. In fact, the only differences between the specimen from Mt. Cameron and our *pusilla* was the smaller size and less distinct stripes on the under-surface; both these characters do not hold good.

2 ♂♂, 2 ♀♀, Avera, Aroa River, February and March 1903. (Nos. A 180, 251, 412, 439.)

"Iris dark brown (light brown), feet smoky brown or smoky slate, bill dark brown."

Wing of ♂, Mt. Cameron, 54; ♂♂, Avera, 52, 53; ♀♀, Avera, 48, 51; ♀♀, Mt. Gayata, 50.3 (not 51) mm.

125. *Sericornis arfakiana* Salvad.

Cf. *Nov. Zool.* 1903, p. 228.

4 ♂♀, 1 ♂ juv., Avera, Aroa River, May, June 1903. (Nos. A 482, 487, 572, 573, 599.)

3 ♂♀, Owgarra, Angabunga River, November 1904, January 1905. (Nos. A 1831, 1843, 1970.)

1 ♀ ad., 1 ♀ juv., Head of Aroa River, April, May 1905. (Nos. A 2128, 2246.)

Nos. A 573 and 2128 are evidently young birds; they are much more ochraceous brown, both above and below, entirely lacking the olive shade above of the adult birds; the throat is rufous ochraceous, and so are the sides, the middle of the abdomen only being dull sulphur-yellow.

126. *Pratincola caprata aethiops* (Sel.).

Poecilodryas aethiops Sclater, *P. Z.S.* 1880, p. 66. Pl. VII. fig. 1. (New Britain).

Pratincola caprata atrata Rothsch. & Hart., *Nov. Zool.* 1903, p. 468 (Mt. Scratchley).

3 ♂♂, 2 ♂ juv., Owgarra, Angabunga River, October, November 1904. (Nos. A 1820, 1877, 1894, 1939, 1947.)

1 ♀ (sexed "♂"), Avera, Upper Aroa River, 24. ii. 03. A. S. Meek. (No. A 287.)

Apparently the large form of black *Pratincola* from New Guinea must after all be separated from the Ceylonese *atrata*, as the females appear to be grayer and paler, and have white under and upper tail-coverts. Possibly the black of the males is deeper and more glossy, but larger series should be examined. Our specimen (No. A 287) has white tail-coverts, and so have the two supposed young males.

127. *Artamus maximus* Meyer.

Artamus maximus Meyer, *Sitzungsber. k. Akad. Wiss. Wien.* lxxix. p. 203 (1874—Arfak).

3 ♂♂, Owgarra, Angabunga River, December 1904. (Nos. A 1900, 1901, 1938.)

2 ♂ ad., 1 ♂ juv., Avera, Aroa River, March 1903. (Nos. A 334, 335, 336.)

"Iris dark brown, feet slate, bill chalky blue."

128. *Melanopyrrhus anais orientalis* (Schleg.).

Gracula anais orientalis Schlegel, *Nederl. Tijdschr. Dierk.* iv. p. 52 (1871—Boudey in New Guinea).

♂, Upper Aroa River, 30. xii. 1904. (No. B 120.)

♂, Lower Aroa River, 1905. (No. B 258.)

"Iris bright clear yellow, feet pale yellow, bill straw-yellow."

129. **Mino dumontii** Less.

Mino Dumontii Lesson, *Foy. Coq., Atlas, Zool.* p. 25 (1826—Dorei).

♀, Upper Aroa River, 22. i. 05. (No. B 184.)

130. **Pomareopsis bruijni** (Salvad.).

Grallina bruijni Salvadori, *Ann. Mus. Civ. Gen.* vii. p. 929 (1875—Arfak).

Pomareopsis senilatra Oustalet, *Ass. Sc. de France*, 1880. p. 173 (Arfak).

2 ♀♀, Owgarrá, Angabunga River, November 1904. (Nos. A 1846, 1869.)

2 ♂♂, Avera, Aroa River, 21 i., 5. iii. 03. (Nos. A 31, 367.)

“ Iris brown, feet blue slate, bill pale chalky blue.”

131. **Pitta atricapilla atricapilla** Quoy & Gaim.

Pitta atricapilla Quoy & Gaimard, *Foy. Astrolabe* i. p. 258. pl. 8. fig. 3 (1830—Dorei).

Pitta noraequineae Müller & Schlegel, *Verh. Nat. Gesch. Nederl. Oerz. Bez., Zool., Aves, Pitta*, p. 19. 20 (1839—44—Dutch New Guinea).

Pitta atricapilla atricapilla Rothschild & Hart., *Nor. Zool.* 1901. p. 62.

Cuvier has not described a *Pitta atricapilla*, therefore this name must be used for the New Guinea form.

2 ♂♂, 1 ♀, Upper Aroa River, November, December 1904. (Nos. B 30, 96, 111.)

132. **Melopitta lugubris** (Schleg.).

Melopitta lugubris Schlegel, *Ned. Tijdschr. Dierk.* iv. p. 47 (1871—Northern New Guinea).

1 ♂, 2 ♀♀, Avera, Aroa River, May 1905. (Nos. A 491, 516, 502.)

2 ♂♂, Owgarrá, Angabunga River, 30. xii. 04, 9. v. 05. (Nos. A 1791, 1946.)

133. **Ailuroedus stonei** Sharpe.

Cf. *Nor. Zool.* 1903. p. 66.

♂, Upper Aroa River, 4. ii. 05. (No. B 207.)

♂♀, Bubuni, Upper Aroa River, April 1905. (Nos. B. 237, 257.)

“ Iris dark brownish red, feet blue slate, bill blue slate.”

134. **Ailuroedus melanotis melanocephalus** Rams.

Cf. *Nor. Zool.* 1903. p. 67.

5 ♂♀, Avera, Aroa River, January 1903. (Nos. A 52, 80, 81, 129, 230.)

2 ♂♂, Head of Aroa River, May 1905. (Nos. A 1788, 2224.)

“ Iris dark hazel, dark red, feet pale blue slate, bill pale slate, horn-colour.”

135. **Amblyornis inornatus** (Schleg.).

Cf. *Nor. Zool.* 1903. p. 69.

♂ juv., Avera, Aroa River, 17. v. 03. (No. A 484.)

♂, Owgarrá, Angabunga River, 16. ii. 05. (No. A 2106.)

“ Iris brown, feet slate, bill black.”

136. *Amblyornis subalaris* Sharpe.

Cf. *Nov. Zool.* 1903. p. 69.

3 ♂♂, Avera, Aroa River, February, May 1903. (Nos. A 314, 314A, 500.)

“Iris brown, feet greenish slate, bill burnt number, black.”

1 ♂ ad., 2 ♂♂ juv., Head of Aroa River, April, May 1905. (Nos. A 2123, 2124, 2193.)

1 ♂ ad., ♂ juv., Bubuni, Upper Aroa River, May 1905. (Nos. B 264, 271.)

137. *Loria loriae* Salvad.

Cf. *Nov. Zool.* 1903. p. 70.

♀, Avera, Aroa River, 17. v. 03. (No. A 479.)

2 ♂♂, Head of Aroa River, May 1905. (Nos. A 1798, 2250.)

“Iris brown, feet green slate, bill black.”

138. *Parotia lawesi* Rams.

Cf. *Nov. Zool.* 1903. p. 71.

2 ♂♂ juv., Avera, Aroa River, 27. i., 21. v. 03. (Nos. A. 122, 536.)

♂ juv., Bubuni, Upper Aroa River, 15. v. 05. (No. B. 260.)

139. *Lophorina minor* Rams.

Cf. *Nov. Zool.* 1903. p. 72.

♂ juv., 2 ♀♀, Avera, Aroa River, January, February 1903. (Nos. A 131, 136, 144.)

2 ♀♀, Owgarra, Angabunga River, 16. ii. 05. (Nos. A 2102, 2103.)

♂ juv., Bubuni, Upper Aroa River, 24. v. 05. (No. B 273.)

140. *Drepanornis albertisi cervinicauda* Sel.

Cf. *Nov. Zool.* 1903. p. 75.

♂, Avera, Aroa River, 9. i. 03. (No. A 225.)

♀, Head of Aroa River, 25. v. 05. (No. A 2228.)

141. *Falcinellus meyeri* (Finsch).

Cf. *Nov. Zool.* 1903. p. 76.

♂ juv., Avera, Aroa River, 25. i. 03. (No. A 103.)

♂ juv., Head of Aroa River, 25. v. 05. (No. A 2230.)

142. *Astrapia stephaniae* (Finsch & Meyer).

Cf. *Nov. Zool.* 1903. p. 76.

♂ juv., Avera, Aroa River, 18. v. 03. (No. A 499.)

♀, Head of Aroa River, 27. v. 05. (No. A 2251.)

143. *Diphyllodes magnifica hunsteini* Meyer.

Cf. *Nov. Zool.* 1903. pp. 78, 79.

2 ♀♀, Avera, Aroa River, January 1903. (Nos. A. 62, 208.)

144. *Phonygammus keraudreni jamesi* Sharpe.

Cf. *Nor. Zool.* 1903. pp. 87, 88.

6 ♂ ♀, Avera, Aroa River, January, February, March 1903. (Nos. A 82, 99, 117, 127, 128, 232.)

6 ♂ ♀, Upper Aroa River, October, November 1904. (Nos. B 17, 18, 31, 37, 38, 39.)

♂, Owgarrā, Angabunga River, 12. ii. 05. (No. A 2070.)

♂ ♀, Bubuni, Upper Aroa River, 16, 17. v. 05. (Nos. B 262, 263.)

♀, Head of Aroa River, 23. v. 05. (No. A 2216.)

145. *Pitohui dichrous monticola* Rothsch.

Pitohui dichrous monticola Rothsch., *Bull. B. O. C.* xiv. May 1904. p. 79 (Avera, Aroa River).

♂, Bubuni, Upper Aroa River, 15. v. 05. (No. B 261.)

This specimen is slightly darker than the type and others.

P. dichrous monticola differs from *P. dichrous dichrous* in being much paler rufous both above and below.

146. *Pitohui ferrugineus clarus* (Meyer).

Cf. *Nor. Zool.* 1903. p. 98.

♀, Avera, Aroa River, 1. iii. 03. (No. A 331.) "Iris silvery grey, feet pale blue, bill black."

147. *Pitohui cristata* (Salvad.).

Cf. *Nor. Zool.* 1903. p. 98.

6 ♂ ♀, Avera, Aroa River, February, March 1903. (Nos. A 182, 265, 269, 408, 430, 450.)

148. *Pitohui nigrescens schistaceus* (Rehw.).

Cf. *Nor. Zool.* 1903. p. 98.

2 ♂ ♂, Avera, Aroa River, January, May 1903. (Nos. A 96, 531.)

2 ♂ ♂, Owgarrā, Angabunga River, January 1905. (Nos. A 1995, 2017.)

♀, Head of Aroa River, 29. iv. 05. (No. 2138.)

"Iris brown, feet and bill black."

149. *Pinarolestes megarhyncha despectus* Rothsch. & Hart.

Pinarolestes megarhyncha despectus Rothsch. & Hart., *Nor. Zool.* 1903. x. p. 100 (Milne Bay).

7 ♂ ♀, Avera, Aroa River, January, February, March 1903. (Nos. A 7, 133, 201, 210, 318, 385, 402.)

♂, Upper Aroa River, 16. iv. 05. (No. 232.)

♀, Bubuni, Upper Aroa River, 25. iv. 05. (No. B 249.)

♂, Head of Aroa River, 12. v. 05. (No. A 2176.)

150. *Pachycephala soror* Scf.

Cf. *Nor. Zool.* 1903. p. 103.

3 ♂ ad., 1 ♂ juv., 3 ♀ ♀, Avera, Aroa River, February, March 1903. (Nos. A 173, 227, 310, 338, 346, 383, 388.)

♀, Owgarrā, Angabunga River, 16. ii. 05. (No. A 2110.)

Three females from Arfak are above much more brownish olive, the head brown, whereas in birds from British New Guinea the upper parts are darker olive, the head greyish brown.

Fresh material should be compared from Arfak, in order to show if these differences are constant enough to warrant the separation of two forms.

151. *Pachycephala schlegelii obscurior* Hart.

Cf. *Nor. Zool.* 1903. p. 103.

2 ♂♂, 2 ♀♀, Avera, Aroa River, March, May, June 1903. (Nos. A 377, 378, 530, 579.)

1 ♂, 3 ♀♀, Owgarrá, Angabunga River, October 1904, January 1905. (Nos. A 1814, 1815, 1841, 1966.)

152. *Pachycephala rufinucha gamblei* Rothsch.

Cf. *Nor. Zool.* 1903. p. 104.

6 ♂♀, Avera, Aroa River, January, May 1903. (Nos. A 135, 494, 514, 532, 544, 545.)

5 ♂♀ ad., ♂ juv., Owgarrá, Angabunga River, November, December 1904, January 1905. (Nos. A 1826, 1889, 1909, 1987, 1991, 2042.)

♀? juv., head of Aroa River, 30. iv. 05. (No. A 2152.)

No. 2152 is quite a young bird. It is dark olive-green above with chestnut patches, the rump still chestnut rufous, the rufous feathers evidently being those of the first plumage, the olive-green ones that of the next, and the underside uniform cinnamon rufous. No. 1909 is also young, being like the former on the upperside, but having the underside, below the breast, mixed with dirty white. Neither has any nape patch, and in one the forehead is tinged with rufous.

153. *Pachycephala leucogastra leucogastra* Salvad. & D'Alb.

Pachycephala leucogastra Salvadori & D'Albertis, *Ann. Mus. Civ. Gen.* vii. p. 822 (1875—Mount Epa).

5 ♂ ad., 2 ♀♀, Upper Aroa River, November, December 1904, January, February 1905. (Nos. B 47, 53, 95, 183, 188, 196, 221.)

♂♀ ad. "Iris reddish brown (dark brown), feet bluish slate, bill black."

This is the first time we have received specimens of this very rare *Pachycephala*. The male in fresh plumage has the crown black, the back ashy grey, slightly lighter on the rump. The underside, with the exception of the wide black praepectoral collar, is white. In worn plumage the back is more brownish, and the dark shafts of the feathers, which are less in evidence in freshly moulted birds, become very conspicuous. The female, in fresh plumage, is grey above, without any black on the crown, the throat white with black shaft-lines; a band of grey with blackish streaks across the lower throat, just before the breast; the abdomen white with a creamy tinge; under tail-coverts white. Wing, ♂, about 88—89 mm.

We have now the following subspecies of this group:

P. l. leucogastra Salvad. & D'Alb., 1875: British New Guinea. Mountains.

[Wing, ♂ ad., 88—89 mm.; back ashy grey; sides of chest white; abdomen white; bill shorter. ♀: above grey; throat with dark shafts; pale grey praepectoral collar; abdomen creamy white.]

P. l. meeki Hart. 1898 : Rossel Island, Louisiades.

[Wing about 82 mm.; back much more blackish, slate-colour or slaty grey, the black therefore less sharply defined; sides of chest grey; middle of abdomen white; bill longer. ♀: above brownish grey; throat creamy white; grey praepectoral collar; abdomen creamy buff.]

P. l. tianduana Hart. 1901 : Tiandu Island, Little Key group.

[Wing, ♂ ad., about 83—86 mm.; back brownish slate or brownish grey; sides of chest pale creamy grey; abdomen rich cream-colour; bill stronger. ♀: above brown; throat and rest of underside with deep brown shaft-stripes; no greyish praepectoral collar.]

P. l. arctitorquis Sel. 1883 : Tenimber Islands.

[Wing, ♂ ad., about 78—80 mm. or more; back brownish grey, not as dark as in *P. l. tianduana*; sides of chest as in *tianduana*; praepectoral collar not so wide; abdomen creamy; bill as in *tianduana*. ♀: like that of *tianduana*, but more rufous above.]

P. l. kebirensis A. B. Meyer, 1883 : Babber and Dammer Islands.

[Exactly like *P. l. arctitorquis*, but the female has the crown not cinnamon, but ashy grey; the males do not seem to differ.]

More material in fresh plumage is desirable, in order to find out how the males of *kebirensis* differ from those of *arctitorquis*. The birds from the other South-west Islands (Moa, Dammer, Roma) seem to be the same; but the few examples before us from Moa are rather small, and the females from Roma are rather greyish above! Cf. *Nor. Zool.* 1904. pp. 212, 213.

154. *Pachycephala moroka* Rothsch. & Hart.

Pachycephala moroka Rothsch. & Hart., *Nor. Zool.* 1903. x. p. 106 (Moroka district, British New Guinea).

3 ♂♂, 1 ♀, Owgarra, Angabunga River, November 1904, January 1905. (Nos. A 1839, 1882, 2093, 2035.) "Iris dark brown, bill and feet black."

In *Nor. Zool.* 1903 we described this species from a single unsexed specimen. We have now the pleasure of recording four more examples from the Upper Angabunga River.

The upper surface is olive-brown; lores and crown to nape slate-grey; ear-coverts brown with paler shafts; quills deep brown, primaries narrowly edged with brownish grey, secondaries with wider olive-brown outer edges; tail olive-brown; throat white with dark grey mottlings to the tips of the feathers; across the chest an ill-defined wide pale greyish brown band; abdomen, under wing-coverts, and inner edges of wings white. The sexes are alike: the wings of the males about 83—85, that of the female nearly 88 mm. long.

155. *Pachycephala griseiceps griseiceps* Gray.

Cf. *Nor. Zool.* 1903. p. 105.

3 ♂♂, Avera, Aroa River, February, March 1903. (Nos. A 328, 457, 461.)

♀, Upper Aroa River, 27. xii. 1904. (No. B 112.)

156. *Pachycephala hyperythra salvadorii* Rothsch.

Cf. *Nov. Zool.* 1903. p. 107.

3 ♂ ♀, Avera, Aroa River, February, March 1903. (Nos. A 297, 354, 440.)

♂, Bubuni, Upper Aroa River, 21. iv. 05. (No. B 242.) "Iris dark brown, feet light brownish white, bill black."

With the help of these properly sexed examples it becomes evident that *P. h. salvadorii*, though easily distinguished by the colour of the upper- and underside, has the ear-coverts ashy slate in the adult male, more or less ochraceous in the females. The colour of the ear-coverts is, therefore, not a distinguishing character of this subspecies.

157. *Pachycephala leucostigma* Salvad.

Cf. *Nov. Zool.* 1903. p. 107.

1 ♂, 1 ♀, Avera, Aroa River, March 1903. (Nos. A 368, 415.)

2 ♀ ♀, Head of Aroa River, April 1905. (Nos. A 2135, 2150.)

1 ♂, 1 ♀, Owgarrá, Angabunga River, January 1905. (Nos. A 1965, 2028.)

"♂, Iris dove-colour, feet slate-colour (slaty blue), bill black (vandyke-brown); ♀, Iris brown (dull green, dull yellow), feet slate-colour (blue slate), bill black."

The females agree well with three from Arfak, except that they are somewhat more whitish and less yellowish on the under-surface, and the wings mostly less edged with rufous. Probably our Arfak examples are less adult, but a series, also of males, would be necessary from Arfak to decide whether the South-eastern form is quite the same or not.

It has been supposed that we knew the adult male, which was like the female, but this is evidently not the case. Of the nine Arfak (Hatam) specimens which Salvadori had when he wrote the *Orn. della Papuasía* (vol. ii. p. 234), seven were sexed as females. The two sexed as males are evidently immature, as they are described as more rufous. Of the three before us one has no indication of the sex, the others are marked as females ("parampuan"). The two birds sexed as males by Meek differ very much in colour, but agree entirely in shape and dimensions. We have therefore no doubt that they are the genuine males of *Pachycephala leucostigma*, hitherto only known from females and immature males.

The adult males are as follows :

Upperside olivaceous brown, head greyish, the feathers being slate-grey with olivaceous edges; quills deep brown, outer edges greenish olive-brown, paler on the primaries, brighter and wider on the secondaries; rectrices olive-brown with olive-green borders; upper wing-coverts olive-brown, some of the median and larger ones with pale brownish buff tips. Feathers of the throat dirty whitish buff, tips narrowly edged with olive, bases dark grey; breast and abdomen pale buffy olivaceous brown, under tail-coverts washed with rusty rufous. Under wing-coverts and inner lining of quills rusty buff.

158. *Pachycephala poliosoma* (Sharpe).

Pachycephalopsis poliosoma Sharpe, *Journ. Linn. Soc., Zool.* xvi. p. 381 (1882—Astrolabe Mts.); *Cat. B. Brit. Mus.* viii. p. 226. pl. ix.

♂ ♀, Head of Aroa River, May 1905. (Nos. A 2167, 2170.)

♂, Owgarrá, Angabunga River, 12. xi. 05. (No. A 2073.)

4 ♂ ♀, Head of Aroa River, May 1905. (Nos. A 2166, 2208, 2210, 2224.)

♂ ♀, Bubuni, Upper Aroa River, April, May 1905. (Nos. B 248, 270.)

159. *Pachycare flavogrisea* (Mey.).

Cf. *Nor. Zool.* 1903, p. 108.

6 ♂ ♀, Avera, Aroa River, January, March 1903. (Nos. A 41, 42, 74, 90, 155, 421.) "Iris in ♂ dark hazel, dark brown, dark plum red, ♀ light brown, feet smoky brown, bill black in both sexes."

We have already expressed our opinion (*l.c.*) that the specimens with the auricular patch of olive are females. The young birds evidently also have this olive patch, thus resembling the adult females. If our theory about the sexes is correct, then we must, however, admit that many of our examples—even those "sexed" by good collectors—are incorrectly marked, but nevertheless we are inclined to think that we are right in this case.

160. *Chaetorhynchus papuensis* Meyer.

Cf. *Nor. Zool.* 1903, p. 110.

6 ♂ ♀, Avera, Aroa River, January, February, March 1903. (Nos. A 137, 234, 263, 362, 371, 436.)

♀, Bubuni, Upper Aroa River, 18. iv. 05. (No. B 236.)

♂, Head of Aroa River, 7. v. 05. (No. A 1786.)

161. *Oriolus striatus* Quoy & Gaim.

Oriolus striatus Quoy & Gaimard, *Foy. Astrolabe* i. p. 191. pl. ix. 2 (1830—Dorei).

Cf. *Nor. Zool.* 1903, p. 111.

♀, Avera, Aroa River, 3. iii. 03. (No. A 351.)

162. *Climacteris placens* Scf. (?an subsp.).

Climacteris placens Sclater, *P. Z. S.* 1873, p. 693 (Arfak).

3 ♂ ♂, 2 ♀ ♀, Owgarrā, Angabunga River, January 1905. (Nos. A. 2013, 2014, 2015, 2038, 1963.) "Iris dark red, feet green slate, bill black" in both sexes.

Also some from Bihagi, head of Mambare River.

It would be necessary to compare a series from the Arfak Mountains to decide whether the form from the Owen Stanley Range differs from that of Arfak. The one female we were able to compare from Arfak has the feathers of the crown tipped with chestnut, while in those from Owgarrā these tips are much lighter rufous. There is, however, a good deal of variation in the colour of these feathers, but still more in that of the abdomen. While the abdomen in most specimens is heavily spotted—each feather having a light yellowish brown, almost buff, centre and a blackish border—it is almost uniform yellowish brown in some evidently very old males. Doubtless the most heavily spotted female (No. A 2601, from Bihagi, 12. viii. 06) is immature, and so is apparently our Arfak example.

163. *Neositta albigrons* (Rams.).

Sitella albigrons Ramsay, *Proc. Linn. Soc. N. S. Wales* viii. p. 24 (1883—Astrolabe Mts.).

♂ ♀, Owgarrā, Angabunga River, February 1905. (Nos. 2066, 2067.) "Iris straw-yellow, feet chrome-yellow, bill pale yellow with black tips."

The females have the head all round, nape and throat ashy white, most feathers with a more or less distinct grey shaft-line : in most specimens the upper tail-coverts are pure white, only the lateral ones having wide black median stripes, while in one every feather has a blackish shaft-stripe, these stripes being wider on the longest coverts, which are also washed with brown. One, evidently younger, female has the head light brownish grey, each feather with a blackish shaft-stripe. Round the eyes, in both sexes, is a bare yellow ring, which has evidently been yellow in life, like the bill and feet. The males have larger dimensions, the wings being longer. The top of the head is blackish grey with hoary whitish margins to the feathers, the throat and jugulum are white with very broad blackish central areas, or one might say blackish grey with wide white edges to the feathers. The males measure, wings 81 to 85; females, wings 77 to 80.5.

In addition to the skins from Ougarra, mentioned above, we have now received :

2 ♂♂ and 4 ♀♀ from Bihagi, at the head of the Mambare River, on the north-eastern side of the Owen Stanley Mountains.

164. *Cinnyris aspasia aspasia* Less.

Cf. *Nov. Zool.* 1903. p. 211.

1 ♂, 4 ♀♀, Upper Aroa River, December 1904, January, February 1905. (Nos. B 87, 123, 157, 182, 210.)

165. *Cinnyris frenata frenata* (S. Müll.).

Cf. *Nov. Zool.* 1903. p. 213.

♂♀, Upper Aroa River, January, February 1905. (Nos. B. 151, 222.)

166. *Dicaeum geelvinkianum rubrocoronatum* Sharpe.

Cf. *Nov. Zool.* 1903. p. 215.

4 ♂♂, Avera, Aroa River, March, April 1903. (Nos. A 198, 460, 467, 475.)

6 ♂♂, 3 ♀♀, Upper Aroa River, December 1904, January, February, 1905. (Nos. B 109, 143, 148, 149, 150, 169, 185, 205, 215.)

167. *Oreocharis arfaki* (Meyer).

Cf. *Nov. Zool.* 1903. p. 479.

1 ♂ ad., 1 ♂ juv., 2 ♀ ad., Ougarra, Angabunga River, October, November, 1904, January 1905. (Nos. A 1818, 1834, 1964, 1996.)

168. *Melanocharis bicolor* Rams.

Cf. *Nov. Zool.* 1903. p. 216.

When enumerating the various forms of *Melanocharis* (*l.c.*) in 1903 we did not fully understand them, for want of material, and made some great mistakes, mixing up "*Urocharis longicauda*," with *Melanocharis*. We now give a new and more correct list of our specimens, which belong to the following forms :

169. *Urocharis longicauda* (Salvad.).

Melanocharis longicauda Salvadori, *Ann. Mus. Civ. Gen.* xvi, p. 69 (1880—Arfak).

In this species the second primary is somewhat narrower, largely emarginated or notched on the end of the inner web, and the tip conspicuously curved inwards. ♂ ad.: above glossy greenish black, tail black with greenish edges, outermost rectrix with the basal two-thirds of the outer web and a more or less sharply defined spot within the distal fourth of the inner web white. Under-surface olive-yellowish, clearer in the middle of the abdomen, more washed with grey on the throat and chest; under wing-coverts white, mostly washed with yellow, axillaries sulphur-yellow, or whitish yellow, inner margins of quills white. Wing in two Arfak specimens (♂) 62—64, in the examples from British New Guinea 64.5—67 mm. A female from the Aroa River is exactly like the male, except that the upper surface is olive-green. Wing 67 mm. Another female from Arfak has the wing only about 63, and the second primary less curved and less emarginated than in the male.

We know this species from Arfak and British New Guinea. In 1903 we mistook it for *Melanocharis niger*. Whether it is desirable to create a new genus for this species, which only differs by having a more emarginate second primary and the tail some millimetres longer, is more than doubtful. Probably we should not have confounded it with *Melanocharis niger* if it had not been separated generically, but we never thought of another "genus." Subtile splitting of genera advances our knowledge in no way, but makes progress more difficult!

Possibly the Arfak form is smaller, but more material is required to prove this.

We have the following specimens:

2 ♂♂, 1 ♀, Arfak, July. Native coll.

1 ♂, Kotoi district, 4000 ft., 13. viii. 98. A. S. Anthony coll.

1 ♂, Eafa district, 1000—3000 ft. (Purchased from McIlwraith, Eacham & Co.)

1 ♂. Said to be from Mt. Gayata, Richardson Range (?), 2000—4000 ft. E. Weiske coll.

1 ♂ without exact locality. E. Weiske coll.

2 ♂♂, 1 ♀, Avera, Aroa River, January and March 1903. A. S. Meek coll. (Nos. A 1, 411, 413.) "Iris, ♂, brown (light brown), feet, bill black. ♀, iris burnt amber."

Melanocharis niger niger (Less.).

Second primary only very slightly emarginated near the tip, and not so curved. Colour almost the same as that of "*Urocharis*" *longicauda*, but upperside of male more blue-black, underside not yellowish, but more olive, only the middle of the abdomen being pale yellowish. Outer web of outer rectrix not white towards base, though sometimes with narrow white edge, inner web not with a white spot, but only with an irregular grey ante-apical shade.

Waigiu, Arfak Peninsula, Kapaur, north coast of Dutch New Guinea to Humboldt Bay.

We have the following specimens:

1 ♂, 1 ♀, Waigiu, November, December 1902. J. Waterstradt coll.

1 ♂ ad., Sroong, 24. iv. 75. Bruijn coll. (No. j of Salvadori's list in *Orn. Pap.* ii, p. 284.)

1 ♂, 2 ♀♀, Arfak, from native hunters.

1 ♂, Dorey, June 1897. W. Doherty coll.

2 ♂♂, 2 ♀♀, Kapaur, December 1896, January, February 1897. W. Doherty coll.

1 ♂, Maori Mountains, Humboldt Bay, 3000 ft., January 1899. J. Dumas coll.

Melanocharis niger chloroptera Salvad.

Like *M. niger niger*, but the male with the outer webs of the remiges and greater upper wing-coverts olive-green.

Arn Islands.

We have six specimens (*Nor. Zool.* 1903. p. 216).

Melanocharis bicolor Rams.

♂. Above and below blue-black, under wing-coverts white, axillaries pale sulphur-yellow. Outer rectrices with grey ante-apical patch, outer web in the middle, inner web near the tip with white edge. Under tail-coverts mixed with greenish or whitish. ♀ and ♂ juv. apparently indistinguishable from that of *M. niger*.

British New Guinea, German New Guinea, and along the north coast to the Amberoh River, thus evidently meeting *M. niger* along the northern coast.

We have no specimen from Jobi, where a form (*M. unicolor* Salvad.) occurs which seems entirely to resemble *M. bicolor*, except that the under tail-coverts are entirely black.

We have before us the following series :

4 ♂♂, 2 ♀♀, Avera, Aroa River, February and March 1903. (Nos. A 257, 273, 316, 321, 344.) "Iris, ♂, light brown (dark brown), feet black (slate, dark slate), bill black. ♀ similar."

7 ♂♂, 1 ♀, Upper Aroa River, November, December 1904, January, February 1905. (Nos. B 58, 80, 106, 118, 138, 195, 217, 220.) A. S. Meek coll.

♂♀, Kotoi district, August 1898. A. S. Anthony coll.

1 ♀, Kone district, June 1898. A. S. Anthony coll.

1 ♂, Ori-ori district, January 1895. A. S. Anthony coll.

1 ♂, Mailu district, July—August 1895. A. S. Anthony coll.

1 ♂, Mt. Cameron, Owen Stanley Range, August 1896. A. S. Anthony coll.

1 ♂, 2 ♀♀, said to be from Mt. Gayata, Richardson Range, collected by Emil Weiske (bought from McIlwraith & Eacharn in London).

2 ♂♂, Mountains of British New Guinea. Emil Weiske coll.

1 ♂, 1 ♀, Milne Bay, February and April 1899. A. S. Meek coll. (Nos. 2355, 2461.)

1 ♂, Sattelberg, 27. vi. 99. E. Nyman coll.

1 ♀, Simbang, 4. ix. 99. E. Nyman coll.

2 ♂♂, 1 ♀, Amberoh River. J. Dumas coll.

4 ♂♂, 4 ♀♀, Takar, October—November 1896. W. Doherty coll.

1 ♀, Tana Mera, October 1896. W. Doherty coll.

[We have also a specimen of the evident "make" of one of the native hunters of Dutch New Guinea. It molts from the olivaceous plumage of the young to the black one of the old male. Its locality is not known, but as it is a rather good, full skin, it may have come from Tana Mera or thereabouts, whence the best made skins used to come.]

170. *Melanocharis striativentris* Salvad.

Melanocharis striativentris Salvadori, *Ann. Mus. (Ser. Genova)* (2) xiv, p. 151 (1894—Moroka, Owen Stanley Mts.).

♂ juv., Owgarrá, Angabunga River, 15. ii. 05. (No. A 2084.)

♂, Head of Aroa River, 28. iv. 05. (No. A 2134.) "Iris brown, bill and feet black."

We have further received five males and a female from Bihagi, at the head of the Mambare River, collected in February and March 1906. The female does not differ from the male, except that it is slightly duller, a little less greenish, in colour.

Our friend Count Salvadori has kindly compared two of our specimens with the type.

171. *Rhamphocharis maculata* (Rothsch. & Hart.).

Eafa maculata Rothsch. & Hart., *Nor. Zool.* x. 1903. p. 448 (Owen Stanley Range, B.N.G.).

♂ ♀, Owgarrá, Angabunga River, 11, 16. i. 05. (Nos. A 1978, 1998.) "Iris brown, feet black, bill dark brown."

These two birds agree fully with the type, except that the spots and white tips of the feathers on the underside are not quite so large.

Hartert has compared the type of "*Eafa maculata*" with those of *Rhamphocharis crassirostris* in the Genoa Museum, and can fully corroborate Salvadori's opinion, that *maculata* belongs to the genus *Rhamphocharis*.

Recently we have received the adult male and other examples from Bihagi, head of Mambare River. Its upperside is olive-green, the base of the feathers grey, separated from the olive-green tips by a blackish zone, but the general appearance of the upper surface is uniform olive-green, only the crown and upper tail-coverts being darker. Wings slaty black, outwardly margined with olive-green, inwardly with brownish white or whitish brown. Rectrices slaty black, bases to the outer four white, shafts whitish from below. Under-surface light grey, very faintly tinged with greenish. Under wing-coverts and axillaries white. "Iris brown; bill and feet blackish." Wing 71, tail 50, culmen 20, metatarsus 18.1 mm.

Young birds are uniform olive-brown above, the females uniform brown below, young males evidently brownish grey. The under wing-coverts are dark brown along the middle.

Perhaps *Rhamphocharis maculata* is only the southern representative of *Rh. crassirostris* which is found at Arfak.

172. *Pristorhamphus versteri* Finsch.

Cf. *Nor. Zool.* 1903. p. 217.

♂ ♀, Avera, Aroa River, February, March 1903. (Nos. A 176, 375.)

3 ♂♂, 2 ♀♀, 2 ♂ juv., Owgarrá, Angabunga River, October, November, December 1904, January, February 1905. (Nos. A 1844, 1855, 1856, 1967, 1999, 2094.)

"Iris brown, bill and feet black" in both sexes.

1 ♂ juv., Head of Aroa River, 30. iv. 05. (No. A 2147.)

The young male is like the adult female, except that the bill is not so wide and thick, the wings are shorter, and the throat and chest are more ashy olive.

173. *Myzomela rosenbergi* Schleg.

Cf. *Nor. Zool.* 1903. p. 221.

1 ♂, 4 ♀ ♀, Avera, Aroa River, February, March 1903. (Nos. A 47, 68, 69, 86, 220.)

7 ♂ ♂, 2 ♀ ♀, 1 ♂ juv., Owgarra, Angabunga River, December, 1904, February 1905. (Nos. A 1833, 1866, 1896, 1911, 1912, 1913, 1914, 1925, 2082, 2111.)

174. *Myzomela nigrita nigrita* Gray.

Cf. *Nor. Zool.* 1903. p. 221.

4 ♂ ♀, Avera, Aroa River, January 1903. (Nos. A 63, 64, 87, 215.)

The wings of these specimens measure from 53 mm. to 56 mm.

175. *Myzomela adolphinae* Salvad.

Cf. *Nor. Zool.* 1903. p. 219.

2 ♂ ♂, 2 ♀ ♀, Avera, Aroa River, January, February 1903. (Nos. A 203, 212, 214, 216.)

2 ♂ ♂, 1 ♀, Owgarra, Angabunga River, November, December 1904, January 1905. (Nos. A 1836, 1928, 2010.)

"Iris brown, feet slate, bill black."

176. *Myzomela cruentata cruentata* Meyer.

Cf. *Nor. Zool.* 1903. p. 222.

4 ♂ ♂, 2 ♀ ♀, Avera, Aroa River, January, March 1903. (Nos. A 45, 46, 56, 57, 84, 395.)

177. *Myzomela eques nymani* Rothsch. & Hart.

Myzomela eques nymani Rothsch. & Hart., *Nor. Zool.* x. (1903) p. 223 (Simbang., Ger. N.G.).

6 ♂ ♂, Upper Aroa River, November 1904. (Nos. B 54, 65, 66, 67, 70, 75.)

Mr. Meek sent no female to compare with the type ♀ from German New Guinea. The males agree with others from British New Guinea. We have no male from German New Guinea.

178. *Myzomela obscura meeki* subsp. nov.

3 ♂ ♂ 2 ♀ ♀, Upper Aroa River, November, December 1904, February 1905. (Nos. B 59, 64, 71, 122, 208.)

Most similar to the form called by us (*Nor. Zool.* 1903. p. 224) *M. obscura fumata* from the Aru Islands, but differs in being paler, less brown, especially on the under-surface—so that the sooty gular patch is much more conspicuous—and on the under wing-coverts. In one of the males the dark gular patch has a distinct crimson tinge. The bill is slightly less bulky; the wing, apparently, averages a little less. Differs from *M. obscura obscura* in being much less brown, more greyish. *M. obscura grisescens* Hart. (*Nor. Zool.* 1905. p. 235) is larger, with the gular patch much less conspicuous and more elongated, also still slightly more grey on the upper surface.

Wing ♂ about 69—70 (rather worn); wing ♀ about 62 mm.

Type of *M. obscura meeki*: ♀, 6. ii. 05. (No. B 208.) This female has been selected as the type because it is in the best plumage.

In our list of the specimens of the genus *Myzomela* (*Nov. Zool.* 1903, p. 224) we have explained that we adopted the name *fumata* for the Aru birds, though it was originally given to a specimen from Outanata in South New Guinea, because generally the birds from the southern lowlands of New Guinea are like the Aru forms. For the same reason we have given a new name to the form found by Meek, as it is not at all probable that the *Myzomela* from the high mountains on the Upper Aroa River is the same as that from the lowlands on the southern coast of Papua.

Formerly we kept separate as two species the *simpler* group and the *obscura* group, also *cineracea* from New Britain, for want of sufficient knowledge about it. Hartert is now inclined to unite all these forms as subspecies of one species, and even *albigula* and *pallidior*. If this be correct the forms of this group would be distributed as follows:

Northern Queensland to Cape York: *obscura* Gould, 1842.

Northern Territory of "South Australia": *griseiceps* Hart., 1905.

Mountains of British New Guinea: *meeki* Rothsch. & Hart., 1907.

Lowlands of Southern New Guinea (Outanata) and Aru Islands (?): *fumata* Bp., 1859.

St. Aignan, Louisiade Islands: *pallidior* Hart., 1898.

Rossel, Louisiade Islands: *albigula* Hart., 1898.

New Britain: *cineracea* Sel., 1879.

Mysori Island in Geelvink Bay: *rubrobrunnea* Mey., 1874.

Obi, Central Moluccas: *rubrotincta* Salvad., 1878.

Morty, Northern Moluccas: *mortyana* Hart., 1903.

Batjan, Northern Moluccas: *simpler* Gray, 1860.

179. *Melithreptus lunulatus albogularis* Gould.

Cf. *Nov. Zool.* 1905, p. 235.

4 ♂♂, Upper Aroa River, November, December 1904. (Nos. B 42, 49, 50, 79.)

Specimens from New Guinea agree with ours from Australia. Mr. Meek collected a nice series at Cape York.

180. *Glycichaera fallax* Salvad.

Cf. *Nov. Zool.* 1903, p. 435.

♂ ♀, Upper Aroa River, October 1904. (Nos. B 15, 16.)

"Iris light grey; feet slate; bill light brown."

181. *Glyciphila modesta* Gray.

Cf. *Nov. Zool.* 1903, p. 435.

6 ♂ ♀, Upper Aroa River, November, December 1904. (Nos. B 60, 72, 73, 74, 77, 78.)

"Iris brown; feet and bill light brown."

182. *Oedistoma pygmaeum* Salvad.

Cf. *Nor. Zool.* 1903. p. 436.

5 ♂ ♀, Upper Aroa River, November 1904, January 1905. (Nos. B 63, 152, 159, 160, 167.)

183. *Melilestes polioptera* Sharpe.

Cf. *Nor. Zool.* 1903. p. 437.

♂ ♀, Head of Aroa River, 28. v. 05. (No. A 2260.)

184. *Melilestes iliolophus iliolophus* Salvad.

Cf. *Nor. Zool.* 1903. p. 438.

♂ ♀. Upper Aroa River, November 1904, January 1905 (Nos. B 56, 162.)

185. *Melilestes megarhynchus* (Gray).

Cf. *Nor. Zool.* 1903. p. 436.

♂, Head of Aroa River, 14. v. 05. (No. A 2185.)

This is a somewhat variable species. Three birds from Waigiu are rather greyish olive below and have the throat more whitish. Birds from British New Guinea are more greenish olive below, Arfak skins being similar, while from Mysol we have three skins, two of which agree with birds from British New Guinea and Aru Islands, the third having more grey on the sides of the breast, much like the bird from Waigiu. We do not, however, feel disposed to say confidently that any local forms can be separated, our material not being very large.

186. *Melipotés gymnops fumigatus* Mey.

Cf. *Nor. Zool.* 1903. p. 439.

6 ♂ ♀, Owgarra, Angabunga River, November and December 1904, January and February 1905. (Nos. A 1859, 1838, 1891, 1932, 1982, 2065.)

187. *Melidectis torquatus emilii* Mey.

Cf. *Nor. Zool.* 1903. p. 439.

3 ♂ ♀, Head of Aroa River, May 1905. (Nos. A 2187, 2202, 2203.)

4 ♂ ♀, Owgarra, Angabunga River, November 1904, February 1905. (Nos. A 1829, 1860, 1861, 2109.)

188. *Melirrhophetes ochromelas batesi* Sharpe.

Cf. *Nor. Zool.* 1903. p. 440.

2 ♂ ♂, Owgarra, Angabunga River, November and December 1904. (Nos. A 1858, 1908.)

2 ♂ ♂, 1 ♀, Head of Arra River, May 1905. (Nos. A 2213, 2235, 2236.)

189. *Melirrhophetes belfordi* De Vis.

Cf. *Nor. Zool.* 1903. p. 440.

2 ♂ ♂, Owgarra, Angabunga River, November, December 1904. (Nos. A 1883, 1933.)

190. *Ptilotis salvadorii* Hart.

Cf. *Nov. Zool.* 1903. p. 443.

♂, Owgarrra, Angabunga River, 26. i. 05. (No. A 2032.)

191. *Ptilotis praecipua* Hart.

Cf. *Nov. Zool.* 1903. p. 413.

11 ♂ ♀ and juv., Owgarrra, Angabunga River, October, November, December 1904, February 1905. (Nos. A 1809, 1840, 1885, 1904, 1919, 1926, 1927, 1929, 2046, 2093, 2095.)

Younger birds have the feathers of the underside margined with yellowish olive instead of white.

192. *Ptilotis meekiana* spec. nov.

Supra pallide olivaceo-viridis, longitudinaliter fusco maculata, uropygio supra-caudalibusque fere unicoloribus. Remigibus fuscis, exterius virescente, intus albido marginatis. Subalaribus fuscis, virescente marginatis. Rectricibus fuscis, exterius virescente marginatis. Gulae plumis cinereis, pallide flavo marginatis, pectoris abdominisque plumis virescentioribus, marginibus latioribus. Subalaribus pallide fuscis, flavescente marginatis.

♂ ♀ ad. Upperside of a somewhat pale olive-green with longitudinal blackish brown markings, the feathers being blackish brown, widely margined with dull olive-green, the rump and upper tail-coverts nearly uniform olive-green. Wings dark brown, outside margined with olive-green, inwardly margined with whitish buff. Rectrices dark brown, the outer webs margined with olive-green, inner webs and tips of outer pairs very narrowly edged with buffy white. Ear-coverts dull olive. Feathers of throat and jugulum ashy grey with pale sulphur-yellow margins, the feathers of the abdomen more olive and with wider yellow edges, sides of abdomen less yellow, more olivaceous. Under tail-coverts olive-brown with very pale yellow margins. Under wing-coverts greyish brown with broad pale yellow tips and margins. "Iris light or silvery grey; feet slaty or chalky blue; bill black or blackish grey."

♂, wing 83—88, tail 72.5—77, tarsus about 24—25, bill (culmen) about 20 mm.
♀, wing 76, tail 66, tarsus 21, bill 18 mm.

3 ♂♂, Head of Aroa River, 20, 23, 28. v. 05. (Nos. A 2199, 2214, 2255.)

2 ♂♂, 1 ♀, Bibagi, head of Mambare River, 11. iii. 06. (Nos. A 2591, 2593, 2595.)

Type: ♂, A 2199, head of Aroa River, 4600 ft., 20. v. 1905.

This new species has, as far as we are aware, no very near ally. We sent a specimen to our friend Count Salvadori, who wrote that he never saw anything like it.

193. *Ptilotis*??

♂, Head of Aroa River, 4000—6000 ft., 15. v. 05. "Iris brown, feet slate, bill black."

This specimen is very peculiar. It closely resembles *Ptilotis analoga orientalis*, but it is much larger and darker, the upper surface deeper and more brownish green, the underside darker. The wing measures 96 mm. ! We have a very similar

specimen from Trinity Bay, North Queensland, which is much like the Aroa bird, but paler, and with a larger beak. We await more material before passing our judgment on this single male from the Aroa River.

194. **Ptilotis cinerea** Sel.

Cf. *Nov. Zool.* 1903. p. 444.

♂, Owgarrá, Angabunga River, 13. xi. 04. (No. 1845.)

195. **Ptilotis plumbea** Salvad.

Cf. *Nov. Zool.* 1903. p. 444.

♂, Avera, Aroa River, 3. vi. 03. (No. 597.)

3 ♂ ♀, Owgarrá, Angabunga River, December 1904, February 1905. (Nos. A. 1988, 2085, 2086.)

2 ♂ ♂, Head of Aroa River, 21. v. 05. (Nos. A 2200, 2207.)

“Iris light brown, pale amber; feet slaty blue; bill black.”

196. **Euthyrhynchus fulviventris** (Rams.).

Cf. *Nov. Zool.* 1903. p. 451.

♀, Upper Aroa River, 22. x. 04. (No. B 8.) “Iris light yellowish red, feet very light brown, bill light brown.”

197. **Zosterops crissalis** Sharpe.

Cf. *Nov. Zool.* 1903. p. 452.

6 ♂ ♀, Owgarrá, Angabunga River, November 1904. (Nos. 1821—1824, 1827, 1828.)

(For the PLOCEIDÆ—three species—see continuation of “Notes on Papuan Birds” in the next volume of *Nov. Zool.*)

NOTES ON AFRICAN BIRDS.

I.

By ERNST HARTERT.

DURING the last seven years the Tring Museum has been greatly enriched with African birdskins. While formerly Africa was poorly represented at Tring, the African collections from some portions of the continent and neighbouring islands are now surpassed by no others, and altogether it is probable that, next to the British and Berlin Museums, we have now the biggest collection of African birds. Besides numerous smaller lots bought or exchanged from museums, dealers, or travellers, we received since 1900 :

1958 skins from the Escarpment, Kikuyu Mountains, collected by Doherty.

720 collected by the late A. W. Eriksson in Damaraland and on the Limpopo.

289 from S. Thomé, taken by A. Mocquers.

1079 from the Lower Niger, collected by W. J. Ansorge.

368 from Southern Angola, collected by C. H. Pemberton.

292 from the Amambara Creek, Niger, collected by Braham.

1533 from Southern Ethiopia and N. Somaliland, collected by Sapphiro.

291 from Northern Abyssinia, from G. Schrader.

Over 5000 from Angola, collected by W. J. Ansorge.

208 from Erythrea, from Beccari, jun.

1525 from Oscar Neumann's travels.

792 from Uganda, collected by Rudolf Grauer.

Few of these collections have been properly studied, most of them have so far only received casual attention, though new forms have from time to time been described by Neumann and myself.

It seemed desirable to give lists of these collections, because many species were taken in new localities, while others are undescribed or give important clues to the nomenclature, affinities or distribution of forms, or, in some cases, serve to clear up questions and to correct errors.

Work in African Birds is now comparatively easy, since Reichenow's great work *Die Vogel Afrikas* is complete, and since parts of Shelley's *Birds of Africa* have appeared. Nevertheless many questions are as yet unsettled in Africa, the geographical forms of many species have not yet received sufficient attention—chiefly because collections from the various districts are housed in various countries and have not been compared side by side—and it seemed especially interesting to see what the conclusions of an impartial observer were in cases where authorities like Reichenow, Shelley, Sharpe and others disagreed, if such conclusion could be arrived at from the material preserved at Tring and otherwise available to the author for comparison. I hope soon to continue this article.

My thanks are due to those of my colleagues who kindly lent me material for comparison or allowed me to study the collections under their care.

1. *Textor albirostris albirostris* (Vieill.).

Coccothraustes albirostris Vieillot, *Nour. Dict. d'Hist. Nat.* xiii. p. 535. "Afrique."—Vieillot mentions nothing of a white base to the quills, only "un peu de blanc au pli de l'aile et sur le bord extérieur de quelques plumes ailaires." The statement about some white on the bend of the wing is probably inexact, some white bases of feathers having shown through. We may therefore suppose that the type came from Senegal, whence most African birds were brought to France in olden times, and we may follow the usual custom of accepting the name of *albirostris* for the Senegambian form.

Textor senegalensis Shelley, *B. Africa* i. p. 34 (1896—Gambia). Cf. Reichenow, *Vög. Afr.* iii. p. 3.

Distinguishing characters: Base of quills blackish, not white or even whitish grey. Base of bill highly swollen, rough, and white in adult males—whether throughout the year or only during the breeding season I cannot say, but probably this peculiarity is not restricted to the breeding season. Shelley described younger birds or females as *senegalensis*.

Distribution: Senegambia to Northern Abyssinia, Bogosland, the White Nile, Sennaar, and Chartum.

We have trade-skins from Senegambia, one from Bogos (collected by Jesse), fine skins taken in February, March, and December in Salamona, Erythrea (collected by G. Schrader), one from the Setit district in Erythrea (collected by Roberto Gentile, received in exchange from the Florence Museum), and a pullus from the Blue Nile (10. x. 1850, A. E. Brehm coll.). The pullus has the bill whitish, less mature ones of both sexes have it blackish, fully adult males black with white base and swollen base to culmen.

Lesson (*Traité d'Orn.* 1831, p. 433), Rüppell, Heuglin, and I (*Bull. B.O.C.* xii. 1902. p. 77) mention the extraordinary development of a long and erect penis, though an anatomical investigation of this growth has never been made. Cf. *Bull. B.O.C.*, i.e., what the Kafirs of the Transvaal think of it.

2. *Textor albirostris scioanus* Salvad.

Textor scioanus Salvadori, *Ann. Mus. Civ. Genova*, 1884, p. 195 (Daimbi, Shoa).

Distinguishing characters: Like *T. a. albirostris*, but with a distinct whitish wash at the base of the quills. Bill red or reddish brown with blackish tip, apparently only sometimes swollen at base. It is very strange that a few specimens from Shoa have the bill swollen at base, while in a series we have seen from the Hawash region and Somali not one has a swollen bill.

The following of our specimens appear to belong to *T. a. scioanus*:

1 ♂ ad., 1 "♀" juv., between Dawa and Aimola in Northern Somaliland, 24, 25. ii. 1895. Dr. Donaldson Smith, coll. (Nos. 525, 529.) Bill ♂ ad. "vermilion."

1 ♂ ad., 1 ♀ juv., Awara Malka (near Ankober), 22. vi. 03. Zapphiro coll.

1 ♀ juv., Karaba. 22. v. 03. Zapphiro coll.

1 ♀ juv., Housso River (? Housso or Hullo), north of Harar, 7. v. 03. Zapphiro coll.

4 ♂ ad., 1 ♀ ad., 2 juv., Kassam River (tributary of the Hawash), June 1903. Zapphiro coll.

1 ♂ ad., Bulga, 14. vi. 03. Zapphiro coll.

3 ♂ ad., Dire Ela, north of Harar, 21. v. 03. "Iris blue-white, bill red." Zapphiro coll.

1 ♂ ad., 2 juv., Mulu, May 1903. Zapphiro coll.

None of these, though the males are apparently in full dress, and had, according to their labels, strongly developed testicles, has a swollen bill. It is, however, almost sure that they are *scioanus*, and I do not believe that a special form with swollen bill inhabits Shoa, in which case these birds from the Hawash region would require a new name.

3. *Textor albirostris intermedius* Cab.

Textor intermedius Cabanis, *Journ. f. Orn.* 1868. p. 413 (Terra typica: Kisnani). Cf. Reichenow, *Vög. Afr.* iii. p. 4.

This form apparently never develops a swollen base to the culmen. It has a distinctly white base to the quills, nearly half the quills being white, while Cabanis said that the base is only whitish. The so-called *intermedius* in the British Museum are all typical *scioanus*.

It seems to inhabit northern German East Africa from the coast to the Kilimanjaro (Neumann, *Journ. f. Orn.* 1905. p. 335). There is a ♂ from Youte, Jubaland, collected by Mr. Jackson, in the British Museum.

4. *Textor albirostris nyansae* Neum.

Textor albirostris nyansae Neumann, *Journ. f. Orn.* 1905. p. 335 (Kavirondo).

Base of quills black as in *T. a. albirostris*, but bill coral-red as in *T. a. scioanus* and *intermedius*.

Hab. Kavirondo. Mr. Jackson collected specimens at Kikuyu, Njemps, and Baringo.

5. *Textor albirostris niger* (Smith).

Bubalornis niger Smith, *Rep. Exped. C. Afr.*, App. p. 52 (1836—"northward of the 25th degree of south latitude").

Cf. Reichenow, *Vög. Afr.* iii. p. 5.

Easily distinguished from all the other forms of the species by the extent of white bases to the primaries, which extend over at least half the feathers. The white edges to the outer webs of the primaries are wider, the bill is red and has no swollen base. We have 2 ♂♂ shot at Hector Spruit, Barberton, Transvaal, on 20. xi. 1901 by Lt.-Col. W. Giffard.

1 ♂ ad., Otjimbingue, Damaraland, 26. ix. 1864, Andersson coll.

1 ♂ ad., Limpopo, 24. vi. 1886, A. W. Eriksson coll.

2 ♂♂, Gambos, Veth en v.d. Kellen coll.

1 ♂ juv., Fort Quilenges, Benguela, 23. i. 05, Dr. W. J. Ansorge coll. (No. 272.)

6. *Dinemellia dinemelli dinemelli* (Rüpp.).

Cf. Reichenow, *Vög. Afr.* iii. p. 7.

Mr. Zapphiro sent us a fine series :

1 ♂, 3 ♀♀, Balassire, September and October 1901.

1 ♀, Harawa, 6. x. 02.

1 ♂, 1 ♀, Kafra, 28. xii. 01.

1 ♂, Ladjö, 9. v. 03.

1 ♀, Herer, 20. ii. 01.

2 ♀♀, Laga Arba, 2. vii. 03.

1 ♂ ad., Karaba, 21. v. 03.

1 ♂, Mulu, 26. v. 03.

2 ♀♀, Bissidimo, September 1902. (No. 77, shot at nest, with four eggs.)

The eggs are of a very pale blue (held against the light and when looking through the hole they appear more greenish), strongly marked with dark ashy and paler grey underlying spots and patches, and look just like brightly coloured gigantic eggs of *Passer domesticus*. They measure 25.5 × 18.6, 26.6 × 19.6, 26 × 18.9, 26.7 × 19.7 mm.

Dinemellia böhmii Rehw. is very distinct by its larger size, pale bill, and some slight colour-differences. It seems to be a subspecies, representing *D. d. dinemelli* in East Africa, from about the Tanganyika to the Victoria Nyanza.

7. *Plocepasser mahali ansorgei* subsp. nov.

Subspecies *Plocepasser mahali mahali* dictae simillimus, sed caudae apicibus albis multo latioribus hand difficile distinguendus.

Hab. Benguella. Typus: ♂ ad., Wawayella, Benguella, 12. vii. 04. W. J. Ansorge coll. (No. 292.)

The skins from Benguella differ conspicuously from South African *P. mahali mahali* in having much wider white tips to the rectrices. On the lateral rectrices the white tips extend on the inner webs for about 10 to 12 mm., while in *P. m. mahali* they are only 1.5 to 2.5 mm. wide. The white tips to the greater upper wing-coverts are generally wider, thus forming a very wide and conspicuous bar, the back and upper wing-coverts, and especially the ear-coverts, are generally somewhat darker, more blackish; but these differences are very slight, while the wide tips to the rectrices are very striking and constant. Dr. Ansorge sent the following specimens:

1 ♂ ad., 2 ♀♀ ad., 1 ♀ juv., Wawayella, Benguella, 12. vii. 04. "Iris red-brown or brown, bill sepia-brown (♀) or black-brown (♂), feet purplish grey or sepia-brown. Iris, feet, and bill in this species seem to vary greatly." (Nos. 291 to 294.)

1 ♂ ad., Katenge, Benguella, 18. vi. 04. "Iris mahogany, feet light brown, bill black." (No. 65.)

♂ juv., Sandpits, Benguella, 10. vii. 04. "Iris orange-red, feet slate, bill black-brown." (No. 277.)

The young bird resembles the adult ones in every way.

2 ♂♀ ad., Kipachango (Quilenges), Benguella, 26. i. 05. "♂ bill black, ♀ bill light brown." (Nos. 304, 305.)

1 ♂ ad., Kimahole River (Quilenges), Benguella, 29. i. 05. (No. 332.)

1 ♂, Kasimo River (Quilenges), Benguella, 3. ii. 05. (No. 3322.)

1 ♀ ad., Kitoko River (Quilenges), Benguella, 4. ii. 05. (No. 3333.)

8. *Plocepasser mahali mahali* Smith.

Cf. Reichenow, *Vög. Afr.* iii. p. 11.

♂♀, Griqualand, May 1871. T. Atmore coll.

3 ♂♂ ad., Limpopo, 24. vi., 5. vii., 19. viii., 1886. A. W. Eriksson coll.

1 ♀ ad., Windhoek, 16. x. 1877. A. W. Eriksson coll.

- 1 (♀), Damaraland, Andersson coll.
 1 (♂) ad., Pretoria, Distant coll.
 1 (♀) ad., "Transvaal." (Purchased from Whitely.)
 1 (♀) ad., "Natal." (Purchased from Whitely.)
 The bill is black in the males, brownish in the females.

9. *Plocepasser mahali melanorhynchus* Rüpp.

Cf. Reichenow, *Vög. Afr.* iii. p. 12.

Differs from *P. m. mahali* in the brown under wing-coverts, generally slightly shorter wing, and the colour of the bill, which is deep black in both sexes. Mr. Zaphiro sent a series from the Hawash region, and from near Harar.

10. *Plocepasser mahali pectoralis* Peters.

This is of course also a subspecies of *mahali*, representing the latter in S.E. Africa from the Rufiji River to Inhambane.

11. *Plocepasser rufoscapulatus* Büttik.

Plocepasser rufoscapulatus Büttikofer, *Notes Leyden Museum* x. p. 238. pl. ix. (1888—Kasinga River).

This species has hitherto only been known from a single male collected on the Kasinga River, in Southern Benguella, discovered by Mr. P. J. Van der Kellen. Dr. Ansorge sent us a series of 6 males and 2 females.

3 ♂♂, 1 ♀, Candue River, Benguella, 23. viii. 04. "Iris blood-red; bill in both sexes bone-white, with faint pinkish tinge in front of nares and in the middle of the under-mandible; feet pale flesh-colour." (Nos. 755, 756, 757, 782.)

1 ♂ ad., Calueva River, Benguella, 24. viii. 04. (No. 782.)

1 ♂, 1 ♀ ad., Quando River, Benguella, 11. ix. 04. The female has the bill "black"! (Nos. 920, 930.)

2 ♀♀, Pedreira River (Bihé), Angola, 8. xi. 04. (Nos. 563, 589.)

1 ♂ ad., Losili River (Benguella), 16. ix. 04. (No. 997.)

1 ♂ juv., 1 ♀ ad., Calumbambe (Bihé), Angola, 29. xi. 04. (Nos. 808, 809.)

Dr. Ansorge collected this bird also recently on the Quiungo River and at Bangwa Bamba, in Mossamedes.

The males have a more distinct black line under the eyes; the bill in the adult males is white, while the females have, with the exception of one, a black bill. The wings of the males measure 97.5 to 102 and 104 mm., those of the females 94 to 96 mm.

12. *Plocepasser superciliosus* (Cretzschm.).

Cf. Reichenow, *Vög. Afr.* iii. p. 14.

We have a male from Loko, on the Benue (E. Hartert coll.), several from Gambaga (Col. Gifford coll.), and one male from Adarte, Erythrea, and a female from Ali-Beret, Erythrea, both collected by G. Schrader.

As I have explained in *Nor. Zool.* 1904. p. 458, the name "*Passer rappeli*" (sic) Bp., *Consp. Ac.* i. p. 510, must be added as a synonym to *P. superciliosus*

13. *Sporopipes squamifrons damarensis* Rehw.

Subspecies *Sporopipes squamifrons squamifrons* dictae persimilis, sed statura minore, dorso pallidiore distinguendus. Hab., Benguella.

The specimens collected by Dr. Ansorge are strikingly smaller and the colour of the upperside is somewhat paler.

Dr. Ansorge sent four specimens :

2 ♂♂ ad., 1 ♀ ad., 1 ♂ jun., Huxe, Benguella, 2, 6. vii. 04. "Iris brown-ochre, feet grey-violet, bill pink, but extreme tip of upper bill brown, and root of lower whitish grey.

The bill measures 9 to 9.9 mm., against 9.5 to 10.5 in *S. squamifrons squamifrons*, the wing 54 to 55, against 57 to 60 in *S. squamifrons squamifrons*.

We have a series of *S. s. squamifrons* from Damaraland (Andersson), De Wet's Drift on the Vaal River (Ayres), Modder River, Transvaal (Guillemard), Rhenoster River (Guillemard), Pretoria (Distaut), Limpopo (Eriksson).

I had just described this bird as a new subspecies in MS. when Prof. Reichenow's new name appeared in the Appendix to his book (p. 838, 1905).

14. *Sporopipes frontalis* (Daud.).

Cf. Reichenow, *Vög. Afr.* iii. p. 17.

2 ♂♂ ad., 1 ♀, Adarte, Erythrea, 7, 26. xi., 1. xii. 99. G. Schrader coll.

1 ♂ ad., Chadi-Saati, Erythrea, 4675 ft. high, on the Mareb River. G. Schrader coll.

15. *Malimbus rubricollis rubricollis* (Swains.).

Ploceus rubricollis Swainson, *Anim. in Menag.* p. 306 (1838—ex Vieillot, *Ois. Chant.* p. 72. Pl. 43, where the present species is described as the ♀ of *Malimbus cristatus*. The types were brought home by Perrein from Malimbe, in the south of the present German colony of Kamerun).

This form ranges from Kamerun to the Congo. We have eight specimens from Kamerun and Fernando Po. The specimens from Fernando Po might be separated again, as their bills appear to be still larger than in the Kamerun examples, but better series must be compared to confirm these slight differences.

16. *Malimbus rubricollis bartletti* Sharpe.

Malimbus bartletti Sharpe, *Cat. B.* xiii. p. 479 (1890—"West Africa from Liberia to the Gold Coast." Terra typica not indicated!).

Besides some skins from the Gold Coast we have the following specimens collected by Dr. W. J. Ansorge :

7 ♂♂, 8 ♀♀, Ogunfa on the Lower Niger, July to November 1901. "Iris chocolate-brown; bill and feet black." (Nos. 53, 56, 58, 59, 83, 218, 230, 231, 277, 285, 286, 287, 372, 373, 421.)

1 ♀ ad., Gregani, Southern Nigeria, 24. xi. 01. (No. 343.)

3 ♂♂, 1 ♀, Degama, Southern Nigeria, 7. vi. 02. (Nos. 54, 499, 514, 515.)

1 ♂ ad., Ogrugu on the Amambara Creek, Lower Niger, 25. xi. 02. (Braham coll.)

The young male has the forehead dark brown, nearly black. This subspecies is closely allied to *M. r. rubricollis*, but differs in having the head of a somewhat darker and more crimson red, and in being slightly larger, at least the bill being generally larger.

17. *Malimbus rubricollis centralis* Rehw.

Malimbus rubricollis centralis Reichenow, *Orn. Monatsber.* 1893. p. 30 ("Nduluma").

This subspecies inhabits the Central African lake-district: Nduluma, Ndu-summa, Ntebbi. Dr. Ansorge has considerably extended its range, for he now discovered it in Angola. The red of the head is lighter, and the bill is shorter, than that of *M. r. rubricollis*. I have compared our Angolan specimens with those collected by Mr. Jackson, and found them perfectly similar. It is, however, not always easy to distinguish this form, especially the lighter colour of the red crown is not always evident, and the size of the bill varies.

3 ♂♂, Canhoca, Angola, 20, 25, 30. xi. 03. "Iris dark brown; feet purplish black, soles greenish; bill black." (Nos. 1188, 1263, 1320.)

1 ♂ ad., Golungo Alto, Angola, 16. i. 04. (No. 55.)

Recently we have also received three skins from Mpanga Forest, province of Toro in Uganda, collected by Rud. Grauer.

18. *Malimbus scutatus scutatus* (Cass.).

Scobius scutatus Cassin, *Proc. Philad. Acad.* 1849. p. 157 (Sierra Leone).

This form ranges from Sierra Leone to the Gold Coast.

M. rubropersonatus is a synonym, being described from a young bird.

19. *Malimbus scutatus scutopartitus* Rehw.

Malimbus scutopartitus Rehw., *Journ. f. Orn.* 1894. p. 38 (Kamerun).

The birds inhabiting the Lower Niger, Kamerun, and Gaboon have been justly separated by Reichenow. The females have the red throat-patch divided in the middle by a more or less interrupted line of black patches. This is always present, while in the females of *M. s. scutatus* no such dividing line and very rarely an indication of it is found. The males of the two forms are not distinguishable. The differences in the extent of the black and red colour mentioned by Reichenow (*Vög. Afrikas* iii. p. 22) are not constant. Shelley, when not recognising *scutopartitus* as separable, evidently did not grasp the fact that the line of black spots in the middle of the red throat was never supposed to be present in the male.

6 ♂ ad., 6 ♀ ad., Oguta, on the Lower Niger, October to December 1901, Dr. W. J. Ansorge coll. "Iris dark brown; bill black; feet chocolate-brown." (Nos. 219, 259, 276, 282, 288, 289, 290, 321, 360, 385, 386, 472.)

1 ♂ juv., Oguta, 14. x. 01. "Iris light brown; feet chocolate-brown; bill—upper horn-grey, lower orange-yellow." (No. 291.)

The young bird has the head and throat black and the bill pale, not black.

4 ♂♂, 1 ♀, Degama, Southern Nigeria, 29. i., 14. ii., 21. iv., 22. v., 17. vi. 02. (Nos. 72, 123, 334, 470, 524.) Dr. W. J. Ansorge.

2 ♂♂, 3 ♀♀, Warri, Southern Nigeria, May, October. Dr. Felix Roth coll.

2 ♂♂, Ogrugu, Amambara Creek, Niger, July, August. Braham coll.

1 ♀, Victoria, Kamerun. Preuss coll. Without original label, but marked as one of the types by Reichenow.

20. *Malimbus nitens* (Gray).

Ploceus nitens Gray, *Zool. Misc.* i. p. 7 [1831—"Africa." Terra typica: Sierra Leone (collected by Capt. Edw. Sabine)].

We have, besides some (partly from spirits!) from Liberia (Demery coll.) and a series from the Gold Coast, the following specimens:

7 ♂ ad., 1 ♀ ad., 2 ♂ juv., Degama in Southern Nigeria, February, March, May, June, July 1902. Dr. W. J. Ansorge coll. "Iris blood-red in the adult males and female, reddish brown or grey-brown in the young; bill pale blue in the adults and very pale blue in the young ones; feet dark slate or dark blue in adult and young." (Nos. 145, 284, 333, 395, 416, 435, 455, 534, 535, 566.)

The female has the red throat-patch lighter, and is smaller, the wing being 3 mm. shorter. The young birds have the throat up to the chin dull red, the forehead tinged with red.

1 ♂ ad., Oguta, Southern Nigeria, 13. x. 01. Ansorge coll. (No. 283.)

1 ♂ ad., Ogrugu, on the Amambara Creek, Niger, 5. iii. 01. Braham coll.

1 ♀ ad., Rio Moonda, Gaboon. Du Chaillu coll.

1 ♂, Efulen, Kamerun, 10. xii. 02. Bates coll.

It seems that generally the specimens from the Niger have larger bills than those from the Gold Coast and Liberia, but this difference does not seem to be quite constant, and our series seems not to be large enough to be sure about it.

21. *Malimbus malimbica malimbica* (Daud.).

Tanagra malimbica Daudin, *Ann. Mus. Paris* i. p. 151. Pl. x. fig. 1 (1802—♂, "Malimbe, royaume de Congo," Perrein coll.).

Malimbus cristatus Vieillot, *Ois. Chant.* p. 71. Pl. 42 (1805—Malimbe!).

Hab. Kamerun to Angola.

The birds from South Kamerun (Efulen, Bates coll.), Gabun, Congo and Angola have larger bills (♂ ad. bill 18—20 mm.), slightly longer crests, and the young birds as well as some which are apparently fully adult, have the greater part of the abdomen and the nuder tail-coverts blackish slaty grey, instead of pure black.

1 ♂ "Gabun" (ex Bartlett coll.).

1 ♂ ad., 1 ♂ juv., Canhoca, Angola, 25. xi., 10. xii. 03. Dr. W. J. Ansorge coll. "Iris dark brown; feet slate-black; bill black." (Nos. 1264, 1414.)

An unsexed specimen without exact locality, collected by Zenker in "Kamerun" agrees better with the northern form, but it is probably a dark female of the southern form. Specimens collected by Bates in Efulen are typical *malimbica*.

22. *Malimbus malimbica melanobrephos* subsp. nov.

Specimens from the Gold Coast have slightly smaller bills (bill ♂ ad. 16.5—18 mm.), slightly shorter crests, and the young are underneath perfectly black or somewhat brownish black, but not in the least greyish!

Hab. Upper Guinea from Liberia to the Gold Coast and Togo. Type: ♂ ad. Gold Coast (Fanti preparation). No. 719 in the Tring Museum.

23. *Malimbus erythrogaster* Rehw.

Malimbus erythrogaster, Reichenow, *Orn. Monatsber.* 1893. p. 205 (Jaunde in Kamerun).
(Neither Shelley nor Reichenow quoted the original description of 1893.)

Dr. Ansorge sent us a small but interesting series of this rare bird from the Lower Niger.

3 ♂ ad., 1 ♂ juv., 1 ♀ fere ad., Oguta, vii., ix., x., 01. "Iris dark brown or chocolate; bill black in adults: upper dark grey, lower horn-grey in young; feet brown." (Nos. 90, 185, 258, 305, 375.)

1 ♀ ad., Gregani, 19. x. 01. "Bill black." (No. 331.)

1 ♀ ad., Degama, 14. v. 02. "Bill black." (No. 438.)

NOTE ON THE GENERA OF *PLOCEIDAE*.

Some modern ornithologists have recognised too many genera of Weaver-birds. Shelley accepted a great number, judging entirely by coloration. Reichenow judiciously united "*Hyphanturgus*," "*Melanopteryx*," "*Symplectes*," "*Phormoplectes*," "*Hypermegethes*," "*Xanthophilus*," "*Otyphantes*," "*Hyphantornis*" and "*Sitagra*" with *Ploceus*. In my opinion even "*Anaplectes*" must be united with *Ploceus*, and "*Sharpia*" is only an extremely thin-billed form, as "*Pachyphantes*" is the thick-billed extreme in Africa. I should not recognise any genera which merely differ in coloration.

Genera do not exist in nature as such, and they are made for the convenience of students, in order to help us in naming species: to recognise unnecessary genera is therefore obviously increasing our difficulties instead of simplifying them. Genus-splitting is a serious danger to ornithology.

24. *Ploceus rubriceps rubriceps* Sundev.

Ploceus (Hyphantornis) rubriceps, Sundevall, *Ofv. Vet. Ak. Förh.* 1850. p. 97 (Limpopo).

2 ♂ ad., Barberton, Transvaal, 25. x. 01. Col. Giffard coll.

1 ♂, 1 ♀ ad., Zoutpans, Transvaal, 12. xi. 1877.

1 ♂ ad., Mrogoro, Usagara, 24. xi. 1889. Emin Pasha coll.

"Long. tot. 153, rostr. a fronte 15, al. 88, caud. 44, tars. 17 mm. Iride rufa, rostro miniato, pedilus rubellis."

25. *Ploceus rubriceps gurneyi* Shell.

Ploceus gurneyi Shelley, *Ibis*, 1887. p. 17. Pl. i. fig. 1 (Caconda).

The subspecies from Angola (Benguella) differs from *P. r. rubriceps* as follows: The red of head and foreneck is much darker, the abdomen is less pure white, being washed with grey, the outer edges to the primaries are darker and somewhat orange-yellow. The black patch on the sides of the head, which has been described as a specific character, is not constant, as it is absent in one of our adult males. Probably it is peculiar to immature specimens only. The red of the throat extends as far down as in *P. rubriceps rubriceps*. The type, which is so well figured in the *Ibis* for 1887, is undoubtedly an immature specimen, but nevertheless *P. r. gurneyi* is a well distinguishable subspecies.

Dr. Ansorge sent us the following examples of *P. r. gurneyi*:

♀ ad., Sources of the Unene River, 23. ix. 04. Dr. W. J. Ansorge coll. (No. +77.)

♀ ad., Elandswater, Benguella, 27. vii. 04. (No. 462.)

♀, Warmbad, Benguella, 28. vii. 04. (No. 465.)

♀ Kingolo, Benguella, 21. xii. 04. (No. +941.)

♂ ad., Colla, Benguella, 18. viii. 04. (No. 677.)

♂ semi-ad., Caconda, Benguella, 5. ix. 04. (No. 862.)

♂ ad., Gundua Siva, Benguella, 12. ix. 04. (No. 935.)

♂ ad. "Iris mahogany red; feet brown-ochre; bill chrome-orange."

♀ ad. "Iris mahogany or orange-red; feet brown-ochre; bill chrome-orange."

Younger birds have more or less dark brown on the bill.

26. *Ploceus melanotis* Lafr.

Ploceus melanotis was originally described from the "Senegal." We have no specimens in Tring from the Senegal. I cannot see that Reichenow's *erythrogenys* can possibly be anything else than an individual aberration. Grant's *blundelli* requires further investigation, but I do not think that it will prove to be distinct. The type (from Beni-Schongol) is very blackish on the back, but the amount of black on the back varies apparently, perhaps according to age (?). Our blackest specimens are those from Omo, Gelo, and Akobo (E. Sndan), collected by Neumann, and one shot by Dr. Donaldson Smith 26. iii. 1895, between San Kural and Higo, while those from the Kassam River, "Hedeli," "Ladjo River," and "Karawa," from Zapphiro, are on the back palest and greyest. Two from Ussure (Fischer) are also very blackish. A male from Gambaga (Giffard) is too much worn to be of much importance for this question, and the same can be said of a male from Masongoleui in British East Africa (Ansorge), and a male and some females from the Escarpment, Kikuyu Mountains, collected by W. Doherty.

Though, in my opinion, there is no doubt as to the identity of *erythrogenys* and *melanotis*—while *blundelli* is very doubtful—Shelley's *rufigena* from Chinta, on the Tanganyika plateau, north-west of Lake Nyasa, is perhaps a distinct form. It is evidently not the same as *erythrogenys*, having no black at all on the chin, which is red to the base of the bill, a deep black auricular patch, and being very small. Further investigation is necessary to confirm or to deny its value.

27. *Ploceus angolensis* (Bocage).

Sharpia angolensis, Bocage, *Jorn. Lisboa*, 1878. p. 258 (Caconda).

On account of the peculiar pattern of coloration, and rather fine and slender bill, *Ploceus angolensis* has been separated generically under the name of *Sharpia*. This name being preoccupied by *Sharpia* Tournier 1873, Mr. Oberholser renamed the supposed genus as *Notiospiza*,* without having seen a specimen of the type of the genus, and thus without being able to judge about the value of the genus.

Mr. W. J. Ansorge sent us a fine series of this very rare bird.

♂ ♀ ad., Pedreira (Bihé), Angola, 11, 13. xi. 04. "Iris ♂ ♀ blood-red; feet purplish brown; bill black." (Nos. + 625, + 647.)

1 ♂ ad., Caiala (Bihé), Angola, 4. xii. 04. (No. + 846.)

2 ♂ ♀ immat., Chinguli (Bihé), Angola, 12. xii. 04. (Nos. + 894, 895.)
"Iris blood-red; feet greenish slate; bill greenish grey, lower mandible pink."

* *Smithson, Misc. Coll.* 48, 1. p. 64 (1905).

These young birds have also the head olive-grey instead of blackish brown. The sexes of the adult bird do not differ, except in size.

1 ♂ ad., Cambul (Benguela), 21. viii. 04. (No. 725.)

1 ♀ ad., Chissamba (Bihé), Angola, 21. xi. 04. (No. 747.)

1 ♀ ad., Chiyuka (Bihé), Angola, 25. xi. 04. (No. + 774.)

2 ♂ ♀ ad., Cassoc, Benguela, 25. viii. 04. (Nos. 797, 798.)

Wings ♂ ad. 86—88; ♀ ad. 82.5—84 mm.

28. *Ploceus sanctithomae* (Hartl.).

Sycobius sanctithomae Hartlaub, *Rev. Zool.* 1848. p. 109 (Island of St. Thomas).

This species is confined to the island of St. Thomas, on the west coast of Africa. It is a good example to show the value of the genera of African Weavers, as they are now in vogue. Sharpe, *Cat. B. Brit. Mus.* xiii. p. 418., placed it in the genus *Heterophantes*, Shelley in 1887 in *Ploceus*, while recently Reichenow and Shelley placed it in the genus "*Sharpia*." It seems to me that there is no more reason for uniting it in the same genus with "*Sharpia angolensis*," than for placing it with the *Heterophantes*. Its colour-pattern differs from that of *P. angolensis*, and it has a most peculiar musky smell not observed in *P. angolensis*: it therefore requires only "furor genericus" in a very mild form to make a new genus for it, but as I do not see that science can be benefited by this, I prefer to unite it with the other forms in *Ploceus*. We have a very good series collected by M. Mocquerys at Roça Laura and Pedroma on St. Thomas.

The females differ conspicuously from the males, as described by Shelley, Reichenow, and others.

29. *Ploceus emini* (Hartl.).

Sycobrotus emini Hartlaub, *Orn. Centralb.* 1882. p. 92; *Journ. f. Orn.* 1882. p. 322 (Agarú).

Sycobrotus zaphiroi Grant, *Bull. B. O. Club.* xiii. p. 22 (1902—Abu Beker in Harar).

♂ ad., Agarú, 30. iv. 1881. "No. 101. Long. tot. 170, caud. 61, tars. 21, rostr. a fronte 17, al. 82 mm. Iride margaritacea; rostro nigro; pedibus rubellis." Emin Pasha coll. Type of *S. emini*!

♀, Agarú, 1. v. 1881. (No. 108.) Emin Pasha coll. "Long. tot. 170 mm., rostr. a fronte 17, al. 78, caud. 53, tars. 19. Iride straminea, rostro nigro, pedibus rubellis."

♂ "in. mnt.," Bagnéra, 22. iii. 1889. (No. 133.) Emin Pasha coll.

♂ "hieme," Bagnéra, 20. iii. 1889. (No. 123.) Emin Pasha coll.

♂ ad., Masindi (Unyoro), 9. vi. 1897. (No. 126.) W. J. Ansorge coll.

♂ juv., Masindi (Unyoro), 21. iv. 1897. (No. 59.) W. J. Ansorge coll.

♂ juv., Sheik Mahomet, Arusi-Galla-land, 9. xi. 1894. Dr. Donaldson Smith coll.

♂ ♀ ad., Chankori, near Harar, alt. 1800 m., 9. vi. 02. Zaphiro coll.

♂ ad., Arbre des Adieux, near Harar, 21. vi. 02. Zaphiro coll.

♀ ad., Abu Hakim, near Harar, 10. vi. 02. Zaphiro coll.

♀ ad., Sofie, near Harar, 16. vi. 02. Zaphiro coll. (with eggs).

♀, "Kloumbi" (?), "alt. 8800 ft.," 6. xii. 01. Zaphiro coll.

Eggs are sent in three varieties: White with a faint reddish buff tinge, or cream-colour with brownish red patches and spots and some deeper-lying pale

greyish-purplish patches (Sofie, 16. vi. 02). White with rufous-brown and deeper-lying greyish spots (Harar, 9. vi. 02). Pale bluish green with dark brown and underlying paler, or with uniform dull pale brown patches. Measurements: 20.5 × 15.1, 20.8 × 15, 21 × 14.6, 21 × 15, 21.1 × 14.7, 21.1 × 15.9, 21.9 × 15.5, 21.8 × 15.7, 22 × 15.6, 23 × 15.6 mm.

30. *Ploceus stuhlmanni* (Reichw.).

Symplectes stuhlmanni Reichenow, *Orn. Monatsber.* 1893, p. 29 (Wallia, Bukoba).

Dr. Ansorge collected this species at Kaweli in Uganda, in Toru, at Galabi in Uganda, and at Masindi in Unyoro; and besides these we have two females taken by Oscar Neumann at Habela in Sidamo and at Abera in Djamdjam.

In this species the males and females are alike in colour, but differ in size, the female being about 6 or 7 mm. shorter in the wing. The idea that "the present species can be looked upon as the western representative of *P. reichenowi*" is entirely unfounded. What Reichenow described as the female is apparently an immature bird, but not the adult female in full plumage (*Vögel Afrikas* ii. p. 49). Reichenow's *abehensis* is apparently not a "var." but a subspecies.

31. *Ploceus reichenowi* (Fischer).

Synebrotus Reichenowi Fischer, *Journ. f. Orn.* 1884, p. 180 ("Gross-Aruscha, Naiwascha-See").

♂ ♀, Nairobi, Brit. E. Africa, 30. i. 1899. (Nos. 56, 57.) W. J. Ansorge.

♂, First Swamp (Kikuyu), 6. ii. 1899. (No. 100.) W. J. Ansorge.

♂, Second Kedong, 8. ii. 1899. (No. 110.) W. J. Ansorge.

19 ♂ ad., ♀ ad. and juv., Escarpment, Kikuyu Mountains, 7500 to 8000 ft., September 1900 to March 1901. W. Doherty coll. "Iris creamy white; feet dull purplish white or pale dirty brownish; bill black." W. Doherty.

The males and females as well as the young birds have been described. From our series, however, it seems to me as if there also is a plumage of the adult male like that of the adult female, *i.e.* with black top of head and upper back. Perhaps this is the regular plumage of the adult male during the non-breeding season. Young birds have the crown greenish olive.

32. *Ploceus baglafecht* Vieill.

Cf. Reichenow, *Vög. Afr.* iii. p. 49.

We have the fine series collected by Oscar Neumann in Shoa, Kaffa, etc., and three collected by Ragazzi. Neumann is perfectly right in describing the ♀ ad. (in breeding plumage!) like the male, only with the forehead not yellowish olive-green like the back, and without the black auricular patch. I may add that it is a little smaller. The adult male in breeding plumage has the rump olive-yellowish-green like the back, not greyish-brownish as described by Reichenow and Shelley, and the adult female has the entire under-surface yellow, not "Bauch weiss."

"*Otyphantes lorati*," Shelley, *B. Afr.* iv. p. 457, is not a species, but merely the adult male in breeding plumage.

"*Symplectes eremobius*" Hartl., from Unyoro (*Zool. Jahrb.* 1887, p. 320), is probably *P. stuhlmanni*, as suggested by Neumann, but never *baglafecht*. Unfortunately the type is lost. (Cf. *Cat. B.* xiii. p. 419.)

Ploceus ocularius and its Geographical Forms.

The most recent authorities on African birds treat this group with refreshing variation. Prof. Reichenow in 1904 :

Ploceus ocularius : S.E. Africa, from Zambesi to eastern Cape Colony.

Ploceus ocularius crocatus : E. Africa, from the Upper Kir and Lake Abaya to Nyassaland, Loango, and Angola.

Ploceus ocularius brachypterus : W. Africa, from Senegambia to Loango.

What strikes us at a glance is, that Reichenow admits *P. o. crocatus* and *P. o. brachypterus* as subspecies, though in various localities both occur together. But Reichenow's "subspecies," or "conspecies," are not "our" subspecies, which are geographical representatives.

Shelley in 1905 :

Hyphanturgus ocularius : Loango to the Cunene and over Eastern Africa generally from Eastern Cape Colony into the Upper White Nile district and South Abyssinia.

Hyphanturgus brachypterus : W. Africa, from Senegambia into Gaboon.

Shelley unites *ocularius* with *crocata*, thus simplifying very much, but we cannot agree to this lumping. It is violating nature to unite all South and East African forms. On the other hand, Shelley does not fall into the evident error of extending the range of *brachypterus* right into the area of *ocularius* in Angola.

O. Neumann, 1905 :

Ploceus ocularius ocularius : S. Africa, from Cape Colony through Natal to Transvaal.

Ploceus ocularius suahelicus : E. Africa, from Zambesi through Mozambique to Mombasa and Lamu.

Ploceus ocularius brachypterus : W. Africa, from Senegal to Kamerun.

Ploceus ocularius crocatus : Central Africa, from Upper White Nile over the Victoria Nyanza and Tanganyika to N. Angola.

Ploceus ocularius abayensis : South Ethiopian Lakes.

This last arrangement is the most advanced one, and shows at least the results of careful research. Unfortunately I cannot, however, follow Neumann in his separating *P. o. abayensis*, though otherwise I find his arrangement excellent. I therefore come to the following results :

33. Ploceus ocularius ocularius Smith.

Cf. Reichenow, *Vög. Afr.* iii. p. 45.

South Africa, from Cape Colony to Zambesi, and perhaps north of the latter.

We have the following specimens :

1 ♂ ad., "S. Africa." Ex coll. R. B. Sharpe. (No. in Cat. : 562B.)

1 ♀, "S. Africa." Ex H. Whitely.

1 ♂, 1 ♀, Port Natal. Ex Jardine coll. (From Mr. McKen.)

2 ♀ ♀, "Natal." Ex Gerrard.

2 ♂ ♀, Hafa River, Natal, 1895. Woodward coll.

2 ♂ ♀, Etchowe, Zululand, Woodward coll.

1 ♂ ad. from Mlangi, Brit. E. Africa (J. Brown coll.) not very far north from the Zambesi, agrees better with S. African birds than with any others, unless we unite it with *crocatus*! It does not agree with *suahelicus*. A series of better skins should be examined before finally deciding about the Mlangi form.

34. *Ploceus ocularius crocata* Hartl.

Hyphantornis crocata Hartlaub, *Abb. Natur. Ver. Bremen*, 1881, p. 100 (Magungo).

Ploceus ocularius abayensis Neumann, *Journ. f. Orn.* 1905, p. 339 (Gigiro in Gudji, east of Lake Abaya).

Very closely allied to *P. ocularius ocularius*, but bill shorter and comparatively thicker, less long and slender, than in the latter. Coloration the same, only the cheeks of the males and the entire throat of the females are generally, though not always, somewhat less tinged with golden brownish. Size generally much smaller.

We have the following specimens :

1 ♀ (erroneously sexed ♂) Magungo 25. xi. 1879. Type of *H. crocata*. (Cf. Hartl. *Zool. Jahrb.* ii. p. 341, 1887.) Emin Pasha coll. (No. 152.) 1 pull. Magungo, 22. xi. 1879. Emin Pasha coll. (No. 141.)

1 ♀ (sexed ♂—possibly ♂ out of breeding season?), Tomajá, 9. xi. 1882. "Long. tot. 104, rostr. a fronte 16, al. 72, caud. 55, tars. 18.5 mm. Iride perlacea; rostro nigro; pedibus fusco-rubellis." Emin Pasha coll. (No. 249.)

1 ♂ ad., Masindi in Ungoro 1. v. 1897. Dr. W. J. Ansorge coll. (No. 76.)

1 ♂ ad., Kitagwetoa (Torn), 6. iv. 1899. Dr. W. J. Ansorge coll. (No. 328.)

1 ♂ ad., Klip-plaat-drift, Benguella, 4. viii. 04. "Iris chrome-yellow, feet slate-blue, bill black." W. J. Ansorge coll. (No. 536.)

1 ♀ ad., Bonga Mountain, Quilenges, Benguella, 27. i. 05. "Iris dark brown, feet bluish grey, bill black." W. J. Ansorge coll. (No. 317.)

2 ♀♀ ad., Pungo Andongo, Angola, 4. 5. vi. 03. "Iris greenish grey." W. J. Ansorge coll. (Nos. 246, 250.)

1 ♀ juv., Pungo Andongo, Angola, 25. vi. 03. "Iris dark brown; feet pale slate; bill—upper yellowish brown with ochre-brown tip, lower yellowish ochre, yellowish brown near base." W. J. Ansorge coll. (No. 455.)

1 ♂ ad., Catumbela, Benguella, 1900. Albert Mocquers coll.

1 ♀ ad., Gigiro (Gudji), east of Lake Abaya in Southern Ethiopia. O. Neumann coll.—(No. 487—type of *Ploceus ocularius abayensis*).

1 ♂ ad., 1 ♀ immat., Herer River, 16. vii., 19. ix. 02. Zapphiro coll.

1 ♀ ad., Harawa, near Harar, 26. xii. 02. Zapphiro coll.

Although the type of *P. ocularius abayensis* is a somewhat dark individual, the examination of our series and that in the British Museum has convinced me that it is impossible to separate a South Ethiopian form.

P. o. crocata thus ranges from Angola throughout Central Africa to Southern Ethiopia and Southern Abyssinia.

35. *Ploceus ocularius brachypterus* Swains.

Ploceus brachypterus Swainson, *B. W. Afr.* i. p. 168 Taf. 10 (1837—Senegal).

The West African form ranges from Senegambia to Gaboon and perhaps to the mouth of the Congo (Landana)—from where I have, however, not seen a specimen.

Of *Ploceus ocularius brachypterus* we have the following specimens :

2 ♂♂ ad., "W. Africa" (? Senegambian make). Ex Bartlett coll.

1 juv., "W. Africa, Dr. Gordon coll." Ex Jardine coll.

1 ♂ ad., Sierra Leone, Fowles coll. Ex Jardine coll.

1 ♀ ad., Sierra Leone, Dr. Fergusson coll. Ex Jardine coll.

1 ♂ ad., Robertsport, Liberia, 27. ix. 1889. A. T. Demery coll.

1 ♀ immat., Sulymah River, Sierra Leone, 29. iii. 1890. A. T. Demery coll.

1 ♂, 1 ♀ ad., Cape Mount, Liberia, April and May 1892. A. T. Demery coll.

1 ♀ juv., Accra, 5. xi. 1897. From Dr. F. Roth.

2 ♂♂, 2 ♀♀ ad., Agberi on the Lower Niger, June and September 1901. W. J. Ansorge coll. (Nos. 13, 173, 174, 175.) "♂♀ Iris pale straw-yellow, bill black, feet slate."

1 ♂ ad., Oguta, Southern Nigeria, 16. xi. 01. W. J. Ansorge coll. (No. 384.) "Iris pale straw-yellow."

1 ♀ ad., Akassa, Southern Nigeria, 15. xii. 01. W. J. Ansorge coll. (No. 488.)

1 ♂ ad., Forcados, Southern Nigeria, 31. xii. 01. W. J. Ansorge coll. (No. 516.)

1 ♂ ad., Degama, Southern Nigeria, 8. ii. 02. W. J. Ansorge coll. (No. 99.)

1 ♂ ad., Bugma, Southern Nigeria, 19. iii. 02. W. J. Ansorge coll. (No. 242.)

This form is much more distinct than the other subspecies of *ocularius*.

The bill is thicker, stronger. The forehead is of a golden brown, the sides of face and surroundings of the wide, large black gular patch are golden brown. Moreover the female differs from the females of the other forms in having no yellow forehead, only the feathers just above the lores and a narrow superciliary line being golden yellow, but the forehead yellowish olive-green.

36. *Ploceus ocularius po* subsp. nov.

Subspeciei *Ploceus ocularius brachypterus* dictae simillimus sed rostro validiore haud difficile distinguendus.

Differs from *P. o. brachypterus*, with which it entirely agrees in colour, by its larger and more powerful bill. Type ♂ ad., Fishtown, Fernando Po. 2. i. 04. E. Seimund coll. (No. 3119.)

Besides the type we have a ♀ from the same place, date and collector, an adult male and a young bird collected by Fraser. In addition to these I have examined half a dozen skins in the British Museum.

37. *Ploceus ocularius suahelicus* Neum.

Ploceus ocularius suahelicus Oscar Neumann, *Journ. f. Orn.*, 1905 p. 339. (Terra typica: Lewa in Usambara).

According to Neumann, *P. o. suahelicus* is distributed from Lamu and Mombasa throughout German East Africa and Mozambique to the Zambesi. This form is fairly distinct from its allies, the bill being like that of *P. o. crocata*, or a little stronger, not as long and thin as in *P. o. ocularius*, but not as strong as in *P. o. brachypterus*; the upperside is darker and more olive than in all its allies, and the forehead is strongly washed with golden brown, though not as much as in *P. o. brachypterus*. I have examined some skins in the British Museum, and we have five from the Escarpment. I am quite uncertain about the birds from Nyassaland and the Zambesi, and would like to examine a series. Mr. Doherty sent:

1 ♂ ad., Escarpment, Kikuyu Mts., Brit. E. Africa, 6500 ft., December 1900. W. Doherty coll.

1 ♂ immat., 1 ♀ immat., Escarpment, 8500 ft., November 1900. W. Doherty

coll. "Iris pale grey-brown; feet (dark) bluish grey, soles yellowish; bill—above dull brown, below dull whitish horn-colour."

1 ♀ immat., Escarpment, 8500 ft., January 1901. W. Doherty coll.

On *Ploceus aureoflavus*, *bojeri*, and *holoxanthus*.

These three forms have been correctly separated in Shelley's book, while Reichenow united *holoxanthus* with *aureoflavus*.

The adult male of *Ploceus bojeri* has the back olive-yellow, the crown bright golden-orange, the underside rich golden-yellow, the throat surrounded by a bright chestnut band. The remiges are pale olive-brown, only the basal portion of the inner webs being yellow. The wings measure about 75 to 76 mm.

The adult male of *Ploceus aureoflavus* has the back more greenish, the crown and throat much more yellow, the underside less bright, the wings similar, but more greenish above, and the yellow more sulphur-yellow. The wing is about 76 mm. long.

Ploceus holoxanthus is not at all the same as *aureoflavus*. Its wing is considerably **shorter**, measuring only 65 to 69 mm., the tail is canary-yellow and **shorter**, measuring only 4.5 instead of 5 cm., the back is almost pure yellow, the remiges are quite canary-yellow, only the secondaries being washed with olive on the outer webs!

One must feel inclined to think that these forms and also *castaneiceps* are geographical forms (subspecies) of one species. The distribution is, however, not quite clear:

P. aureoflavus is the bird inhabiting Zanzibar, the lower Pangani River, and ranges probably northwards close to Mombasa. This form, however, occurs also northwards in South Somaliland, for specimens from Mogadoxo in South Somaliland agree with *aureoflavus* and not with *bojeri*! These examples were collected by Revoil, and there are some in the Paris Museum and one in Tring, the latter purchased from Boucard.

On Mombasa Island we find the bright *P. bojeri*. This, according to Reichenow and Neumann (in litt.) extends northwards through Tanaland and Witu to the Lower Djuba River, on the frontier of Somaliland. The alleged occurrence on the island of Zanzibar is probably erroneous. The type was obtained by Bojer, but, though said to have come from Zanzibar, might have been shot on the opposite coast, the name Zanzibar coast, or merely Zanzibar, being for many years used for the opposite coast, which was under the rule of the Zanzibar sultans, and it is only recently that the name has again been reserved, as it should be, to the island of Zanzibar. No specimens from v. d. Decken and Fischer seem to be in collections, if I am not mistaken, and observations of live birds might be erroneous. Therefore, if it were not for the occurrence of *aureoflavus* at Mogadoxo in Southern Somaliland—while *bojeri* ranges north to the Lower Djuba River—we might well accept that *P. bojeri* and *aureoflavus* are representatives. The same may be said of *holoxanthus* (of which the type is in the Tring Museum), which appears to be only known from Mtoni, and of *castaneiceps*; this last form was first described by Sharpe in 1890 from the Usuri River in Teita (Taweta). Judging from the short description, Reichenow considered *castaneiceps* to be a synonym of *aureoflavus*, and redescribed it in 1902 under the name of *Ploceus schillingsi* from the Rufu River (Upper Pangani), giving a good description in *Vög. Afr.* iii. p. 93.

Our material is, so far, most scanty, for we have only :

Of *P. aureoflavus* : 1 ♂ ad., Mogadoxo, Somaliland. Révoil coll. (Ex Boucard.)
1 ♀ juv., on the label of which is written in Reichenow's handwriting "*Ploceus aureoflavus*." (Ex Bartlett.)
Zanzibar.

Of *P. bojeri* : 2 ♂ ad., Mombasa Island, 12. x. 1896. W. J. Ansorge coll.

Of *P. holocanthus* : 1 ♂ ad., 1 ♀ ad., Mtoni, January. Bohndorf coll., the former the type ! (Cf. Hartlaub, *Abh. Bremen*, 1891, p. 22.)

38. *Ploceus temporalis* (Boc.).

Hyphantornis temporalis Bocage, *Jorn. Lisboa*, xxviii. p. 244 (1880—Caconda).

1 ♂ ad., Bunhe River, Benguella, 28. ix. 04. (No. 410.) "Iris yellow-lake ; feet bistre ; bill black." W. J. Ansorge coll.

It is a great pleasure to record the capture of an adult male of this rare *Ploceus*, hitherto only known from the single type specimen in the Lisbon Museum. It is in worn plumage, but agrees with the original description. The bill is stout and short, like the bill of *Ploceus xanthops*, and Dr. Bocage wrongly compared *P. temporalis* with *P. baglafecht* (*B. Angola* ii. p. 557), thus misleading Shelley (in 1896) and Reichenow (1904) to place the former in the "subgenus *Otyphantes*." In coloration, and especially in the peculiarity that the under wing-coverts and inner edges of the quills are brownish grey—the former with yellow edges, this form is perhaps nearest to *Ploceus capensis* and *olivaceus*, but the very strong bill is like that of *P. xanthops*. *P. temporalis* is one of those forms which show the fallacy of the establishment of too many genera of African *Ploceinae*. I may add that the crown is golden-yellow with a faint olivaceous tinge, not at all inclining to orange as in Pl. XLI. of Shelley's work, where the bill is not thick enough either. Shelley's description (*B. Afr.* iv. p. 467) is very exact, the under-surface not being as bright yellow as in the plate. The wing of our specimen measures 84 mm., but being somewhat worn would be, if fresh, a few millimetres longer. The bill is 17 mm. long, and at base 11.5 mm. high.

The following examples seem to belong to *P. temporalis* :

1 ♂ in non-breeding plumage, Chissamba (Bihé), Angola, 19. xi. 04. "Iris pink-rose, feet purplish brown, upper mandible dark slate, lower yellowish grey." (No. + 725.) W. J. Ansorge coll.

In worn plumage ! Upperside olive with yellowish edges to the feathers, lower rump and upper tail-coverts olive-yellow. Under-surface yellow, abdomen mixed with creamy-buff feathers. Wing about 86 (very worn, probably more—88 mm.) ; bill 26.8 mm. Inner edges to the quills brownish grey, under wing-coverts pale brownish grey with pale yellow borders.

1 ♀, Chingwari (Bihé), 19. xii. 04. "Iris dark brown, feet purplish brown. Upper mandible light brown, lower pinkish brown." (No. + 883.) W. J. Ansorge coll.

Upper surface olive-brown with yellowish edges to the feathers. Underside very pale dull yellow. Wing 76.5 mm.

"♂" in non-breeding plumage, Caiála (Bihé), Angola, 4. xii. 04. (No. + 848.) Exactly like the ♀ No. + 883, but larger. Wing 83 mm.

♀, Bulu-bulu (Bihé), 4. x. 04. (No. + 182.) Wing 78.5 mm. Underneath more yellow than No. + 848.

♂ (juv.), Kalai River (Benguela), 15. ix. 04. (No. 981.) Like the former, but underneath more yellowish, breast and flanks washed with olive. Wing 77 mm.

39. *Ploceus bicolor bicolor* Vieill.

? *Pyranqua icteromelas* Vieillot, *Nouv. Dict. d'Hist. Nat.* (Nouv. Ed.), xxviii. p. 291 (1819—"Amérique méridionale"). It is most probable that the "*Pyranqua icteromelas*" is the present South African Weaver. Pucheran—*Arch. Mus. Hist. Nat.* vii. 1855, p. 355—especially tells us that it is the same as Vieillot's *Ploceus bicolor*, and that it came from West Africa and not from America. Nevertheless Sharpe, Shelley, and Reichenow have rejected the name, and it will doubtless be best to reject it in future, though it is probably referring to our species. The "habitat" is doubtful; the description of the upperside as uniform deep black is incorrect, if meant for *P. bicolor*. Moreover, the type is no longer in existence, at least Mr. Hellmayr's careful researches in the Paris Museum failed to turn it up.

Ploceus bicolor Vieillot, *Nouv. Dict. d'Hist. Nat.* (Nouv. Ed.), xxxiv. p. 127 (1819—"Sénégal"! Errore! Terra typica South Africa!). The name *bicolor* must undoubtedly be adopted for the South African form. Shelley, *Ibis*, 1887, p. 20, stated already that he examined the type in Paris, and that it was a specimen of the South African form. The locality "Sénégal," given by Vieillot, is wrong, only being due to a lapsus of Vieillot. The type in the Paris Museum has been examined by Hellmayr. It has on the label as well as on the wooden stand the words "*Sycobrotus bicolor* (V.) Type. Afrique australe." The type specimen agrees well with a male from Pondoland in the Tring Museum. It has no similarity with the West African *amaurocephalus*.

Ploceus greyaldis Lichtenstein, *Verz. Doubl.* p. 23 (1823—"Terr. Caffror"); Reichenow, *Vög. Afr.* iii. p. 32 (1904—"Südostafrika").

Ploceus bicolor has the upper-surface uniform deep brown, thus differing at a glance from *amaurocephalus*.

Our material of *P. bicolor bicolor* is poor:

1 ad., "S. Africa, A. Thomson, 1887." (Probably cage-bird.)

1 ad., Etchowe, Zululand. Woodward coll.

1 ♂, Port St. John's, Pondoland, 27. xi. 02. H. H. Swinny coll. "Bill greyish, darker above. Iris brown; feet light hazel. Length 6½ in. In the crop remains of insects." (Compared with type in Paris Museum by E. C. Hellmayr.)

1 ♂, Zuurberg, Cape Colony, 3. vi. 05. (Purchased from Rosenberg.)

1, Ifafa River, Natal. Woodward coll.

1, "Central Africa" (errore), 1853. Ex Leyland. From the Jardine collection.

1, Cape of Good Hope. On the back, in Jardine's hand: "Type of figure pl. x. of *Orn. Illustr.* (n.s.)." Ex Jardine coll.

1, Cape of Good Hope? (Dr. Dyce's sale.) Ex Jardine coll.

Ploceus bicolor bicolor is only found in S.E. Africa, as correctly stated by Reichenow and Shelley.

40. *Ploceus bicolor stictifrons* (Fischer & Rehw.)

Cf. Reichenow, *Vög. Afr.* iii. p. 33.

We have only five skins collected by J. Brown at Mlangi in Mozambique (frontier of Brit. C. Africa). Four are adult, one juvenile. The latter has the whole throat yellow and the forehead not marked with greyish tips to the feathers.

41. *Ploceus bicolor amaurocephalus* (C'ab.).

Sycobrotus amaurocephalus Cabanis, *Journ. f. Orn.* 1880, p. 349, pl. xxi, fig. 1 (Angola). The figure is taken from the type, which is in very worn and dirty garb, and the back is thus too dark.

Ploceus bicolor (non Vieillot!) Reichenow, *Vög. Afr.* iii, p. 34.

It is impossible to use the name *bicolor* for this form, as the type of *bicolor* is from South Africa and agrees perfectly with other specimens from South Africa.

The upper-surface is brownish grey, in fresh plumage with a strong greenish yellow tinge, the head black, sharply separated from the back. In worn plumage the back becomes brownish and the black crown does not appear to be so sharply separated from the back. The throat-feathers are hoary or brownish grey, sometimes almost whitish, and blackish at base. The females do not differ very conspicuously from the males, but the throat appears to be more uniform, as the bases to the feathers are not blackish but grey. Wing, ♂♂ 81—87, ♀♀ 78.5—80.5 mm. The young birds have the bill pale, the throat tinged with yellow.

Dr. W. J. Ansorge sent us a good series from Angola :

5 ♂♂, 3 ♀♀, Canhoca, Angola, November and December 1903. (Nos. 1225, 1357, 1384, 1409, 1433, 1469, 1544, 1599.)

1 ♂, Caporodo River, Quilenges, Benguella, 6. ii. 05.

2 ♂♀, Elandswater, Benguella, 25. vii. 04. (Nos. 421, 422.)

2 ♂♂, Usolo River, Benguella, 16, 19. vi. 04. (Nos. 51, 59.)

1 ♀ juv., Warmbad, Benguella, 28. vii. 04. (No. 463.)

1 ♀, Kasimo River, Quilenges, Benguella, 3. ii. 05.

1 ♀, "10th day from Benguella," 13. vi. 04. (No. 38.)

1 ♂, Dondo, Quanza River, Angola, 30. vi. 01. (C. Hubert Pemberton coll.)

With absolute certainty only known from Angola and Benguella.

The form from the Tanganyika highlands belongs, judging from Manning's specimen in the British Museum, to *tephronotus*, and I expect that also the one from Kibondo (Bohndorff) belongs to the latter, as well as Böhm's Lukumbi and Lualaba examples, which are, unfortunately, lost.

42. *Ploceus bicolor tephronotus* (Rehw.).

Symplectes tephronotus Reichenow, *Ber. Febr. Sitz. D.O.G.* p. 4 (1892—Buea, Kamerun). Cf. *Journ. f. Orn.* 1892, pp. 185, 219; *Vög. Afr.* iii. p. 35.

Sycobrotus poensis Alexander, *Bull. Brit. Orn. Club* xciv. vol. xiii. p. 38 (1903—Fernando Po).

This form is very closely allied to *P. b. amaurocephalus*, from which it merely differs in having a slightly larger bill and in the somewhat more deep brown colour of the crown and entire sides of the head, and the narrower pale grey edges to the throat-feathers, so that the throat is darker, almost black or deep brown, not greyish as in *amaurocephalus*.

We have no material from Kamerun and Fernando Po, but a skin said to be from the "Congo" evidently belongs to this form. It was brought from the late Alfred Gnillot, a dealer in Paris. The birds labelled "Congo," of which we bought a few long ago, were probably from the mouth of the Congo, but their origin is open to doubt.

P. bicolor tephronotus does not extend to the Quanza, but is, so far, with certainty only known from Kamerun and Fernando Po. The specimen from the Quanza River, collected by Mr. Pemberton, mentioned by Reichenow, is a young one of the Angola form: *P. b. amaurocephalus*. Shelley has recognised it as the latter (*B. Afr.* iv. p. 370).

In the British Museum is a "female" from the Tanganyika plateau (Manning). Judging from the deep brown throat, this specimen should belong to *tephronotus* and not to *amaurocephalus*. This specimen is very worn and dirty. The under-surface is rather paler yellow than in *tephronotus*, but it is marked "♀," and females may be somewhat paler than males. At present it is impossible to say

whether this bird belongs to *tephronotus* or to a new form inhabiting the Tanganyika plateau—to which the birds from Kibondo, Lualaba, and Lukumba would also belong—and more material is required.

43. *Ploceus bicolor nandensis* (Jackson).

Sycobrotus nandensis Jackson, *Ibis*. 1899. p. 615.

Apparently spread over Uganda.

Mr. Rud. Grauer sent four skins from Mpauga Forest in Toro. All four are marked as males, but evidently one of them is a female, as the feathers of the middle of the throat, nearly up to the chin, are only black at base, being widely tipped with yellow. The three others have the whole throat black for about $1\frac{1}{2}$ cm., the feathers of the adjoining upper portion of the jugulum being black, tipped with yellow. In the middle of the chest is a more or less conspicuous longitudinal black patch. Upperside slate-grey, upper tail-coverts in the female distinctly, in the males hardly tinged with greenish. Head deep black; lesser upper wing-coverts and bastard wing to primary coverts black.

Wing, ♂♂ 78—83, ♀ 72 mm.

“Augen rot, Schnabel schiefergrau, an den Rändern weiss; Füsse hellbraun.”

44. *Ploceus bicolor mentalis* (Hartl.).

Symplectes mentalis Hartlaub, *Journ. f. Orn.* 1891. p. 314; cf. Reichenow, *Vög. Afr.* iii. p. 35.

♂ ad., Bugnera near Wadai, 23. iii. 1889. Emin Pasha coll. “Long. tot. 181 mm., rostr. a fronte 18, al. 87, caud. 50, tars. 18; iride coccinea; tarso caerulecente plumbeo; pedibus rubellis.”

It appears that only this single skin from the Bahr-el-Djebel is hitherto known. It differs from *P. b. nandensis* in being larger (wing in the flesh 87, in skin 86.5 mm.), and in having the feathers of the middle of the throat yellow, at base whitish. It is apparently an inhabitant of the valley of the Bahr-el-Djebel.

It is a mistake to unite this bird with *P. b. nandensis*. The greater extent of yellow on the throat would be peculiar to a female rather than to a male, but Emin Pasha's bird must be a male, because nobody ever sexed birds more correctly than Emin, and the wing is longer than in any other specimen. Moreover, the locality is far away from Nandi and Uganda (Toro).

45. *Ploceus kersteni* (Finsch & Hartl.).

Cf. Reichenow, *Vög. Afr.* iii. p. 31.

This bird seems to represent the various forms of *P. bicolor*, as accepted by me, in East Africa.

It is probably a further subspecies of *P. bicolor*, an extreme form with deep black upper-surface and throat.

We have the following specimens:

2 ♂ ad., Bagamoyo, Emin Pasha coll. (Without original labels. Ex Hartlaub.)

1 ♀ ad., Mogadoxo, Somaliland, Révoil coll. Ex Boucard.

1, Zanzibar, vii. 1889., Stuhlmann coll. (Exchanged from Berlin Museum.)

1, Nguru, E. Africa April 1896. Purchased.

(To be continued.)

SOME NOTES ON CASSOWARIES.

BY THE HON. WALTER ROTHSCCHILD, PH.D.

(Plates V, VI, VII.)

WHEN on January 20, 1904, I described two subspecies of *Casuarius unappendiculatus*, and three new species of *Casuarius*, all these birds were immature both in plumage and in the colouring of the naked parts. Unfortunately *Casuarius hugenbecki* died before attaining maturity, and *C. unappendiculatus suffusus* is, owing to an attack of the fungoid disease peculiar to cassowaries, at present unfit for sketching. However, *Cas. unappendiculatus mitratus*, *C. jamrachi*, and *C. doggetti* are now quite adult, and in the finest condition; and as considerable changes have taken place in the naked parts, I herewith give a fresh description of them.

C. unappendiculatus mitratus.

Head, face, occiput, and face-wattles pale blue, inclining to greenish on occiput. Hindneck pale yellow. Throat bluish violet, foreneck and sides of lower neck deep crimson. Neck-wattle and three folds above it bright blue. Casque very high, compressed at the sides, and abruptly truncate at the back.

C. jamrachi.

Back and sides of head pale greenish blue. Chin, throat, foreneck and occiput dark blue. An occipital patch deep buff. Cheek-wattle oval, small, whitish blue. A pale blue small lappet at the base of lower mandible on each side. Hindneck scarlet. On each side of the foreneck are two long thin wattles of a crimson-red colour, tipped with white. At the lower end of the foreneck in the centre is a pear-shaped pale blue wattle. Lower sides of neck marve purple. Casque low, sloping in front, three-cornered, as in *C. papuanus* and allies.

C. doggetti.

This bird has two wattles, one above the other, on the centre of the foreneck, so I have treated it as a species, but it may be an extreme form or geographical race of *Casuarius unappendiculatus*.

Entire head, throat and occiput dark greenish blue, a large occipital patch orange yellow. Fore- and hindneck yellow. Neck-wattles pale blue, cheek-wattles dark blue, small. Lower sides of neck crimson, with a broad pale yellow border. Casque high, abruptly declivous in front.

We now know the following species and subspecies of *Casuarius* :

Casuarius casuarius casuarius, Ceram.

„ *c. violicollis*, Traugan Island, Arn Islands.

„ *c. beccarii*, Vokan Island, Arn Islands.

„ *c. salvadorii*, Beran Peninsula.

„ *c. altijugus* (= *intensus* Rothsch.), Geelviuk Bay.

„ *c. sclateri*, British New Guinea.

„ *c. australis*, N. Queensland.

„ *c. chimaera* (?)

Casuaris bicarunculatus, Kobraor, Aru Islands.

- „ *unappendiculatus unappendiculatus*, Salwatty Island.
 „ *u. occipitalis*, Dutch New Guinea and Jobi.
 „ *u. aurantiacus*, German New Guinea.
 „ *u. rufotinctus* (?)
 „ *u. suffusus* (?)
 „ *u. mitratus* (?)
 „ *doggetti* (?)
 „ *roseigularis* (?)
 „ *philipi* (?)
 „ *hagenbecki*, probably Admiralty Islands.
 „ *jamrachi*, „ „ „ „
 „ *papuanus papuanus*, Berau Peninsula.
 „ *p. edwardsi*, “Dorey” !
 „ *p. westermanni*, “Mausim” !
 „ *picticollis picticollis*, British New Guinea.
 „ *pict. hecki*, German New Guinea.
 „ *loriae*, Owen Stanley Mountains.
 „ *bennetti bennetti*, New Britain.
 „ *b. maculatus*, probably one of the islands to the west of New Britain.

I have restored *westermanni* to the rank of subspecies of *C. papuanus* because, in two specimens I had alive, the black band separating the fore- and hindneck was most distinct, and the birds showed all the markings of the type figured, and differed obviously from the two other subspecies of *C. papuanus*. The distribution of these forms is, however, not clear.

I have united *C. unappendiculatus rothschildi*, *C. u. ab. laglaizei*, and others with *C. occipitalis*, as no two specimens of *C. unappendiculatus* from the mainland round Geelvink Bay and Jobi are exactly alike, and I do not believe they are distinct.

C. altijugus of Selater is not a synonym of *C. c. salvadori*, but is the same bird as my *C. c. intensus*, and the name *altijugus* has the priority.

DESCRIPTION OF A NEW TREE KANGAROO.

BY PROFESSOR F. FOERSTER AND THE HON. WALTER ROTHSCCHILD, Ph.D.

(Plate IV.)

Dendrolagus matschiei sp. nov.

Hair more silky than in the other species, directed forward from a whorl in the centre of the back. Head, back, base of tail, outside of forelegs, basal third of hindlegs, throat and chest of a bright golden rufous brown, narrow central line and flanks darker. Lower half of face and muzzle silver-grey. Tips of ears, feet, inner surface of legs, abdomen, and presumably rest of underside bright golden yellow. Tail brownish golden yellow.

Total length of skin 1404 mm. Head and body 896 mm. ; tail 598 mm.

Habitat. Rawlinson Mountains, German New Guinea.

ON A NEW RACE OF *ORYCTEROPUS*.

BY THE HON. WALTER ROTHSCCHILD, Ph.D.

Orycteropus afer albicaudus subsp. nov.

Hitherto we have only been acquainted with five living races of *Orycteropus*. These races are as follows :

Orycteropus afer afer : Cape Colony, Natal.

O. afer wertheri : Hinterland of Bagamoyo, E. Africa (Matschie, in Werther's *Mittl. Hochl. D.O. Afrika* p. 266 [1895]).

O. afer aethiopicus : Abyssinia and the Eastern Soudan.

O. afer senegalensis : Senegambia.

O. afer haussanus : Togo Hinterland.

I have lately received a very old individual from German South-West Africa which is conspicuously different from the forms mentioned above. Outwardly it is conspicuous by the uniform deep brown colour of the body, and very short tail, which is pure white. The head is rosy greyish brown. It differs also markedly in its dentition, for it has in the lower and upper jaws only five teeth, while all the others, in the lower jaw at least, have six on each side. The teeth are nearest to those of *O. afer senegalensis*, and the last molar is almost identical, but the praemolar is large and pointed, while in the others the two praemolars are small and flat. For this new form I propose the name *O. afer albicaudus*.

Total length of skin 1619 mm. ; head and body 1319 mm. ; tail 330 mm. ; skull from basion to end of gnathion 234 mm. ; palate 143 mm. ; length of last lower molar 10 mm., of last but one 13 mm.

Habitat : German South-West Africa.

A NEW SPECIES OF SPIINGIDAE.

BY THE HON. WALTER ROTHSCHILD, Ph.D.

Libyoclanis punctum spec. nov.

♂. Head and thorax clayish buff, abdomen and breast ochraceous buff, legs pinkish. Antenna (of ♂) long and strong, nearly reaching to the apex of the cell of forewing, obtusely dentate. Tibiae spinose, one pair of spurs to hindtibia.

Wings, *upperside*: forewing clayish buff, a faint line from apex to 3. radial slightly fuscous; a conspicuous blackish brown dot below costal margin about 6 mm. from apex; tip of wing pointed, distal margin a little incurved below apex, hindmargin incurved close to angle, slightly rounded between this sinus and base, hindmargin pink at base.—Hindwing pink, brightest below cell, abdominal margin creamy, anal angle washed with cinnamon.

Underside buff; forewing pinkish red from base to disc, costal margin excepted, oblique apical fuscous line distinct, but no distinct costal dot.—Hindwing somewhat worn, with slight traces of two discal lines; subcostal and 1. radial on a short stalk.

Anal tergite deeply divided into two broad lobes, which are somewhat spatulate with the extreme tip obtusely acuminate. Clasper elongate, sole-shaped; harpe small, without free process; from tip of harpe upwards some denticulate wrinkles; dorsally at base of clasper a short denticulate process.

Length of forewing: 35 mm.

Hab. Salisbury, Mashoualand, March 1904 (G. A. K. Marshall); 1 ♂ in the British Museum.

Nearest to *L. bicolor* Rothsch. (1894).

SOME NEW HIMANTOPTERINAE, A SUBFAMILY OF ZYGAENIDAE.

BY THE HON. WALTER ROTHSCHILD, Ph.D.

1. *Semioptila ansorgei* spec. nov.

♂. The body, the basal area of the forewing, a spot at apex of cell of both wings and the basal third of hindwing yellow; rest of wings brownish black, transparent. Hindwing of nearly even width from base to apex, the abdominal margin being very slightly dilated beyond middle in most specimens, tip of tail feebly widened.

Hab. Caijala, near Bihé, Angola, December 1, 1904 (Dr. Ansorge); a series in the Tring Museum.

2. *Semioptila marshalli* spec. nov.

♂. Body pale yellow; antenna, frons, breast, legs and a stripe on underside of abdomen blackish.

Forewing pale yellow from base beyond apex of cell, the yellow scaling diffuse

distally, reaching posteriorly to outer edge of wing, the veins being blackish; at apex of cell a small yellow spot.—Hindwing gradually narrowing from base to tip: a small yellow spot in middle.

Hab. Masoë, Mashonaland, 5000 ft., and Umtali, Mashonaland (G. A. K. Marshall); 2 ♂♂ in the British Museum.

3. *Semioptila torta maschuna* subsp. nov.

♂. Paler than *S. torta torta* Butl. (1887), the hindwing with larger lobe, bearing a larger yellow spot, the tail half as long again as the wing is broad at the widest point. Frons and legs blackish brown.

Hab. Salisbury, Mashonaland (G. A. K. Marshall); 1 ♂ in the British Museum.

CORRECTION.

In my notice of the Eland of British East Africa (*Nor. Zool.* xiv. p. 324) I overlooked Mr. A. L. Butler's description of the Sudan Eland in *Proc. Zool. Soc.* 1905, i. 288, where the number of body-stripes is stated to be ten. I might perhaps have stated that the heads of the bulls of that race have a "short bush," rather than "no bush."

R. LYDEKKER.

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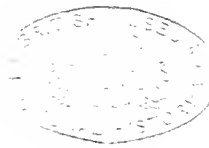
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