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VOL. XXXVI, 1930–31.

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EDITED BY

LORD ROTHSCHILD, F.R.S., PH.D.,

DR. ERNST HARTERT, AND DR. K. JORDAN.

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(WITH SEVEN PLATES.)

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CONTENTS OF VOLUME XXXVI (1930–31).

GENERAL SUBJECTS.

AVES.

LEPIDOPTERA.

COLEOPTERA.

SIPHONAPTERA.

PLATES IN VOLUME XXXVI

ERRATA.

P. 120, line 11 from below read *leucocapillus* instead of *leucocapillas*.

P. 130, line 11 from below, and p. 132, line 9 from above read *Myotomys* instead of *Mystomys*.

P. 143, line 7 from above read *Mesua* instead of *Mesca*.

P. 196, line 10 from above read *Pararge* instead of *Parage*.

P. 263, line 6 from above read *Poecilodryas* instead of *Paecilodryas*.

P. 270, lines 7, 9, 16, 17 from below read *musschenbrocki* instead of *muschenbrokei*.

P. 271, line 12 from above read *Charmosyna* instead of *Carmosyna*.

P. 276, line 10 from below read feathers instead of features.

P. 314, lines 16, 19 from below read *Crancopsylla* instead of *Craniopsylla*.

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CONTENTS OF NO. I.

NOVITATES ZOOLOGICAE

Vol. XXXVI. NOVEMBER 1930. No. 1.

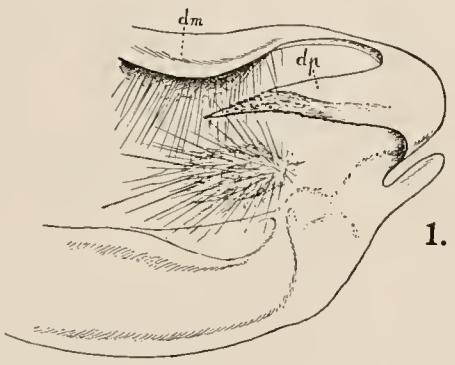
DESCRIPTION OF NEW SPHINGIDAE AND REMARKS ON SOME OTHERS.

BY DR. K. JORDAN.

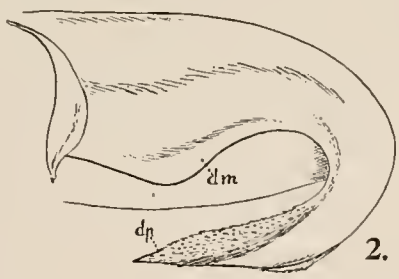
(With eleven text-figures.)

1. **Polyptychus serrator commodus** subsp. nov. (text-figs. 1, 2).

♂. In colour and pattern like *P. serrator serrator* Jord. 1929 and *P. pygarga spurrelli* R. & J. 1912, from West Africa. The markings of the single specimen rather indistinct, as is sometimes the case also in *P. p. spurrelli*; forewing, above, with a brown costal subapical spot 3 mm. long; brown suffusion at termen deeper in tone than in *P. p. spurrelli*. Underside buffish clay-colour; at apex of forewing a brown triangle along costa about 6 mm. long, the grey suffusion at termen thereby narrowed into a point at apex.—Clasper very distinct: dorsal apical process (dp) of clasper long and curved frontad, pointed, as shown in text-fig. 1 (view from inside), and 2 (dorsal aspect); dorsal margin (dm) of clasper rounded-expanded, but smooth, not denticulate as in *P. s. serrator*. Armature of penis-sheath similar to that of *P. s. serrator*, but the patch of teeth less oblique and the apical teeth directed apicad-ventrad (probably variable individually).



1.



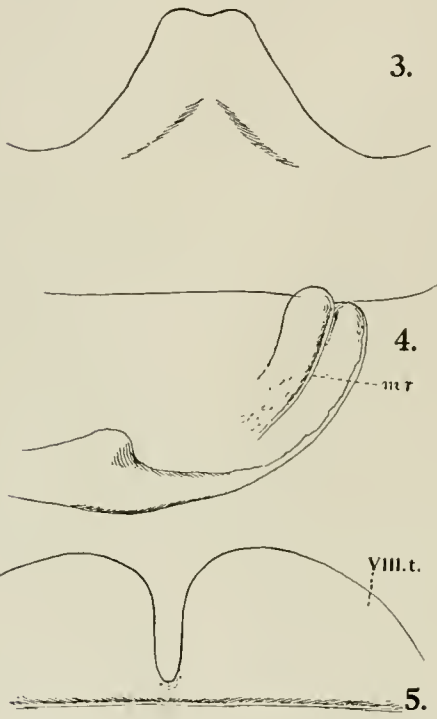
2.

Hab. Victoria Nyanza, Sesse Islands: Lutoboka Bugalla, larva at forest edge, pupated 2.1., emerged 20.1.1913 (Dr. D. H. Carpenter), 1 ♂ in Hope Department, Oxford.

2. **Polyptychus trilineatus sonantis** subsp. nov. (text-figs. 3–5).

♂♀. This subspecies, from South India, and *P. t. luteatus* R. & J. 1903, from Ceylon, are in structure remarkably different from the two Himalayan subspecies, *P. t. trilineatus* Moore 1888, from the Western Himalayas, and *P. t. undatus* R. & J. 1903, from the Eastern Himalayas and Assam, and resemble each other very closely.

In colour *P. t. sonantis* agrees better with Himalayan specimens than with Ceylonese ones, differing from the latter particularly in the zigzag line placed in between the two outer lines of the forewing, upperside, being but indicated or even absent. The specimens are bred and have a grey bloom, which must not be expected to be present in caught specimens which have been on the wing for some time.



Genitalia.——♂: Anal tergite somewhat longer than in *P. t. luteatus*, but much shorter than in *P. t. trilineatus* and *P. t. undatus*. Anal sternite (text-fig. 3) a rather high thin ridge which is incurved in middle, whereas in *P. t. luteatus* it is medianly produced into an obtuse lobe. Clasper as in *P. t. luteatus*, the ridge (mr) on the harpe somewhat longer (text-fig. 4). Unpaired ventral process of penis-sheath not fish-tail like as in the northern subspecies, but asymmetrical as in the Ceylonese subspecies, the apex being dilated towards one side only, this projection a little shorter than in *P. t. luteatus*.—— ♀: Post-vaginal plate somewhat more rounded laterally than in *P. t. undatus* (we have no ♀♀ of *P. t. luteatus* and *P. t. trilineatus*); tergite VIII divided into two rounded lobes (text-fig. 5), which do not bear a hump on the upperside as they do in *P. t. undatus*.

Hab. South India: North Kanara, Karwar, 2 ♂♂, 3 ♀♀, bred by T. R. Bell, who has very kindly presented this series to the Tring Museum.

3. **Polyptychus trilineatus trilineatus** Moore 1888 (text-figs. 6, 9).

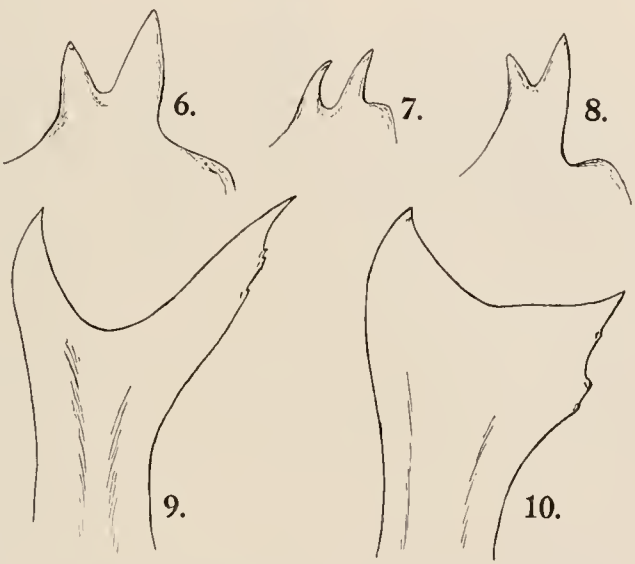
A ♂ bred by Major F. B. Scott enables me to supplement and correct what we said in the Revision, p. 238. This specimen has the lines of the forewing in the same position as the various other subspecies, proving the type-specimen of *P. t. trilineatus* (a ♀) to be an aberrant individual as suggested in the Revision. In colour Major Scott's ♂ almost agrees with *P. dentatus* Cram. 1777, being paler than *P. t. undatus* R. & J. 1903. The ♂-armature of the specimen

is characterized by the two apical teeth of the harpe being close together, the ventral tooth being but slightly longer than the upper one (text-fig. 6); the size of these teeth is rather variable in *P. t. undatus* and may be expected to vary also in *P. t. trilineatus*. The fish-tail process of the penis-funnel (text-fig. 9), as well as the lateral processes of the funnel (pdr and pdl, cf. Revision, p. 25, fig. 2) as in *P. t. undatus*, the right prong of the fish-tail longer than the left one, as is also the case in *P. t. undatus* (the processes pdr and pdl not present in the subspecies from South India and Ceylon).

Hab. Western Himalayas: Dharmsala (1 ♀ in Mus. Brit.) and Dehra Dun, 1 ♂ bred October 1926 (Major F. B. Scott).

4. **Polyptychus trilineatus mincopicus** subsp. nov. (text-figs. 7, 10).

♂. In colour and pattern like *P. t. undatus* R. & J. 1903, differing only in the genital armature: the two apical teeth of the harpe (text-fig. 7, view from frontal side) almost of equal length, nearer together than in *P. t. undatus*; the ventral margin of the harpe convex close to base of lower tooth. Anal tergite apically somewhat flatter and less pointed than in *P. t. undatus*. Unpaired fish-tail process of penis-funnel (text-fig. 10) apically broader than in *P. t. undatus*, with the two prongs less produced.



Hab. Andamans: Port Blair, 1 ♂ in Mus. Tring.

5. **Polyptychus trilineatus kelanus** subsp. nov. (text-fig. 8).

♂. In colour and pattern like *P. t. undatus*, differing only in the genital armature: unpaired fish-tail process of penis-funnel as in *P. t. mincopicus*, its apex slightly more rounded at sides. The two apical teeth of harpe (text-fig. 8, view from frontal side) on a neck which is somewhat longer than the ventral tooth; the latter about twice the length of the upper tooth.

Hab. Sumatra: Langkat, Balei Codjah, April, 1 ♂ in Mus. Tring, received from M. E. Le Moult.

6. **Polyptychus dentatus** Cram. 1777.

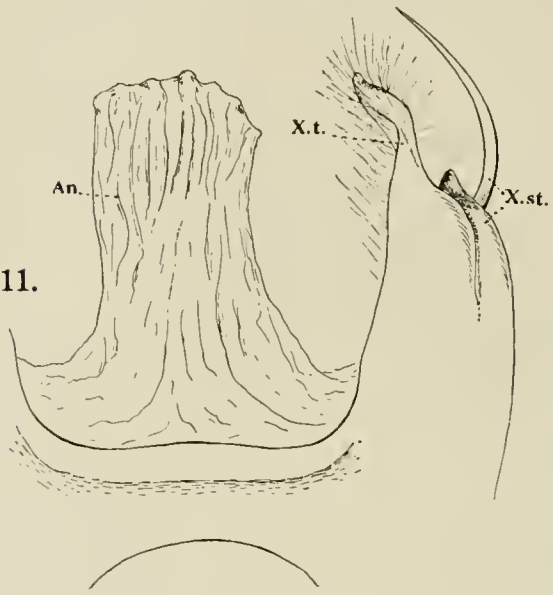
In the Revision we described the penis-sheath as being without armature. The statement is erroneous. At that time we had only one damaged ♂ for dissection. In fresh specimens from Bangalore, S. India (Major F. B.

Scott), the penis-sheath bears a very long and slender apical process which is directed frontad, but (in a relaxed specimen) is movable to some extent at the junction with the sheath.

7. **Nyceryx draudti** Gehlen 1926 (text-fig. 11).

Described from one ♂ in the Berlin Museum, ex coll. Staudinger, locality: Shanusi, Peru, S.W. of Yurimaguas.

The specimen agrees so well in size and colouring with *N. stuarti* Roths. 1894 that Dr. B. Preston Clark, in 1928, sank *draudti* as a synonym of *stuarti*. Herr Gehlen has since submitted the type of *draudti* to me for inspection, together with other *Sphingidae* described by him. The comparison with the long series of *N. stuarti* in our collection proves the type of *N. draudti* to be different from anything we have. The external distinctions are slight, but they are corroborated by the genitalia, and for that reason we must consider the specimen named *N. draudti* as representing a species distinct from *N. stuarti*. However, the matter is not yet settled beyond all doubt; for the genitalia of *N. draudti* are of almost the same build as in *N. stuarti* except in the position of the lateral ventral horns of the anal segment. In *N. stuarti* sternite X lies entirely below tergite X, so that in a dorsal view the long curved horn of X.st. is visible inside the space between the anal cone (An) and X.t., whereas in *N. draudti* the whole of X.st. is lateral, lying on the outside of the process of X.t., as shown in text-fig. 11 (taken from type of *N. draudti*). At the base of the horn of X.st. there is a conical tooth as in *N. stuarti*. The process of X.t. is somewhat shorter than in *N. stuarti*.



11.

8. **Macroglossum melas pullius** subsp. nov.

Macroglossum melas Roths. & Jord., *Revision of Sphingidae*, p. 646, no. 585 (1903) (partim).

♂. Yellow patch on hindwing, on upperside, divided by a line on submedian fold, this line missing in the ♂♂ from Key, the locality of *M. m. melas*; on underside the abdominal area of hindwing more grey.

♀. Yellow patch of hindwing either as in ♂ or at least separated below cell from costal area by a black streak which connects the terminal border with the black basal area; underside as in ♂.

Hab. New Guinea: Sariba Is. (type) and Milne Bay (A. S. Meek), Hydrographer Mts. and West side of Herzog Mts. (A. F. Eichhorn); 2 ♂♂, 5 ♀♀.—— We have 3 ♂♂, 1 ♀ of *M. m. melas* from Little Key (H. Kühn).

9. **Hippotion exclamationis austrinum** subsp. nov.

♂. Forewing slightly broader than in *H. e. exclamationis* Fawc. 1915, the discal line more proximal, crossing R^3 halfway between cell and termen, accentuated on the veins, but not developed into a stripe from SC^5 to R^3 as in *H. e. exclamationis*; cloud at apex of cell diffuse, smaller in type than in paratype. Ground-colour of hindwing and of underside more rufescent than in *H. e. exclamationis* (perhaps owing to the specimens of the new subspecies being quite fresh ?).

On u n d e r s i d e the discal line broad and prominent in type, less so in paratype.

♂-genitalia differ in the harpe being slenderer.

Hab. Zululand: Eshowe, August 1929, bred by Mr. E. E. Platt, who has very kindly presented to the Tring Museum the two ♂♂ here described.

H. exclamationis resembles *H. roseipennis* Butl. 1882, but the discal line of the forewing, instead of joining the apical streak, is anteriorly curved towards the costa, and the median line, which is placed outside the cell-apex in *H. roseipennis*, is absent from *H. exclamationis*. The anal sternite of *H. exclamationis* is not indented in middle, but rounded.

WELCHE PARADIESVOGELARTEN DER LITERATUR SIND HYBRIDEN URSPRUNGS?

VON ERWIN STRESEMANN (BERLIN).

SCHON wiederholt haben Beschreiber oder Beurteiler gewisser seltener Paradiesvogelarten den Verdacht geäussert, dass man es hier mit Bastarden und nicht mit natürlichen Spezies zu tun habe. Dieser Verdacht wurde aber stets aufs neue zurückgewiesen. Man glaubte, sich darauf stützen zu können, dass Neu-Guinea, insbesondere seine Hochgebirge, noch immer sehr mangelhaft erforscht sei; wenn also die eigentlichen Wohnplätze einer solchen Paradiesvogelart bisher nicht bekannt geworden seien, so müsse man sie eben in diesen noch unbetretenen Regionen suchen. Oder man verwies darauf, dass Art- und Gattungsbastarde unter Singvögeln grosse Seltenheiten darstellen; warum sollten sie gerade unter den Paradiesvögeln förmlich gehäuft auftreten?

Solchen Argumenten wurde naturgemäss von allen denen, die ihre Freude an der Mannigfaltigkeit der Natur haben, gern Gehör geschenkt, und diese nahmen die Kunde von der Entdeckung neuer Paradiesvogelarten allemal mit Begeisterung zur Kenntnis, ohne sich irgendwelchen Zweifeln hinzugeben.

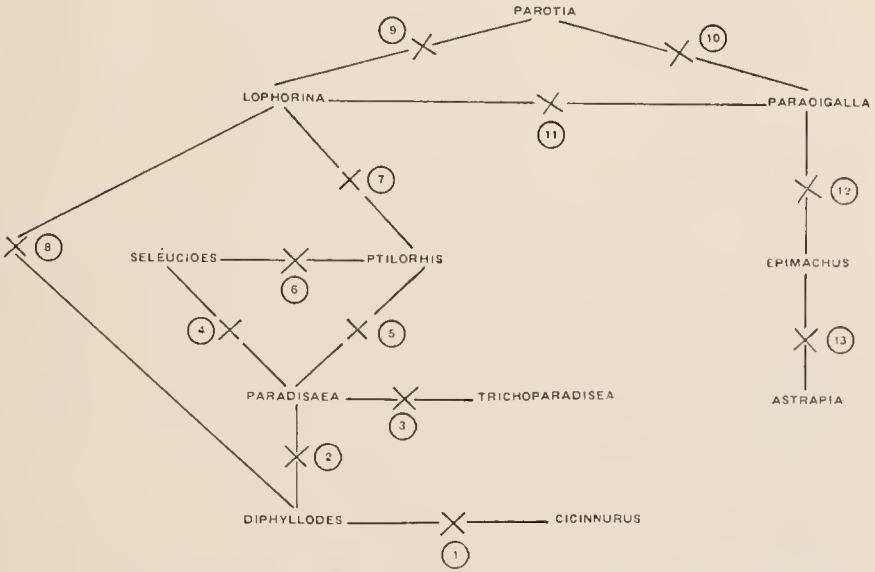
Nun ist Neu-Guinea seit dem Kriege weiterhin nach den verdächtigen Paradiesvögeln durchsucht worden, aber ohne jeden Erfolg. Auch der wichtigste Zufluchtsort, welchen sich die Phantasie gewählt hatte, um ihn mit diesen rätselhaften Paradiesvogelarten zu bevölkern, das Arfakgebirge nämlich, enttäuschte alle Hoffnungen: Dr. Ernst Mayr brachte von dort nur solche Arten mit, an deren "Güte" niemals ein Zweifel geherrscht hat.

So schien es mir denn zeitgemäss, alle irgendwie verdächtigen Paradiesvogelarten einmal unter dem Gesichtspunkt zu betrachten, ob es nicht vielleicht doch Gattungs- oder Artbastarde sein könnten. Den Anstoss dazu gab mir ein 1929 vom Tring-Museum im Tausch erhaltenes Stück von *Ptilorhis mantoui*, das ich sofort als einen Mischling von *Ptilorhis magnifica* × *Seleucides ignotus* ansprach. Auf breiter Grundlage durchführbar aber waren die Untersuchungen nur im Tring-Museum mit seiner unvergleichlich vollständigen Paradiesvogelsammlung. Ich möchte auch an dieser Stelle Lord Rothschild meinen wärmsten Dank aussprechen, nicht allein dafür, dass er mir die Durcharbeitung seiner Schätze gestattete, sondern auch für das rege Interesse, mit dem er meine Arbeit begleitete, und für die vielen wertvollen Hinweise und Ratschläge, die er mir in Tring und bei gemeinsamer Durchsicht der Paradiesvogelsammlung des Britischen Museums hat zuteil werden lassen. Nachträglich vermochte ich, dank dem freundlichen Entgegenkommen des Herrn Prof. Dr. E. D. van Oort, auch noch die im Leidener Museum verwahrten Typen von *Neoparadisea ruysi* und *Janthothorax bensbachi* zu untersuchen.

Das Ergebnis meiner Untersuchungen sei vorangestellt: ich fand meine Erwartungen nicht nur erfüllt, sondern sogar übertroffen. Nicht weniger als 18 Arten und 8 Gattungen der Paradiesvogelliteratur sind hybriden Ursprungs

und müssen aus den Verzeichnissen der existierenden Vogelarten gestrichen werden.

Zur Veranschaulichung der Befunde diene das beigefügte Diagramm.



(1) *Rhipidornis gulielmi-tertii*, *Cicinnurus lyogyrus* und *Cicinnurus goodfellowi*. (2) *Neoparadisea ruysi*. (3) *Paradisaea maria* und *Paradisaea duivenbodii*. (4) *Janthothorax mirabilis*. (5) *Janthothorax bensbachi*. (6) *Heteroptilorhis montoui*. (7) *Paryphephorus duivenbodii*. (8) *Lamprothorax wilhelminae*. (9) *Parotia duivenbodii*. (10) *Loboramphus ptilorhis*. (11) *Loboramphus nobilis*. (12) *Pseudastrapia lobata*. (13) *Pseudastrapia ellioti* und *Epimachus astrapioides*.

SPEZIELLER TEIL.

A. GATTUNGS-BASTARDE.

1. (*a*) **Rhipidornis gulielmi-tertii** (A. B. Meyer)
   (*b*) **Cicinnurus lyogyrus** Currie
   (*c*) **Cicinnurus goodfellowi** Og. Grant
   } = **Diphyllodes magnificus** (Penn.) × **Cicinnurus regius** (L.).

(*a*) *Diphyllodes gulielmi III* A. B. Meyer, *Der Zoolog. Garten* 16, p. 29 (1875—"Waigeu"); Berlioz, *Bull. Soc. Zool. de France*, 52, 1927, p. 397; Meise, *Abh. Mus. Dresden*, xvii. 4, 1929, p. 8 (mit ausführlichem Literaturverzeichnis).

Abbildung: Gould, *Birds of New Guinea*, i. 1876, tab. XXI.

(*b*) *Cicinnurus lyogyrus* Currie, *Proc. U.S. Nat. Museum*, 22, p. 497 (1900—Patria ignota); Rothschild, *Ibis*, 1911, p. 362.

(*c*) *Cicinnurus goodfellowi* Og. Grant, *Bull. B.O. Club*, 19, p. 39 (1907—Zyklopen-Gebirge); Stresemann, *Arch. f. Naturgesch.* 1923, A7, p. 35.

Zu a. Es sind über 15 Exemplare bekannt, davon etwa 10 in Tring, 2 in Dresden, 2 in London, mindenstens je 1 in Leiden und Paris, 1 in Berlin.

Es war wohl Berlioz (1927), der als Erster diese "Art" unbedenklich als Bastard hingestellt hat; bald darauf hat Meise (1929) ausführlich dargelegt, dass alle morphologischen Eigentümlickheiten von "*Rhipidornis*" mit dieser Annahme zwanglos erklärt werden können. Ich kann hier auf seine Erläterun-

gen verweisen, da ich ihnen in allen Punkten beistimme. Es ist sehr merkwürdig, dass sich die Ornithologen dieser Einsicht so lange verschlossen haben. Der von E. Nyman vor 30 Jahren an das Tring-Museum eingesandte Balg trägt in Nymans Handschrift den Vermerk: "*Cicinnurus regius* × *Diphyllodes magnifica*. Iris ? N. Guinea, zwischen Bongu und Stephansort. April 1899. Von einem Eingeborenen aus Bismarckarchipel geschossen."

Da *Cicinnurus regius* im Tiefland von ganz Neu-Guinea neben *Diphyllodes magnificus* lebt, so werden auch überall gelegentlich Bastarde auftreten; man hat solche in der Tat sowohl aus Holländisch- wie aus Deutsch- und Britisch-Neuguinea erhalten.

Zu b *und* c. Nur 3 Exemplare sind bekannt geworden; Typ *b* ist in Washington, Typ *c* in London und Berlin vertreten. *b* und *c* unterscheiden sich nur unwesentlich voneinander und können daher gemeinsam behandelt werden. Sie sind von allen Exemplaren des "*Rhipidornis*" durch eine weite Kluft getrennt und stehen in morphologischer Hinsicht *Cicinnurus* weit näher; kein Wunder daher, dass man sie für Bastarde zwischen *Rhipidornis gulielmitertii* und *Cicinnurus* gehalten hat (Rothschild, *Ibis*, 1911, p. 364) oder für das Ergebnis der Rückkreuzung von [*Diphyllodes magnificus* × *Cicinnurus regius*] × *Cicinnurus regius* (Meise 1929). Ich halte diese Hypothese jedoch für unwahrscheinlich; hat sie doch zur Voraussetzung, dass "*Rhipidornis*" ein fruchtbarer Bastard ist, was noch zu beweisen wäre. Statt dessen möchte ich annehmen, dass die reziproke Kreuzung von *Diphyllodes* × *Cicinnurus* verschiedene Ergebnisse liefert, weil gewisse Faktoren, welche Färbung und Form des Gefieders beeinflussen, im Geschlechtschromosom liegen.

Analoge Beispiele sind aus der Klasse der Vögel wiederholt bekanntgegeben worden. So unterscheiden sich bei der Kreuzung Königsfasan × Ringfasan (*Syrmaticus reevesi* × *Phasianus colchicus torquatus*) die reziproken Bastarde, wenigstens im männlichen Geschlecht, sehr wesentlich von einander, wie J. C. Phillips nachgewiesen hat.[1] Das gleiche wird behauptet für die reziproken Bastarde von Birkwild × Auerwild (*Lyrurus tetrix* × *Tetrao urogallus*).

Ich bin geneigt, anzunehmen, dass "*Rhipidornis*" aus der Kreuzung *Diphyllodes magnificus*♂ × *Cicinnurus regius*♀ hervorgeht, *Cicinnurus lyogyrus* und *C. goodfellowi* dagegen aus der reziproken Kreuzung, die danach wesentlich seltener vorkommen würde.

2. **Neoparadisea ruysi** van Oort

= **Paradisaea minor minor** Shaw × **Diphyllodes magnifica magnifica** (Penn.).

Neoparadisea ruysi van Oort, *Notes Leyden Museum*, xxviii, p. 129 (1906—bei Warsembo an der Westküste der Geelvink-Bai, gegenüber der Insel Amberpon).

Beurteilung nach der Untersuchung des Typus, dem sich bisher kein zweites Stück hinzugesellt hat. Eine Abbildung existiert leider nicht. Der Vogel wurde beschrieben nach einem Balg, der im Sommer 1905 von Papuas am angegebenen Ort gesammelt worden sein soll, was durchaus glaubhaft erscheint.

Flügellänge mit 150 mm. intermediär zwischen *Paradisaea* (177–189 mm.) und *Diphyllodes* (111–119 mm.).

[1] J. C. Phillips, "Reciprocal Crosses between Reeves's Pheasant and the Common Ring-Neck Pheasant producing unlike Hybrids," *Amer. Naturalist*, xvii, 1913, pp. 701–4.

3*a*. **Paradisaea maria** Reichenow

= **Paradisaea apoda augustae-victoriae** Cab. × **Paradisaea** (" **Trichoparadisea** ") **guilelmi** Cab.

Paradisea maria Reichenow, *Ornith. Monatsber.* ii, p. 22 (1894—Finisterre-Gebirge, 1500′ hoch) ; Rothschild, *Bull. B.O. Club*, 27, p. 36 (1910) ; Stresemann, *Arch. f. Naturgesch.* 1923, A7, p. 40 ; Stresemann, *O.M.B.* 33, 1925, p. 128.

Abbildung : *Journ. f. Orn.* 1897, tab. V.

Untersucht : 5 Exemplare, nämlich die folgenden : in Berlin den Typus vom Finisterre-Gebirge und einen angeblich an den südlichen Abhängen des Herzoggebirges, wahrscheinlich aber am Oberlauf des Adlerflusses (Dr. Mayr, mündlich) erlegten Handelsbalg ; ferner in Tring 3 Exemplare, von denen 2 die offenbar richtige Herkunftsangabe " Sattelberg " tragen.

Schon Rothschild (1910) und später ich selbst (1923) haben diese " Art " für einen Bastard zwischen *P. augustae-victoriae* und *P. guilelmi* erklärt ; meine 1923 wegen der Farbe der Schmuckfedern geäusserten Bedenken sind insofern hinfällig geworden, als ich mich durch Augenschein überzeugen konnte, dass " *Paradisaea apoda granti* " ein Synonym von *P. apoda augustae-victoriae* ist (die röteren Schmuckfedern des *granti*-Typus weisen offenbar auf kürzere Tragdauer des Gefieders hin ; solche Individuen werden auch am Sattelberg gefunden).

3*b*. **Paradisaea duivenbodei** Menegaux

= **Paradisaea minor finschi** A. B. Meyer (?) × **Paradisaea** (" **Trichoparadisea** ") **guilelmi** Cab.

Paradisea duivenbodei Menegaux, *Revue Franç. d'Ornith.* 5, p. 49 und 172 (1913—" près de Yaour, dans la baie de Geelvink ").

Nur der Typus bekannt (Mus. Paris). Beurteilung nach der Urbeschreibung und nach Notizen, die sich Lord Rothschild bei persönlicher Untersuchung des Typus gemacht hat. Flügellänge desselben 190 mm. Für die Elternschaft von *P. minor finschi* und nicht *P. apoda augustae-victoriae* spricht folgendes : die strohgelbe Rückenfarbe dehnt sich nicht, wie bei " *P. maria*," auf die oberen Schwanzdeckfedern aus, die Schmuckfedern sind gelb und nicht, wie bei " *P. maria*," röstlich rot getönt.

Der Fundort Yaour ist ohne Frage falsch ; der Vogel stammt vielmehr sicher aus Deutsch-Neuguinea. Es ist mir nicht bekannt, ob *P. guilelmi* irgendwo sein Verbreitungsgebiet mit *P. minor finschi* teilt ; doch ist dies vielleicht am Oberlauf des Ramu oder im westlichen Finisterre-Gebirge der Fall.

4. **Janthothorax mirabilis** (Reichenow)

= **Paradisaea minor** Shaw × **Seleucides nigricans** Shaw.

Paradisea mirabilis Reichenow, *Orn. Monatsber.* 9, p. 186 (1901—" angeblich in der Umgebung von Friedrich-Wilhelms Hafen geschossen ") ; *Janthothorax mirabilis* Rothschild, *Bull. B.O. Club*, xiii, p. 31 (1903) ; Rothschild, *Ibis*, 1911, p. 358 ; Hartert, *Nov. Zool.* xxvi, 1919, p. 130 ; Stresemann, *Arch. f. Naturgesch.* 1923, A7, p. 32.

Abbildung : *Journ. f. Orn.* 1902, tab. I.

Schon bei der Beschreibung des Typus äusserte Reichenow, der Vogel stelle wahrscheinlich das Ergebnis einer Kreuzung von *Paradisaea* und *Seleucides* dar. Von anderer Seite ist diese Ansicht energisch zurückgewiesen und als Irrtum bezeichnet worden, aber sie besteht dennoch zu Recht.

Im Tring-Museum befinden sich gegenwärtig 3 Exemplare, nämlich ausser dem Typus, der sehr wohl aus der Umgebung von Friedrich-Wilhelms Hafen (= Madang) stammen könnte (dann wären *Paradisaea minor finschi* und *Seleucides nigricans auripennis* seine Eltern), noch 2 Stück von "Arfak-Praeparation."

Intermediär zwischen beiden Gattungen ist beim Bastard gar mancherlei: Schnabellänge und Schnabelgestalt, Schwanzlänge, Befiederung und Färbung.

Den "Drähten" von *Paradisaea* entsprechen bei *Janthothorax* verlängerte, spitz zulaufende, mit ganz schmalen, blaugrünschillernden Bärten versehene centrale Steuerfedern. Die Struktur der Oberkopffedern gleicht derjenigen der beiden Eltern, sie besitzen aber nicht den violett-erzfarbenen *Seleucides*-Schiller, sondern schillern blaugrün. Die Rückenfedern schillern etwa in der Ausdehnung des gelben Paradisaeakragens blau und enden teilweise in schmutzig braunen Spitzen. Unterrücken, Schwingen, Steuerfedern (ausser dem blaugrünschillernden centralen Paar) sind gleichfalls schmutzig braun gefärbt: das Mischungsprodukt zwischen der Eumelaninfärbung bei *Seleucides* und der röstlichen Phaeomelanin-Färbung bei *Paradisaea*. Kehle blaumetallisch in der Ausdehnung der grünmetallischen *Paradisaea*-Kehle, von da ab überzieht die Brust ein bräunliches Schwarz mit sehr schwachem Metallschiller; die hintersten seitlichen Brustfedern tragen die grünschillernde Endbinde von *Seleucides*, aber versehmälert und von stumpferem Glanz. Ein überraschendes Kombinationsergebnis scheint zunächst die stark melanotische Färbung der von *Paradisaea* ererbten Schmuckfedern der seitlichen Brustflur zu sein; indessen erfüllt ja das Eumelanin auch die Drähte von *Seleucides*!

5. **Janthothorax bensbachi** (Büttikofer)

= **Paradisaea minor** Shaw × **Ptilorhis magnifica** Vieillot.

Janthothorax bensbachi Büttikofer, *Notes Leyden Mus.* vol. 16, p. 163 (1894—"Arfak-Gebirge") Rothschild, *Paradiseidae* (1898), p. 22.

Abbildung: Sharpe, *Monograph of the Paradiseidae*, 1896, vol. i. tab. VIII.

Nachdem die Deutung von *Janthothorax mirabilis* sichergestellt ist, kann man bei Prüfung des im Leidener Museums aufbewahrten Unikums von *J. bensbachi* nicht im Zweifel darüber bleiben, dass hier das Produkt einer Kreuzung von *Paradisaea minor* und *Ptilorhis magnifica* vorliegt: völlig geschwärzte Unterseite und die Qualität des Schillers an verschiedenen Regionen des Gefieders schliessen *Seleucides* aus und zeugen für *Ptilorhis*.

6. **Heteroptilorhis mantoui** (Oustalet)

= **Ptilorhis magnifica** (Vieill.) × **Seleucides nigricans** (Shaw).

Craspedophora mantoui Oustalet, *Le Naturaliste*, 13, p. 260 (1891—"Neuguinea"); *Craspedophora bruijni* Büttikofer, *Not. Leyd. Mus.* 16, p. 161 (1894—"Arfakgebirge"); *Ptilorhis mantoui* Rothschild, *Paradiseidae* (1898), p. 25; Rothschild & Hartert, *Nov. Zool.* x, 1903, p. 74.

Abbildungen: *Nouv. Arch. Mus. Paris* (3)4, 1892, tab. XV; Sharpe, *Monograph of the Paradiseidae* (1896), I, tab. V.

Es sind mindestens 9 Stück dieser "Art" bekannt: 1 in Paris, 1 in Leiden, 6 in Tring, 1 in Berlin—kein Wunder, denn die Gattungen *Ptilorhis* und *Seleucides*, deren Kreuzung dieses Ergebnis liefert, sind offenbar sehr nahe mit einander verwandt. Sogar die Verlängerung der 6 Flankenfedern zu aus- und vorwärts

gebogenen Drähten, die das hauptsächliche Kennzeichen der Gattung *Seleucides* ausmachen, ist bei *Ptilorhis magnifica* schon angedeutet, gewissermassen im Keime vorhanden.

Beim Bastard sind die hintersten Brustfedern länger als bei *Ptilorhis magnifica* und nicht so lang wie bei *Seleucides*; wie bei *Seleucides* sind sie mit einem schmalen metallischen Endsaum versehen, der indessen nicht grün, sondern violettblau schillert. Die Kehl- und Brustfedern halten in ihrer Struktur genau die Mitte zwischen der Samtstruktur von *Seleucides* und der Schillerstruktur von *Ptilorhis magnifica*. Federn des Kinnwinkels stärker verlängert als bei *P. magnifica*, aber nicht so lang wie bei *Seleucides*. Struktur der Oberkopf-Federn und deren Färbung viel näher *Seleucides* als *Ptilorhis*, aber Nasenlöcher wie bei *Ptilorhis* von Federn verdeckt, nicht nackt wie bei *Seleucides*. Rücken nicht samtschwarz wie bei *Ptilorhis*, sondern wie bei *Seleucides* mit metallischem Schiller, aber nicht mit grünem, sondern mit violett-erzfarbenem. Oberschnabel seitlich etwas stärker zusammengedrückt als bei *Ptilorhis*, aber nicht ganz so stark wie bei *Seleucides*. Fussfarbe intermediär zwischen *Seleucides* (hell rosa) und *Ptilorhis* (schwarz). Seitliche Schmuckfedern, Analgegend und Unterschwanzdecken zuweilen ganz geschwärzt (*mantoui*-Typus), meist aber in wechselnder Ausdehnung weisslich bleibend (*bruijni*-Typus).

7. **Paryphephorus duivenbodei** (A. B. Meyer)

= **Ptilorhis magnifica** (Vieill.) × **Lophorina superba** (Penn.).

Craspedophora duivenbodei A. B. Meyer, *Ibis*, 1890, p. 419 (1890—"N.W. Neuguinea"); *Paryphephorus duivenbodei*, Rothschild, *Paradiseidae* (1898), p. 22; Rothschild, *Ibis*, 1911, p. 353; Meise, *Abh. u. Ber. Mus. f. Tierk. Dresden*, xvii, 4, 1929, p. 6.

Abbildung: *Ibis*, 1890, tab. XII.

Nur 2 Exemplare bekannt: der Typus in Dresden und ein Stück im Tring-Museum, das nach Aussage von A. E. Pratt bei Foula, 4000' hoch, im Gebirge zwischen Aroa-Fluss und St. Joseph's-Fluss erbeutet worden ist (Rothschild, 1911). Das letztere ist also aus einer Kreuzung von *Ptilorhis magnifica intercedeus* Sharpe und *Lophorina superba minor* Ramsay hervorgegangen.

Schon Meise (1929) hat vermutet, dass *Paryphephorus duivenbodei* das Produkt der oben angegebenen Kreuzung sei. Das in Tring befindliche Stück steht so genau in der Mitte zwischen *Ptilorhis* und *Lophorina*, dass ich an seiner Bastardnatur nicht den geringsten Zweifel hege.

8. **Lamprothorax wilhelminae** A. B. Meyer

= **Lophorina superba** (Penn.) × **Diphyllodes magnificus** (Penn.).

Lamprothorax wilhelminae A. B. Meyer, *Abh. Mus. Dresden*, 1894/5, Nr. 2 (1894—Arfak-Gebirge); Büttikofer, *Notes Leyd. Mus.* 16, 1894, p. 164; Rothschild u. Hartert, *Nov. Zool.* x, 1903, p. 73; Meise, *Abh. Mus. Dresden*, xvii, 4, 1929, p. 6.

Abbildung: *Abh. Mus. Dresden*, 1894/95, tab.

Nur 3 Exemplare bekannt: je eines in Dresden ("Arfak-Gebirge"), in Leiden ("Arfak-Gebirge") und Tring (ohne Fundort).

Ein sehr komplizierter Bastard. Kompromiss zwischen kurzen und äusserst stark verlängerten mittleren Schwanzfedern wie bei *Janthothorax*.

9. **Parotia duivenbodei** Rothschild

= **Lophorina superba** (Penn.) × **Parotia sefilata** (Penn.).

Parotia duivenbodei Rothschild, *Bull. B.O. Club*, x, p. 100 (1900—"Holländisch Neuguinea"); Rothschild, *Ibis*, 1911, p. 355.

Abbildung des Typus: *Ibis*, 1911, tab. V.

Nur 2 Exemplare bekannt: je eines in Tring und Paris. Grösse und Schnabelform intermediär zwischen *Lophorina* und *Parotia*. Innere Armschwingen oberseits nicht samtschwarz wie bei *Parotia*, sondern mit violetterzfarbenem Schiller, sehr ähnlich wie bei *Lophorina*. Intermediär ferner u.a.: Befiederung des Kinnwinkels, Struktur der metallischen Brustfedern, Länge der Flankenfedern, Gestalt der Spitzen der 1. und 2. Handschwinge, Ausdehnung der metallischen Oberkopffedern. Während dem Pariser Stück die 6 Flaggenfedern von *Parotia* sämtlich fehlen, hat der Tringer Bastard merkwürdiger Weise ein einziges Paar von diesen in ungekürzter Länge ererbt.

10. **Loborhamphus ptilorhis** Sharpe

= **Parotia sefilata** (Penn.) × **Paradigalla carunculata** Less.

Loborhamphus ptilorhis Sharpe, *Bull. B.O. Club*, xxi, p. 67 (1908—"angeblich aus Holländisch Neuguinea"); Rothschild, *Ibis*, 1911, p. 358.

Nur der Typus (*Brit. Mus.* 1908, 4, 101) bekannt. Er ist in vielen Eigenschaften intermediär zwischen *Parotia* und *Paradigalla*, aber Flügel und Schwanz zeigen violetten Schiller, ebenso schillert der Bauch violett. Merkwürdigerweise sind die Flankenfedern breit schwarz und bräunlich rahmfarben quergebändert, in einer Breite, wie sie weder der jungen *Parotia* noch der jungen *Paradigalla* eigen ist, wie sie sich aber beim ♀ von *Astrapia* findet.

11. **Loborhamphus nobilis** Rothschild

= **Paradigalla carunculata** Less. × **Lophorina superba** (Penn.).

Loborhamphus nobilis Rothschild, *Bull. B.O. Club*, xii, p. 34 (1901—"Holländisch Neuguinea"); Rothschild u. Hartert, *Nov. Zool.* x, 1903, p. 72.

Abbildung: *Nov. Zool.* x, 1903, tab. I.

Nur 2 Exemplare bekannt, beide im Tring-Museum. Wie bei "*Loborhamphus ptilorhis*" und "*Pseudastrapia lobata*," so verraten auch hier die kurzen gelben Hautlappen am Mundwinkel deutlich die Partnerschaft von *Paradigalla*; die grell metallische Kopfplatte hingegen entspricht in ihrer Ausdehnung ganz der von *Lophorina*. Unter dem Einfluss von *Lophorina* sind die seitlichen Brustfedern und die Nackenfedern verlängert. Flügel- und Schnabellänge sowie die Gestalt der Spitze von 1. und 2. Handschwinge intermediär. Der Bauch hat—als "Neuerwerb"—violetten Schimmer angenommen! Dem grünen Kehllatz von *Lophorina* entsprechen in der centralen Area ziemlich kurze rotviolette (!) Schillerfedern; die Kopfplatte schillert rotviolett, nicht wie bei *Lophorina*: grün! Die Schwanzlänge der beiden bekannten Exemplare ist nur scheinbar sehr verschieden, denn eines von ihnen hat die langen mittleren Schwanzfedern eingebüsst!

12. **Pseudastrapia lobata** Rothschild

= **Paradigalla carunculata** Less. × **Epimachus fastosus** (Herm).

Pseudastrapia lobata Rothschild, *Bull. B.O. Club*, 21, p. 25 (1907—"Holländisch-Neuguinea"); Rothschild, *Ibis*, 1911, p. 361; Hartert, *Nov. Zool.* xxvi, 1919, p. 129.

Nur der Typus (im Tring-Museum) bekannt. Er trägt offenbar das I. Jahreskleid und steht daher noch nicht in vollem Schmuck. Darum fehlt auch jede Andeutung der "Schmuckflügel" des alten *Epimachus*. Kurze gelbe Mundwinkellappen wie bei den beiden "*Loborhamphus*-Arten." Grösse, Länge und Färbung des Schwanzes intermediär zwischen *Paradigalla carunculata* und *Epimachus*. Schnabel nur wenig länger als bei *Paradigalla* und nur um ein weniges stärker gebogen.

13. (*a*) **Pseudastrapia ellioti** (Ward) und (*b*) **Epimachus astrapioides** Rothschild

= **Epimachus fastosus** (Herm.) × **Astrapia nigra** (Gmel.).

(*a*) *Epimachus ellioti* Ward, *Proc. Zool. Soc.* 1873, p. 742 (1873—ohne Fundort); A. B. Meyer *Ibis*, 1890, p. 418. *Pseudastrapia ellioti*, Rothschild, *Ibis*, 1911, p. 361.

Abbildungen: Elliot, *Monogr. Paradis.* tab. XX (1873); Gould, *Birds of New Guinea I*, tab. VIII (1890); Sharpe, *Monogr. of Birds of Parad.* tab. XVI (1896).

(*b*) *Epimachus astrapioides* Rothschild, *Bull. B.O. Club*, vii, p. 22 (1898—"Holländisch Neuguinea"); *Falcinellus astrapioides*, Rothschild, *Paradiseidae* (1898), p. 30.

Abbildung: Nov. Zool. xviii, 1911, tab. VII.

Nur 3 (adulte) Exemplare bekannt: je eines in London (Typus von *ellioti*), in Dresden (aus "Nord-West-Neuguinea") und in Tring (Typus von *astrapioides*).

Der Typus von "*Epimachus astrapioides*" steht so gut in der Mitte zwischen *Epimachus fastosus fastosus* und *Astrapia nigra nigra*, dass deren Zusammenwirken bei der Erzeugung des Bastards ohne weiteres einleuchtet. Etwas anders steht es mit "*Pseudastrapia ellioti*," in dem man vielleicht den reziproken Bastard gefunden hat. Er hat zwar die breiten, violett schillernden Schwanzfedern von *Astrapia*, die am Ende *Epimachus*-artig zugespitzt sind; er hat "Schmuckflügel" ähnlich wie *Epimachus*, sein Bauch schillert grünlich wie bei *Astrapia* und sogar der rötlich-metallische Brustlatz von *Astrapia* ist gut angedeutet, aber an seinem Schnabelwinkel finden sich kurze gelbliche Hautlappen, ganz als wäre *Paradigalla* mitbeteiligt gewesen. Ein höchst sonderbares Kombinationsergebnis der Erbanlagen!

14. **Ptilonorhynchus rawnsleyi** (Diggles)

= **Ptilonorhynchus violaceus** Vieill. × **Sericulus chrysocephalus** Lewin.

Sericulus rawnsleyi Diggles, *Orn. Austr.* tab. 52 (1866—bei Brisbane); *Ptilonorhynchus rawnsleyi*, Ramsay, *Proc. Zool. Soc. London*, 1875, p. 69.

Abbildungen: Gould, *Birds of Austr.*, Suppl., 1869, tab. XXXIV; Elliot, *Monogr. Paradis.* 1873, tab. XXIX.

Dieser Vogel ist Unikum geblieben. Seitdem Ramsay (1875) seine Bastardnatur klargelegt hat, ist "*Ptilonorhynchus rawnsleyi*" endgültig aus der Liste existierender Arten gestrichen worden.

B. ART-BASTARDE.

Paradisea mixta Rothschild

= **Paradisaea minor finschi** A. B. Meyer × **Paradisaea apoda augustaevictoriae** Cab.

Parodisea mixta Rothschild, *Bull. B.O. Club*, 41, p. 127 (1921—Fundort unbekannt); Hartert, *Nov. Zool.* 34, 1928, p. 190.

Zwei dieser Bastarde befinden sich im Tring-Museum. Sie dürften vom westlichen Teil des Finisterre-Gebirges oder vom Oberlauf des Ramu stammen.

SCHLUSSFOLGERUNGEN.

Das Diagramm (Seite 7) wird gewiss jeden, der es betrachtet, aufs höchste überraschen. Es lehrt, dass die meisten Gattungen der echten Paradiesvögel Neuguineas näher mit einander verwandt sind, als man gemeinhin angenommen hat, denn das Urteil hat sich in der Regel an der trügerischen Pracht der Männchen gebildet und nicht an dem konservativen Habitus der Weibchen. Nur die folgenden 6 Gattungen konnten bisher nicht in die lange, durch Kreuzungen zusammengeschweisste Kette aufgenommen werden: *Loboparadisea, Cnemophilus, Loria, Macgregoria, Pteridophora, Drepanornis.*

Ereignet sich die Bastardierung in freier Natur bei den Paradiesvögeln häufiger als in anderen Vogelgruppen? Das scheint zunächst so; man übersehe aber nicht, dass seit Jahrzehnten gewaltige Mengen von Paradiesvogelbälgen auf den Markt gekommen sind, von den häufigeren Arten gewiss weit mehr als von irgend einer anderen Species—die jagdbaren Vögel, wie Hühnervögel und Enten, etwa ausgenommen. Und seit Jahrzehnten haben die Federhändler grossen Stiles (wie Renesse van Duivenbode und Bruijn in Ternate, Mantou in Paris) die Myriaden von Paradiesvogelbälgen, die den Modesalons zugeführt werden sollten, sorgsam nach ungewöhnlichen Stücken durchmustert, weil die Museen sehr hohe Preise dafür zahlten. Wer kann sagen, was das Ergebnis wäre, wenn Singvögel anderer Familien mit ebensolchem Eifer verfolgt würden und unter ihnen mit gleichem Spürsinn nach Bastarden gesucht werden würde? Wir kennen eine ziemlich grosse Zahl von Bastarden zwischen *Fringilla coelebs* und *Fringilla montifringilla*, und mindestens 8 Bastarde von *Delichon urbica* × *Hirundo rustica* aus Europa.

Immerhin mag es sein, dass die Kreuzungen bei Paradiesvögeln relativ häufiger vorkommen als bei den meisten anderen Passeres; vielleicht ist das mit der Annahme zu erklären, dass, Hand in Hand mit dem ausserordentlich stark betonten Geschlechtsdimorphismus, das ♂ dieser Vögel nach stattgehabter Befruchtung des ♀ sich nicht weiter um das Fortpflanzungsgeschäft kümmert—wie wir das von den (ehelosen) Waldhühnern der Gattungen *Tetrao* und *Lyrurus* und von den Kolibris kennen. Bastarde von *Tetrao* und *Lyrurus* sind bekanntlich nicht gar selten, und das gleiche kann von manchen Kolibris gesagt werden: hier kennt man eine ganze Reihe von Gattungsbastarden (*Helianthea lutetiae* × *Bourcieria torquata* = "*Eudosia traviesi*"; *Rhamphomicrus microrhynchus* × *Heliangelus clarissae* = "*Heliangelus rothschildi*"; *Lesbia* × *Thalurania* = "*Neolesbia nehrkorni*"; *Lampornis nigricollis* × *Chrysolampis mosquitus* = "*Crinis calosoma*," etc.[1]

[1] Cf. Berlioz, *Bull. Soc. Zool. France*, 52, 1927, p. 396.

Alle beschriebenen Paradiesvogelbastarde sind bisher ausnahmslos männlichen Geschlechts gewesen. Da die Weibchen der Paradiesvögel keinen Handelswert besitzen und daher ungleich seltener als die Männchen zur Untersuchung gelangen, so ist auf diese Tatsache kein allzu grosses Gewicht zu legen : immerhin besteht eine gewisse Wahrscheinlichkeit dafür, dass das weibliche Geschlecht unter den intergeneren Paradiesvogelbastarden wirklich erheblich in der Minderzahl ist. Man kann sich dabei auf die Erfahrungen berufen, die bei Gattungsbastarden anderer Vogelgruppen, insbesondere von Tauben und Hühnervögeln, gemacht worden sind und die gelehrt haben, dass mit Abnahme der Verwandtschaft der Eltern die Zahl der weiblichen Nachkommenschaft abnimmt, bis schliesslich nur noch Männchen und bei noch entfernterer Verwandtschaft nur gonadenlose Bastarde erzeugt werden,[1] welch letztere männliche Färbung besitzen dürften.

Eine genaue Analyse der so komplizierten Paradiesvogelbastarde in Hinsicht auf die Kombinationen von Färbung und Struktur steht noch aus ; ich habe nicht Zeit gefunden, sie vorzunehmen, und muss mich hier darauf beschränken, auf den Farbeffekt hinzuweisen, der zuweilen bei der Kombination zweier verschiedener Schillerfarben entsteht. Blaugrün-Schiller × Mattschwarz ergibt nämlich nicht selten violetten Schiller, oder es tritt bei Kreuzung mattschwarz × mattschwarz ein deutlicher Violettschiller auf. Das erinnert an den violetten Schiller des Rackelhahns, hervorgegangen aus dem Blauschiller des Birkhahns und dem Grünschiller des Auerhahns und zeigt an, dass das den Schiller erzeugende dünne Hornblättchen, das die Radiuszellen umgibt, beim Bastard eine andere Dicke besitzt als bei jeder der beiden Elternarten.[2]

In Ornithologenkreisen hat man es erst neuerdings wieder allen Ernstes als möglich hingestellt, dass die Bastardierung zur Entstehung neuer Vogelarten führen könne (sogar unter Berufung auf die angebliche—aber de facto gar nicht bestehende—völlige Gleichförmigkeit aller "*Rhipidornis*"-Exemplare). Ich halte es für überflüssig, auf diese Hypothese erneut einzugehen, da ich es bereits früher einmal getan und dabei meinen ablehnenden Standpunkt begründet habe.[3]

[1] *Posthumous Works of Charles Otis Whitman*, vol. ii, Washington (Carnegie Instit.), 1919, Insbesondere pp. 15–22 ; R. H. Thomas and J. S. Huxley, "Sex-Ratio in Pheasant Species-Crosses," *Journ. of Genetics*, xviii, 1927, pp. 233–46.

[2] Vgl. hierzu Th. Elsässer, Die Struktur schillernder Federn, *Journ. f. Orn.* 73, 1925, pp. 337–389.

[3] E. Stresemann, "Zur Frage der Entstehung neuer Arten durch Kreuzung," *Club van Nederl. Vogelkundigen, Jaarber.* No. 9, 1919, pp. 24–32.

NOTES ON THE PRECEDING ARTICLE OF DR. STRESEMANN.

BY LORD ROTHSCHILD, F.R.S.

AS I was present during most of the work of Dr. Stresemann preliminary to the actual writing of his paper, and in virtue of the very great interest I have had for the "Birds of Paradise" for more than forty years, I venture to make these few notes and criticisms. First let me say I am now in complete accord with Dr. Stresemann on all points raised in his paper except the following two main questions:

(1) As to RECIPROCAL or REVERSED versus SECONDARY hybrids.

(2) As to the status of *Paradisaea granti* North.

Taking these questions seriatim, of the 18 named forms treated of by Dr. Stresemann only 3 appear to me to require discussion under heading (1), and I will take the two *Cicinnurus*, *C. goodfellowi* O. Grant and *C. lyogurus* Currie, first: Dr. Stresemann believes that these are products of the reciprocal or reverse cross of *C. regius* ♂ × *D. magnifica* ♀ as contrasted with the cross *D. magnifica* ♂ × *C. regius* ♀ from which *Rhipidornis gulielmi-tertii* Meyer has apparently sprung. He has come to this conclusion because the majority of hybrids in nature, as well as those artificially produced by man, prove to be sterile. While I do not for a moment wish to deny this fact, I must point out that among birds and mammals there are several families which produce absolutely or partially fertile hybrids either *inter se* or with either parent species, such as the true "Pheasants," the "Ducks" and Geese, the Parrots, the "Deer" and the "Oxen." I therefore prefer to leave this question open and say although it is quite possible, nay probable, that *C. goodfellowi* and *C. lyogurus* are really the products of the reciprocal or reversed cross to that of *R. gulielmi-tertii*, it is also possible that they are the result of a secondary cross of *C. regius* × *R. guillelmi-tertii*. The unassailable fact remains that a majority of characters in the *Rhipidornis* are those of *Diphyllodes*, whereas in the two so-called *Cicinnurus* the characters of *Cicinnurus* strongly predominate. The third form, viz. *Pseudastrapia ellioti* Ward is much more complicated as the possibility exists that it is a tri-generic hybrid as opposed to a bi-generic hybrid such as most of the remaining 17 forms appear to be. This bird, the oldest described of the supposed hybrid *Paradisaeidae* except *Ptilinorhynchus rawnsleyi* Diggle shows undoubted characters of *Epimachus* and *Astrapia*, but also possesses a mouth wattle, the sign manual of the *Paradigalla* hybrids. Dr. Stresemann in his paper treats *P. ellioti* as the reciprocal or reverse cross to that which produced *Epimachus astrapioides* Rothsch. and suggests that the wattle is a character lying dormant in all "Birds of Paradise," and that it was brought out by the stimulus of hybridisation. I prefer to consider *P. ellioti* as a secondary hybrid of either *Pseudastrapia lobata* × *Astrapia nigra* or of *Epimachus astrapioides* × *Paradigalla carunculata*. But, as said above, it appears to me better also to leave this an open question, for our knowledge of the biology of the *Paradisaeidae* is too scanty to allow the fertility of their hybrids to be taken for granted. One curious fact I should, however, like to point out; namely, that it appears

rather strange that *Diphyllodes*, which builds a crow-like open nest in tree branches, should hybridise with *Cicinnurus* which breeds in hollows of trees. This fact, I think, confirms Dr. Stresemann's supposition that after copulation the ♀ alone builds the nest and attends to everything connected with reproduction in the same way as in the case of the *Tetraonidae* and other game-birds.

In regard to question (2), the status of *Paradisaea granti* North, I have gone rather more fully into the question of this bird since Dr. Stresemann and I discussed it together, and I find the following facts. First of all, the type of *granti* was a trade skin ; and secondly, the describer strongly emphasizes the wide yellow neck band on the foreneck, both in the drawing and in the description. Now all the examples since referred to *granti* have also, it is true, been trade skins, but were selected from large cases containing birds identical with examples from N.E. New Guinea of typical *P. apoda augustae-victoriae*. Both typical *augustae-victoriae* and so-called *granti* have all got exceedingly narrow, and in some cases interrupted, yellow neck bands on the foreneck. On the other hand, the red plumed *P. apoda intermedia* has exactly the wide yellow neck band given in the figure and description of *granti* by North. From all my investigations I have now come to the conclusion that there is no *Paradisaea apoda granti* North in Europe, and never has been, and that it is either a paler, more orange, aberration of *P. a. intermedia*, or else is a " Racial Hybrid " between *P. apoda intermedia* × *P. apoda augustae-victoriae* captured where their respective areas meet ; in the same way as we find " Racial Hybrids" between *P. apoda raggiana* × *P. apoda novaeguineae* in the Fly River district where their areas of distribution overlap.

I.

ON A COLLECTION OF BIRDS MADE BY DR. ERNST MAYR IN NORTHERN DUTCH NEW GUINEA.

By ERNST HARTERT.

WHEN Dr. Ernst Mayr of the Berlin Museum declared to Dr. Erwin Stresemann that he was willing to make a collecting expedition to New Guinea for Dr. L. C. Sanford and Lord Rothschild we first directed him to the Arfak Peninsula, now called the Vogelkop, the north-western Peninsula of New Guinea (or Papua). On this Peninsula, mostly going out from Andai to the Hatam valley and at Dorey (now called Manokwari), some of the most important collections from New Guinea were made, and many species were first described from Dorey and Arfak Mountains. Thus R. P. Lesson had been there and got together most important material, during the expedition of the French ship *Coquille*. H. von Rosenberg collected there 1869 and 1870, A. B. Meyer of the Dresden Museum also (cf. Sitzungsber. kais. Akad. Wiss. Wien 1874 and other books), and the Italian collectors Beccari (Beccari, Nuova Guinea, 1924), and D'Albertis (1872 to 1877) were there. Later the Dutch collector Bruijn sent his men there to collect many birds, and Guillemard collected near Dorey and Andai for a short time.[1] It was for us of the greatest importance to get series from Arfak, for very often we had fine material from other parts of New Guinea, chiefly from the south-east, but needed series from Arfak, from where we often had only single poor specimens, or none at all. J. Dumas made a small collection on the eastern slopes of the Arfak Mts., going up from Oransbari to Mount Moari (called Mori by Salvadori), which Lord Rothschild and I erroneously believed to be near Humboldt Bay.

Dr. Ernst Mayr sent us some birds from Dorey (Manokwari), and rich series from several localities on the mountains. He first went from Momi to the Manikion district in the southern Arfak region, and then to the Anggi lakes, where obviously former collectors had never been, and got there some new subspecies of species only known from other parts of the island; it seems that only the British butterfly collectors Bros. Pratt had been there, and discovered many rare and new lepidoptera, but did not collect birds in that district, where there seems to be much grass but little forest.

Then Mayr went to the Wandammen Peninsula, where he found a most interesting ornis; the majority of birds were the same as the ones found in the Arfak Peninsula, while many others were those inhabiting other localities much further eastwards, on the northern coast, etc., and quite a number were new subspecies. Unfortunately the illness of Mayr's men and the most unfavourable weather made a long enough stay there impossible, and he then proceeded to the Hollandia region, and chiefly the Cyclops Mountains, just west of the frontier between the former German colony and Dutch Papua. This region had never been fully explored, though a Dutch expedition under Dr. Wichmann,

[1] See Cruise of *The Marquesa*, 1886 and second ed. 1889.

accompanied by Prof. Beaufort, Mr. Dumas, and Mr. Walter Goodfellow, were there, and each collected a few skins. Naturally the large collections, chiefly of smaller birds, made here by Dr. Mayr were of the greatest interest, and contained quite a number of new forms.

In working out Dr. Mayr's collections I have been helped by Lord Rothschild and Mr. Arthur Goodson, and I am much obliged to Dr. E. Stresemann in Berlin, Dr. Meise in Dresden, and Dr. Gestro in Genova, who kindly sent me specimens for comparison, and during part of my studies I was assisted by Stresemann and Mayr at Tring!

Dr. Ernst Mayr has kindly written some notes on his expedition, which will appear in front of my list of his birds. He collected 2,700 specimens of 352 species and subspecies. His material has greatly enlarged our knowledge of the birds of New Guinea. About half of his collection is being sent to the American Museum in New York, including half of the type specimens. A third set has been sent to the Museum at Buitenzorg in Java. Dr. Dammerman, the director of the Javan Museum, and his assistant, Mr. Siebers, have very kindly helped Dr. Mayr, given him most useful and experienced collectors and forwarded his skins from Java to England. We are greatly obliged to them and thank them very much.

The collection is wonderfully rich in smaller birds (*Passeres* and others) and in *Rallidæ*, but rather poor in *Rapaces* and Owls. In the following pages are described 2 new species and 30 subspecies from Dr. Ernst Mayr's collection, and 9 other subspecies. Only a few eggs were collected.

II.

MY DUTCH NEW GUINEA EXPEDITION, 1928.

BY ERNST MAYR.

IN the autumn of the year 1927 I was asked to undertake a collecting trip to Northern New Guinea for Dr. Sanford and Lord Rothschild. In spite of my inexperience in bird collecting I accepted their proposition with enthusiasm and began immediately with my preparations. I studied in the Museums of Tring and Berlin the bird fauna of New Guinea and, when I left Germany in February 1928, I knew the name and systematical position of every bird which I expected to meet. This helped me in my fieldwork very much and enabled me to collect large series of the interesting species.

In March 1928 I arrived at Java, where I made the necessary arrangements with the Dutch Government and the Buitenzorg Museum. After a beautiful trip through the Moluccas, I arrived on the 5th of April at Manokwari, the capital of North-West New Guinea.

My main task was to collect the mountain ornis of New Guinea, especially that of the Arfak Mountains in the Vogelkop (Berau Peninsula). During the past century this mountain range has been visited by quite a number of zoological expeditions and its bird life was considered to be well known. But many of the species were collected only in few specimens (often without exact labels), and larger series of Arfak birds were therefore badly wanted, especially for comparison with the representatives from the other mountain ranges of New Guinea.

Manokwari is well known under the name Dorei as terra typica of many New-Guinea species, and it would have been of value to collect in this locality, but I decided not to lose any time in the lowlands (where I collected only from the 6th to the 10th of April) and to start for the mountains as soon as possible.

On the 12th of April I went by the small motorboat *Griffioen*, belonging to the Dutch Government, to Momi (Mum) (Wariap), where I collected lowland birds for two days till my carriers arrived. As I had planned to stay in the mountains for three or four months, I needed more than fifty boys to transport all my provisions and the collecting outfit. The mountain tracks are very rough and the New Guinea boys are not used to the work of carriers. They never want to take a load heavier than 25 or 30 lb. I was accompanied by three Javanese "mantris" (Malayan preparators) and three coastal natives (as butterfly collectors). The latter I had to send back to the coast very soon, because they turned out to be extremely lazy and useless. I replaced them with mountain natives who worked better, but it takes a lot of experience to become a successful butterfly collector.

The native path from Momi to the mountains led us first for four hours through the wonderful virgin lowland forest. Characteristic of this woodland is the sombre light, the immense silence (which is interrupted only occasionally by the calls of a bird, especially by the notes of *Pachycephala* and *Monarcha*) and the scarceness of undergrowth below the giant trees.

We passed a little village and numerous streams till we finally arrived at the bed of a small mountain river, which we followed upwards for some time.

When bathing at Manokwari I had hurt my foot on a coral reef, and the continually wet shoes due to wading in the water made the sore worse every minute. Finally we left the creek, the road went up the hillside and the climbing of Mount Taikbo (1,400 m.) began. In these Islands, native tracks very seldom zigzag across the slope of mountains, but lead usually straight upwards, mostly along a crest. I think all the native roads here have been originally pig tracks and the pigs prefer to make their tracks along the ridges, as I found out in the uninhabited Wandammen and Cyclops Mountains, and later on in the Solomon Islands. My boys, not used to carrying, did not get along very well, and I was forced to make camp at an altitude of 1,100 m. The forest had changed while I climbed, it became lighter, the trees smaller, the undergrowth denser, palms and ferns were numerous and moss and lichens became conspicuous. After eleven o'clock the higher zone (above 800–900 m.) was enveloped in a dense veil of mist. It did not rain (yet !), but big drops were falling down from all the branches.

The bird life too had changed ; the calls of the well-known lowland birds (*Dicrurus, Cracticus, Philemon, Mino,* etc.) had vanished and I heard now for the first time *Lophorina, Drepanornis albertisi, Pachycare* and the mountain *Pachycephala* species. The night temperature went down to 18° C. and my boys felt the cold and did not get much sleep, in spite of the big fires.

The next morning we ascended to the summit and went down to the village of Siwi, which consists of isolated houses and is situated along the slopes of a little mountain valley.

There are no big villages in the Arfak Mountains, but the communities are made up of groups of isolated houses. I established my camp at the bottom of the valley (800 m.) at the side of a little river, where I had no trouble in getting water for washing and cooking. The weather was rather bad at first, and I lost several days because my hunters stayed in camp on account of the rain and the cold. I was handicapped by sickness, too. One of my mantris had a bad attack of malaria, and another suffered from arsenic poisoning, one of the boys developed pneumonia and the third mantri and myself sores, which forced me to stay in camp for quite a long time. On the 18th of April I started to employ native hunters while my preparators stayed in the camp and did all the skinning. The natives of the Arfak Mountains were rather keen hunters and had a marvellous knowledge of the habits of the various species. Birds are their most important meat, and whenever they have nothing else to do they go out with bow and bird-arrows and shoot birds for food. It was easy for me to get hunters, but most of the natives were inclined to go too close to the birds and shot them to pieces. It took me quite a long time to teach them to shoot from a proper distance. The collecting of butterflies was not very successful, especially as the nights were not favourable.

The bottom of the Siwi valley and the lower slopes are mostly covered with native gardens, secondary forest and alang-alang, which is burned down every year. Farther away from the houses the mountains are covered with the typical hill-forest, and above an altitude of approximately 4,500 feet with the mountain forest, in which the former gradually merges. In the grassland (and on the edges of the secondary growth) I found *Malurus, Erythrura papuana, Artamus maximus, Munia tristissima,* and as migrant *Locustella fasciolata.* In the hill-forest I met most of the species Dr. Hartert enumerates in the following

list under the locality Siwi. They were collected at an altitude of from 800 and 1,500 m.

From the 4th to the 10th of May I was away from Siwi, having gone to Momi for mail and food and to send away the first collection ; in the meantime the Malayans sexed the birds, which has to be considered when studying the specimens.

After my return from the coast I tried to get larger series of all birds of which I had not many specimens yet, especially of those species which occur only in the hill-forest, i.e. between the lowland and 4,500 feet. The weather was very changeable ; some days we had no rain at all, while on other days it rained all the time, but I think we never had a day without fog. The temperature at 800 m. was usually 18°–19° C. in the morning, 24°–26° C. at noon and 22°–23° C. in the evening.

I stayed in Siwi till the 24th of May, and during all the time I remained on the best terms with the natives. Some small troubles were caused by my inexperience and by the native police which were sent to me by the Dutch Government. After I got rid of this police force I had no more difficulties with the natives.

On the 22nd carriers of three villages arrived and we broke up our camp on the morning of the 23rd, but as I had a fainting fit on account of fever, we left on the 25th only, when we went as far as Ninei (800 m.). The next day we only went as far as the foot of the 1,800 m. high Mundi Mountain, as I was very weak after a day's fever. Finally on the 27th we climbed the Mundi, went down the other side to the river and then up again to the village of Ditschi (Ditshi), which is situated at 1,200 m. It was a very trying march for me, but very interesting too, because I met on Mount Mundi for the first time real moss forest with all its interesting birds (such as *Clytomyias*, *Psittacella*, etc.).

The Ditschi valley has such a luxurious forest that I hardly believed I was 1,200 m. up, but my thermometer showed me that it was considerably cooler in the night than at Siwi, the temperature in the morning being 16°–17° C., noon 22°–23° C., evening 19°–20° C. Ditschi is situated on the slopes of Mount Wamma, opposite Mount Lehuma, both mountains having an altitude of 1700–1800 m. ; here I collected most of my mountain birds.

Only a few miles west was Mount Lima (2,870 m.), which I could see very clearly through my field-glasses, and the desire to visit and collect on still higher mountains than the ones around Ditschi grew stronger in me from day to day. It was impossible to reach Mount Lima without great trouble, but after long negotiations I succeeded in arranging a visit to the Anggi lakes and surrounding mountains, which reach an altitude of 2,400 m.

I was warned by Government officials and coastal natives not to go to this dangerous place. Till recently the Anggi natives had been great fighters, and they were still considered to be untrustworthy. Finally I sent a messenger up and asked for an invitation. If I could go up there as a guest, everything would be safe for me, and I calculated that the curiosity of this people to see a white man would be stronger than their defiance and aloofness. White people visit this part of the Arfak Mountains extremely seldom, and in most of the villages I was the first white man. Women and children left the houses screaming when I appeared.

Two days later the chief of Kofo, a village of Anggi gidji (the male Anggi

lake), arrived at Ditschi with ten boys, to invite me to his village. On the 9th of June I left Ditschi with my mantri Sario and two Siwi boys, the rest being the quite harmless Anggi boys. The track up to the Anggi lakes was a constant up and down, led across rivers, and frequently was hardly visible, etc. I was rather pleased to arrive at Dohunsehik, a little village on the upper Issim (1,400 m.), which is wonderfully situated in the middle of the mountain forest.

The next morning I wanted to give out small cartridges, but noted to my horror that I had taken the wrong box. I sent back a boy to Ditschi, who, as I hoped, would arrive at the Anggi lakes one or two days later. After a strenuous climb, I arrived at Kofo at three o'clock, the boy with the cartridges arriving at five o'clock, he had thus run a three days' march in one day's time. I quote this example to show the marvellous efficiency of these mountain Papuans. On the way we had to pass the summit of Mount Dohoidjoko (and Hoidjosera), which is 2,400 m. high, and has a very interesting vegetation. After we had left Dohunsehik we passed first through typical mountain forest, higher up through moss forest, but on the ridge, especially above 2,000 m., I found a vegetation quite unfamiliar to me. It was a kind of open heath with grassland patches and rhododendron, etc., shrubs between. As far as I could ascertain, this region had no birds peculiar to it, with the exception perhaps of *Scolopax*; I found one species of butterfly nowhere else. It was rather disappointing for me to hear, to see and to shoot at 2200–2400 m. only the same birds as 1,000 m. farther down, which rather spoiled for me the wonderful view one gets from here of the two Anggi lakes.

After a short rest we descended to the Anggi gidji, and here in the reed edge of the lake and the surrounding strip of grassland I got the great surprise of my Arfak excursion: I found quite a number of species which were hitherto completely unknown from this region. The Anggi gidji is about 7 km. long and 2–4 km. wide. At its north end the Profi River leaves the lake, later on flowing through the Hattam valley, and at this end of the lake there are vast stretches of reed, while at the south end of the lake (where I collected) the mountain slopes fall steep into the lake and only where the streams reach the lake there are small patches of reeds. Here I found *Acrocephalus arundinaceus*, *Fulica atra*, *Anas superciliosus*, *Podiceps ruficollis*, *Porzana tabuensis* and *Rallus pectoralis mayri*. In the adjoining grass country I found the new *Munia vana* and *Megalurus timoriensis* and in the mountain forest the typical New Guinea mountain birds. I was favoured by the weather and had hardly any rain during the five days I stayed at the lakes, but it was rather cold (at 6 h. 9½°–12° C., 9 h. 16°–17½°, 12 h.17° (after rain) 23°, 15 h. 19°–21°, 18 h. 15°–16°; in Dohunsehik 1,400 m. from 6 h.–18 h. 14°, 19½°, 23°, 22°, 19° C.).

On account of an order of the Dutch authorities I could not stay longer than five days, and left the lakes very reluctantly on the 16th of June. It was one of my most successful collecting trips and the natives did everything to help me and make me comfortable.

In Dohunsehik I stayed two days more to get *Astrapia* which occurred, according to native information, only in this locality. The boys succeeded in getting one specimen and some other fine birds, such as *Climacteris* and *Orthonyx novaeguineae*. On the 19th I returned to Ditschi, where my other boys had worked without my supervision for the last ten days.

I would have liked to stay at Ditschi for some time longer, but I had to return to the coast on the 22nd for different reasons.

After a forced march of three days I arrived at Momi on the afternoon of the 24th. I left my bird-skinners there to pack the birds and to collect some of the more interesting lowland species, and I went by canoe to Manokwari (60 miles away) to get fresh provisions and the new outfit (ammunition, etc.) which I expected by the June steamer.

On the 28th of June I went back to Momi in two canoes, my own loaded with outfit, the other one with provisions. On the next day we had a terrible storm and the other canoe disappeared. I waited in Momi from the 30th of June to the 4th of July without getting any news about my provisions. In the meantime the *Griffioen* had arrived to take me to Wasior (Wandammen), whither I departed without having received the food necessary for my intended trip to the Wandammen Mountains. On the 4th of July I left Momi with my skinners and all the outfit and arrived at Wasior after a very interesting voyage (passing Rumberpon (Amberpon) and Mios-War) on the morning of the 5th. The high, steep and isolated range of the Wandammen Mountains was visible far away and promised a good collection.

On the 5th I packed my loads, tried to get some sago and dried fish cured by natives (I had neither rice nor meat tins nor any other provision on account of the canoe disaster), and started for the mountains on the morning of the 6th of July. We had to cut our way through the undergrowth in this uninhabited range and progress, therefore, was very slow ; on the 7th I reached at 1,400 m. the highest place with water, and made camp. It was a very disagreeable place in the wet mountain forest and the unfavourable weather made it worse. The eleven days I stayed there it rained all the time ; we had just half an hour of sun. We could not find dry firewood, we could not dry our clothes, and it was no wonder my boys got ill and became discontented very soon, there being insufficient food also. I had to agree to return to the coast much earlier than I had intended, which was a great pity considering the splendid results I had obtained in this quite unknown region.

In spite of the bad conditions I made a collection of 200 specimens in the mountain camp. The abundance of bowers of *Amblyornis inornatus* was striking. The birds proved to be very interesting links between the fauna of the Arfak Mountains and that of the Snow Mountains. Returning to the lowland I collected there for some days till the steamer *Van Noort* picked me up and brought me to Hollandia.

Hollandia is situated on Humboldt Bay, near the border of ex-German New Guinea. My task here (proposed by the Tring Museum) was to collect thoroughly not only the birds of the Cyclops Mountains, but also those of the lowlands, which were almost unexplored as yet in this vicinity.

The Cyclops Mountains were considered to be of special interest, because the Dumas collection from Mount Moari, a collection which contained many interesting species, among them the type of *Mellopitta gigantea*, was supposed to have come from this locality. Very soon after I had started my collecting in the mountains I became convinced that the Dumas collection never came from this locality and I could prove later on that Mount Moari (" Mori " Salvadori) is in the Arfak Mountains near Oransbari between Andai and Momi. Many zoogeographical difficulties could be solved now as a result of this discovery.

The birds of the Cyclops Mountains were therefore still unknown: de Beaufort had collected in the lowlands and the collection obtained by Goodfellow at a low altitude had never been worked out, only one supposed new species (*Cicinnurus goodfellowi*) having been described.

The Cyclops Mountains fall very steeply into the sea on the north side and are quite inaccessible there; I had to try therefore to reach the summit from the Sentani Lake, which is situated south of the mountains. The region of the Sentani Lake is well populated and it is not very hard to get carriers there, which was another advantage.

The road from Hollandia to the lake, which latter is the largest in Northern New Guinea, was a great surprise to me. While the whole of Western New Guinea is covered with tropical forest, I met here the first grass steppe. For miles and miles around the Sentani Lake all the country is grassland, and the many indigenous subspecies prove that it must be of very old origin. Nowadays the natives burn the grass regularly, and the forest is going back every year, but I am convinced (contrary to the opinion of botanists) that this grassland here is a very old one. It is isolated now more or less from the grassland patches of Eastern New Guinea, but I think that in former geological periods the steppe had a much wider distribution in New Guinea than now.

In Ifar, the government station on the Sentani Lake, I succeeded after several days in getting carriers and a guide, who promised to take me to the highest point in the mountains where there was water. On the 18th of August we departed. For the first two hours the path led through the burning hot alang-alang grass. I imagined I was travelling through the more than man-high grass of an African savannah, till we finally reached the foot of the mountain and entered the cool forest. The guide led us up the bed of a small river or mountain-stream and we climbed with much difficulty over the big rocks, till finally waterfalls barred our way completely. The guide admitted now that he had never gone up so far and tried to persuade me to leave this unsafe place and go back into the lowlands. There was nothing else for me to do but to take the leadership myself and try to find a way up. I went away from the brook and finally found a ridge with a pig-track. We cut our way through the heavy undergrowth and ascended slowly. At an altitude of about 800 m. I was forced to establish my first camp near a spring, and the next morning, after I had tried in vain to find a higher stream, I sent the carriers back. The first collecting day proved to me that the bird life of the Cyclops Mountains was very poor. I did not hear the notes of any of the interesting species which were so well known to me from the Arfak and Wandammen Mountains, and especially listened in vain for those of the high mountain Birds of Paradise.

I tried again to find a higher "water place" in the hope of getting interesting species higher up. After eight days of searching on these terribly steep mountain slopes, I finally succeeded in finding a good camping place at an altitude of 1,400 m., whereto we changed our camp on the 3rd of September. I climbed from here several times to the summit (2,170 m.), but I could not find many new birds in spite of all my efforts. The little bush-mites were very bad in our camp and we all got sores from too much scratching. After I had collected series of most of the birds I returned to Ifar, mainly because most of my hunters and Malays had left me before on account of sickness and the cold. It would take too long to describe all the troubles and difficulties one meets with in New Guinea.

I was back in Ifar on the 14th of September and started to collect the interesting grassland- and lake-birds. In the grassland I found several species of *Munia*, *Cisticola exilis*, *Megalurus timoriensis* subsp., *Saxicola caprata aethiops*, *Malurus alboscapulatus*, *Merops philippinus salvadorii*, *Chlamydodera cerviniventris*, *Synoicus plumbeus* and other interesting species ; on the lake cormorants, ducks, rails and *Irediparra*. Besides these, I collected some other interesting lowland birds, such as *Stigmatops*, etc.

During the first week of October I finished my lowland collecting and returned to Hollandia, to send away my collection and to prepare for my departure to " German New Guinea." In the meantime I had sent some of my boys to Hol (also called Hol tekong), which is opposite Hollandia on the other side of Humboldt Bay (not far from the mouth of the Tami). They collected there a good series of *Drepanornis bruijni* and, as they maintained, in the mangrove swamps two specimens of *Megacrex inepta*. Dr. Hartert, thinking Hol to be an abbreviation of Hollandia, had not kept the Hol birds separate from the Hollandia birds, but when I called his attention to this fact he corrected his MS. and proof ; it is, however possible that in one or more cases a mistake was made.

The expedition came to an end the middle of October, my Malayans returning to Java on the 20th of October, while I went to former German New Guinea on the 21st. In six and a half months I had collected almost 3,000 specimens of vertebrates (2,700 birdskins and 260 mammals, also about 260, mostly damaged and flat bird hides).

III.

LIST OF THE BIRDS COLLECTED BY ERNST MAYR.

By ERNST HARTERT.

1. **Gymnocorvus tristis** (Less. & Garnot).

This common bird which is spread over New Guinea, where it is also common on the Hydrographer Mountains, was found in various stages of coloration in Arfak on the hills near Siwi, 7.v.1928, at Wondiwoi (Wandammen) 1900 m. high, at Hollandia and Ifaar on Lake Sentani (south of Hollandia). The Iris is marked light blue (juv.) and brown (med.). In the stomach fruits.

(According to the researches of Sherborn the above name was published first. For a long time this Raven was known as *Gymnocorvus senex*.)

2. **Ailuroedus melanotis arfakianus** Meyer.

Ailuroedus arfakianus A. B. Meyer, *Sitzungsber. Akad. Wiss. Wien*, xlix, p. 82 (Arfak Mts.).

This form was found to be not rare at Siwi (Arfak) and Ditchi (1200 m.).

"Iris braun, hellbraun, dunkelbraun. Schnabel weissgrau, hellhornfarben. Füsse grau."

Of great interest are two young birds from Siwi, shot 19.iv. and 15.v.1928. They have thick brownish white downy plumage on the underside in which a feather of the adult is just appearing. The head is thickly covered with rufous-brown down, the underside with a mesoptile of soft down-like plumage of a brownish-grey, darker basally, sides of body browner. Interscapulium and wings already green as feathers in adult. "Iris grau, Schnabel hell, Füsse bleigrau." Wings of sexed males 163, 167, 160—others moulting. A female is evidently shorter in the wing, but the latter is too much worn to give a measurement.

In 1895 Lord Rothschild described, from a specimen bought from Renesse van Duivenbode a skin without a label, but said to be from Jobi, as "*Ailuroedus jobiensis*."

Later on he considered this name to be a synonym, and I concurred in this opinion. I am, however, now convinced that it is not a synonym. Besides the type we have now three other specimens of various native preparations which differ from the eight adult skins sent by Dr. Ernst Mayr, in having the spots on the head not pure white or very nearly white but brown, and much larger, and quite brown (instead of whitish) centres to the feathers of the hind-neck and upper interscapulium; moreover, in the type of *jobiensis* and one of our other specimens the black of the throat reaches further down to the breast. These specimens have no indication of locality, but I now consider it possible, that they are from another locality, though perhaps not from Jobi. These birds approach Stresemann's *guttaticollis* from the Hunsteinspitze, Sepik Region.

3. Ailuroedus buccoides geislerorum A. B. Meyer.

Ailuroedus geislerorum A. B. Meyer, *Abh. Mus. Dresden*, iii, 4, p. 12 (1891—Astrolabe Bay and Huongulf).

A series of adults from Hollandia is fairly uniform, though the size of the black spots on the underside varies somewhat. A juvenile shot 11.x.1928 (No. 2813) has the crown of the head much darker with a median stripe of yellowish brown spots. The iris of the adults is red, in one case brownish red, that of the young bird is described as grey.

(There is also a juvenile female from Momi, on the east coast of the Arfak Peninsula, 25.vi.1928 (iris not described), with the crown still darker brown, the median line of light spots indistinct. This must belong to either *A. b. oorti* or *A. b. buccoides* !)

A female from Ifaar, 24.ix.1928 (apparently adult), has the crown much lighter and more rufous, differing from the head in *Ai. buccoides molestus* R. & H. (Nov. Zool. xxxv, p. 59, 1929) in being less rufous and with a greenish wash along the centre ; more material would be necessary to say what the meaning of this coloration is. The wings of adult males vary from about 130 to 136, females 130 or 129 mm.

4. Chlamydera cerviniventris cerviniventris Gould.

Chlamydera cerviniventris Gould, *Proc. Zool. Soc. London*, part xviii, p. 201 (Cape York. This part, according to Sclater, was only published in 1851, though called 1850). (An abridged description (without measurements) appeared in Jardine's *Contr. Orn.* 1850, p. 106 (err. 160 !), without locality. This has priority over the appearance in public of the description in the Proceedings, according to Mathews.)

This species which inhabits the Cape York Peninsula of North Queensland and Eastern New Guinea, was hitherto only known as far west as Hatzfeldhafen, but was found common at Ifaar, on Sentani Lake south of the Cyclops Mountains near Hollandia. Mayr collected 28 specimens during the second half of September. The iris is marked as " braun " and " dunkelbraun " in one case " bleich graubräunlich." The testes were mostly found well enlarged, eggs of females very large, some laying.

The wings measure up to 150, exceptionally 153, the females as a rule 4 to 5 mm. shorter. Specimens from S.E. Papua and Cape York are usually smaller, wings not over 150, or 151, but some Ifaar males have also 145 and 146, 148. There is thus too much variation in the size to claim the Ifaar birds as a larger subspecies.

A. B. Meyer, in the *Abh. Mus. Dresden*, vol. v, No. 10, named eggs of this species *Chlamydera recondita*, Mathews later on called specimens from British Papua *Chl. cerviniventris nova*. Neither of these names is referable exclusively to the Ifaar birds. There is thus a lot to say about the nomenclature of this bird, though Mathews says it has " no technical history," meaning that it has no nomenclatorial history.

By the discovery of this bird on the Sentani Lake its distribution has been extended westwards for about 550 km.

5. Xanthomelus aureus (L.).

Coracias aurea Linnaeus, *Syst. Nat.* ed. x, p. 108 (1758—"Asia"! Ex Edwards, pl. 112).

2 ♂ ad., 3 "♀," 1 "♂" in plumage of female and young, from the mountains at Siwi (about 900 m.). The male is not bigger than the females, but it has wide (not narrow) pale yellow shaft-stripes on the scapulars, and this seems to be the difference of the male from the female. The iris of females and young is brown, that of the adult males lemon-yellow. One of the adult males shot 25.iv.1928 is moulting on the crown, lower back and underside, the middle rectrices are not quite fully grown.

♂. Wondiwoi (Wandammen Peninsula), 14.vii.1928, has the throat black, the crown and sides down over the ears orange, but back, rump, wings and tail olive-brown; the scapulars have also wide yellowish shaft-stripes. Though not in adult plumage the testes were large! I believe Wandammen is a new locality.

6. Amblyornis inornatus inornatus (Schleg.).

Ptilonorhynchus inornatus Schlegel, *Nederl. Tijdschr. Dierkunde*, iv, p. 51 (1871—Northern Peninsula, i.e. Arfak or Berau Peninsula of New Guinea. Sexes alike! Ex Rosenberg MS.).

Dr. Mayr sent 23 skins from Siwi, Mountains near Ditschi, Gunong Mundi near Ditschi, 1500 m., and Lehuma, others from Wondiwoi in the Wandammen Peninsula. The iris is marked as brown. The underside is darker, more brownish in the Wondiwoi specimens, but one from Ditschi and some from Lehuma are exactly alike the Wondiwoi ones; the paler birds are perhaps faded, the plumage having been longer worn.

It is strange that older skins collected by Bruijn's hunters near Hatam (Atam), Arfak, have the upperside more rufous, the tail browner, less blackish brown, the freshly collected skins of Mayr having rather dark, almost blackish brown tails. Probably this is due to their having become "foxy," like C. L. Brehm's skins in some instances, because they are such a long time in collections. The sexes are alike, except that the females are very slightly smaller. Wings in males 131–137 mm., in birds marked females 125–132 mm. Weight 105–140 g. All these birds have no sign of a large occipital crest. Salvadori, in his immortal *Orn. Pap.* ii, p. 667, enumerates 26 skins from Hatam, collected by D'Albertis, Beccari's and Bruijn's hunters, and none of them had a sign of a crest, nor had the types, and therefore they were called *inornatus*!

It was not before 1895 that there was a mention of crested males from Dutch New Guinea. Then in *Bull. B.O. Club*, iv, no. xxiii, p. xvii, the late A. B. Meyer described what he called the "hitherto unknown male of *Amblyornis inornata*," with a large crest! This was then accepted by Sharpe and Lord Rothschild. I too thought this was correct. But is this really correct? The following facts must be considered.

(1) It is very peculiar that among the skins received in Europe from 1871 to 1895 there was not a single crested specimen, in fact the opposite would be more probable, as the native hunters were out for strikingly coloured "beautiful" birds, but might not have sent the uncrested simple brown birds.

(2) Though Lord Rothschild has received since 1895 till now not less than eleven large-crested birds of native preparation, we do not know the exact locality of any of them. In 1895 both Dr. Meyer and the Tring Museum received each a skin said to be from Karon (or Karoon), N.W. of Arfak, on the north

coast of the Berau Peninsula. They came from Mr. Renesse van Duivenbode, but had of course no label, and this information was merely from hearsay. The skins of the crested males are filled with cocoanut fibre, one with some dried leaves, and they are rough and hard, as if dried over fire. But none of these skins came apparently from Arfak !

(3) Both Dr. Ernst Mayr and Mr. Shaw-Meyer were emphatically told that crested males never occurred in Arfak or thereabouts, and both failed to even see one. Yet somewhere they must be common. Of course we find in the mountains of S.E. New Guinea the very closely allied (but underneath duller and on the upperside less dark) *Amblyornis inornatus musgravii*, and on the Saruwaged Mountains the also closely allied *Ambl. inornatus germanus*, but the crested males described above never came from either of these localities, where birds of that preparation never originated.

The question now is :

Are the crested males of which specimens were received (said to be from Karon) after all the males of the *A. inornatus inornatus*, or are they a representative crested form from a different locality ? In the latter case they require a new name.

There is still another mystery : from where are the three *Amblyornis flavifrons* Rothsch. ?

There is a rumour that they may occur somewhere inland of the Berau Peninsula, but this requires confirmation. The three skins are rather of the better " Arfak preparation," with " heels " sown together and filled with " kapok." And how are the females ? Maybe the females are hardly separable from those of " *inornatus*." The figure of *A. flavifrons* in Sharpe's *Monograph* of the *Paradiseidae* is, I am sorry to say, very bad. The crest is too reddish orange, and the shape of the crest-feathers is wrong, as they are all long narrow parallel feathers rising at the forehead, not ending all over the crown, as in the figure.

The fact is that the " crested " males of *inornatus* from the northern part of the " Vogelkop " (Berau Peninsula) have the underside darker, more rufous brown, the sides of the neck darker, and the back and wings deeper rufous, without the olivaceous tinge of the specimens from the Snow and Weylandt Mountains. As I consider the latter to be—for the time being—inseparable from *A. i. musgravii*, I name the form from Karon

Amblyornis inornatus mayri subsp. nov.

Type : ♂ ad., probably Karon (" Karoon "), northern " Vogelkop."

7. **Paradigalla carunculata** Less.

Paradigalla carunculata Lesson, *Hist. Nat. Ois. de Paradis*, p. 242 (1835—No locality indicated. The Type is a specimen with replaced breast and abdomen).

Dr. Mayr sent a ♂ from the mountains near Ditschi 12.vi.1928, and a female from Lehuma, 29.v.1928. Mr. F. Shaw-Meyer obtained a female on the Arfak Mountains in August 1928, at an altitude of 7,000 feet. Mayr described the iris as " dark," bill black, feet grey, Meyer says feet and bill black ! Mayr says : " Schnabellappen zitronengelb, am äusseren Rande etwas ziegelfarbig, Unterschnabellappen oben violettblau, unten gelbrot." Meyer : " Upper wattles

yellowish-green, base of lower mandible bright blue ; a small patch of orange-red underneath."

Wing of ♂ 195, ♀ 159, 160 mm. ♀ weight 170 g.

Evidently this species is only known from the Arfak Peninsula.

8. **Parotia sefilata sefilata** (Penn.).

Paradisea sefilata Pennant in *Forster's Zool. Indica, Faunula indica*, p. 40 (1781—Ex Daubenton. *Pl. Enl.* 633. In the text no locality, but at that time only the Arfak form was known).

Dr. Mayr found this species common in the mountains of the Arfak region, at Ditschi and Siwi, and still more so in the mountains of Wondiwoi in the Wandammen Peninsula. I believe it was only known with certainty from Arfak. The fine series of females and males in off-plumage from Wondiwoi are underneath generally more rufous brown than those from the Arfak Mountains, but this is, in my opinion, not geographical variation, but due to their being all in fresh plumage, and some are practieally undistinguishable. The iris of both sexes is blue with an outer yellow ring, bill black, feet greyish or blackish brown. Weight ♂ 175–200, ♀ 160–185 g.

The young bird in first plumage has rufous red outer and inner edges to the quills and upper wing-coverts.

In the *Ibis*, 1911, p. 366, Lord Rothschild has treated *Parotia lawesi* and *helenae* as subspecies of *sefilata*. This was criticized by Stresemann in 1923. At first sight *lawesi* and *sefilata* look very much the same, but there are greater differences than are at first apparent. *P. lawesi* is throughout much smaller ; the tail is not much more than half the length of that of *sefilata* ; in *sefilata* the frontal tuft of feathers is black-brown with greyish-white tips, in *lawesi* they are less stiff and snow-white at base, black-brown on tip ; the colour of the glittering nuchal patch and the much deeper and rufous-brown underside of the female of *lawesi* are insignificant characters. Considering the striking differences of size and headgear of males it is perhaps wisest to accept Stresemann's grouping : *P. sefilata* (Penn.)—*P. lawesi lawesi* and *P. lawesi helenae*.—*P. wahnesi*.—*P. carolae carolae*, *P. carolae meeki*, *P. carolae berlepschi*, all in accordance with Lord Rothschild 1911, except the first.

Then there is the very peculiar *Parotia duivenbodei* Rothsch. Two specimens are known, both purchased from plumassiers, the type in the Tring Museum, from Mr. van Renesse van Duivenbode, with 2 plumes, one on each side of the head, one in the Paris Museum, without any plumes on the head, otherwise quite like the type.

9. **Lophorina superba superba** (Penn.).

Paradisea superba Pennant, *Forster's Indische Zool., Faunula Indica*, p. 40 (1781—Ex Daubenton, *Pl. Enl.* 632. No locality, but hitherto only known from Arfak).

Mayr sent a good series from Siwi and 3 ♂. 2 ♀ from Wondiwoi in Wandammen. Here too the females are rather more rufous on the underside than the Arfak specimens (Siwi), but one of the Arfak ones is almost indistinguishable ! Weight ♂ 87–105, ♀ 67·5–85 g.

(Judging from the males Lord Rothschild identified Grant's *feminina* (1915) from the Utakwa River with *latipennis* (1907). Certainly there seemed to be

no difference between males from the Utakwa, the Weylandt and Rawlinson Mountains, but females from the latter were not known. Judging from two females sent by Dr. Mayr from N.E., formerly German, New Guinea, they are quite different from the females of Weylandt and Snow Mountains, having the crown like *minor* and being underneath whitish, not rufescent. Therefore *feminina* would be a good subspecies, differing in the female. This would also be more in accordance with zoogeographical knowledge. Mayr's skins from N.E. Papua have only numbers, no localities, on their preliminary labels, so I cannot yet say if they are from the Rawlinson or Hertzog Mountains. Written November 1929.)

10. **Ptiloris (Craspedophora) magnifica magnifica** (Vieill.).

Falcinellus magnificus Vieillot, *Nouv. Dict.*, nouv. éd., vol. 28, p. 167 and pl. Gf. 3 (1807—"La Nouvelle Guinée").

This form is widespread from Arfak along the northern coast to apparently Astrolabe Bay, and in the south-eastwards to the Fly River.

Mayr sent adult males and young males in female plumage and one female from Arfak (Siwi, Momi, Warior), Wondiwoi, Hol and Cyclops Mountain.

I don't think it is far wrong to separate the soft feathered *Ptiloris* (rectius *Ptilorhis*), type *paradisea*, from the harsh-feathered *Craspedophora*, much as I am in favour of few genera.

11. **Drepanornis albertisi albertisi** Scl.

Drepanephorus albertisi Sclater, *Nature*, viii, pp. 151, 195 (1873—No description, only "long incurved bill" mentioned, no locality).

Drepanornis albertisi Sclater, *Proc. Zool. Soc.* 1873, pp. 558, 560, plate 47. (Full description, figure, locality Arfak Mountains).

This is another form only known from the Arfak Peninsula.

Dr. Mayr sent 4 adult males and two in juvenile plumages from the mountains above Ditschi and near the Anggi Lakes in the Arfak region.

He also sent an adult female, which seems to belong to this subspecies from Wondiwoi (Wandammen), shot 8.vii.1928.

Weight ♂ 105–125 g.

12. **Drepanornis bruijnii** Oust.

Drepanornis bruijnii Oustalet, *Ann. Sci. nat.* ser. 6, ix, article 5 (1880—Said to live evidently further east than *D. albertisi*, as it was obtained by Bruijn—rectius Bruijn's hunters—between long. 136° and 137°, in fact I suppose that it came from further east still than 137°). Later specimens from the north coast east of 138°, and from Tana Mera east of Humboldt Bay, came to hand.

Mayr obtained a series at Hol (Humboldt Bay) in August and October, mostly still in moult, but testes of males in some cases greatly enlarged. Therefore, probably, the nesting season will be November. Nest and eggs unknown.

The males in female plumage are exactly like the adult females, only slightly larger.

Weight 4 ♂ 160 g.

13. **Seleucides melanoleucus**[1] **auripennis** Schlüt.

Seleucides ignotus auripennis Schlüter, *Falco*, vii, p. 2 (1911—Dallmannshafen).

Mayr found this remarkable bird not rare near Hol in August and again on October 12th. This subspecies was described as more golden yellow on the plumes and smaller. The bright yellow colour of the plumes is, however, very fleeting, and it is doubtful if there is much difference between freshly moulted fresh adult *S. melanoleucus melanoleucus* and *auripennis*. The dimensions are smaller all round, the bill shorter and slenderer. The wings of 14 adult males measure 165–170 mm., those of the larger race up to 181 mm. The sexual organs were greatly enlarged in October and fairly small in August.

Weight ♂ 170–200, ♀ 160, 160 g.

14. **Epimachus fastosus fastosus** (Hermann).

(*Epimachus speciosus*, *Falcinellus striatus* auctorum).

Promerops fastosus Hermann, *Tab. Aff. Anim.* etc. pp. 194, 202 (1783—Ex Montbeillard in *Buffon*, vi, p. 472, "Grand Promerops à parements frisés," New Guinea. As all specimens used to come from the Arfak Peninsula, I accept Arfak as the typical locality).

Ernst Mayr and Shaw Mayer collected specimens in the mountains near Ditschi and Lehuma, at 2,000 m., more or less. The iris of the male (according to Mayr) is red, according to Mayer reddish orange, that of the female, according to Mayr red-brown, in one case pale brownish red.

All these males have the breast and abdomen nearly black, but with a pronounced brown tint, while all the old trade skins that usually represent this species in collections are underneath more brown, one might say very deep chocolate; I have no doubt that this is due to their being in collections for a long time, all killed in the last century, and one procured by Dr. Guillemard at Arfak is exactly like the other trade skins. This typical form is evidently only found in the Arfak Peninsula (Berau, "Vogelkop").

Weight ♂ in full plumage 250–280, ♀ 160–235 g.

15. **Epimachus fastosus atratus** (Rothsch. & Hart.).

Falcinellus striatus atratus Rothschild & Hartert, *Nov. Zool.* xviii, p. 160 (1911—"Mt. Goliath, at altitudes of not less than 5,000 feet").

Ernst Mayr collected six adult males and a number of females and young males from Wondiwoi in the Wandammen Peninsula; these, to my surprise, are not *E. fastosus fastosus*, but agree with our *E. f. atratus* from Mt. Goliath and Mt. Kunupi in the Weylandt Mountains. *E. f. atratus* is therefore the form of

[1] I must reluctantly enter here upon a nomenclatorial explanation, because this species has usually been known under different names. For a long time it has been called *alba* and *nigricans*, while Rothschild reverted to *ignotus*. The name *ignotus*, however, was only used by Forster in the Latin translation for the "unbekannte Paradiesvogel" and has no nomenclatorial value. Recently Stresemann and others returned to *nigricans*, but omitted entirely *Paradisea melanoleuca* Daudin, *Traité Elém. et complet d'Orn.* ii, p. 278 (1800—"Waigiu," probably errore, as not yet found there, but Arfak Peninsula). Daudin's name is undisputable, the description: "Noir par devant, blanc par derrière, avec douze tiges setacées, courbées, et presque dépourvues de barbes" unmistakable. Nor can Daudin's names be rejected, because in a few cases he used three names! In fact a number of names from Daudin, such as *Circus ranivorus*, *Otogyps auricularis*, *Cuncuma vocifer*, *Polemaëtus bellicosus*, *Lophoaëtus occipitalis*, *Helotarsus ecaudatus* and others have never been disputed on that account!

the great central range, called in its various parts Weylandt, Nassau, Orange Range and Snow Mountains in the middle.

E. f. atratus is a close ally of *E. f. fastosus* but differs in the male being underneath of a deeper black, entirely or almost devoid of the chocolate tinge. The females and young males differ from those of *E. f. fastosus* in their more olivaceous, much less rufescent tails. (There is no difference in fresh specimens in the ornamental side-plumes.)

Weight ♂ in full plumage 250, 255, 255, 275, 275, ♀ 165, 185, 210 g.

[**Epimachus fastosus stresemanni** subsp. nov.

The Berlin Museum received from the Sepik Expedition 17 specimens, collected by Dr. Bürgers, of a dark form of *E. fastosus*, agreeing in coloration with *E. f. atratus*. Dr. Stresemann already suggested (p. 34 of his article on Bürgers' ornithological collection) that the Snow Mountains form differed in size from the Schraderberg (Upper Sepik) form and gave careful measurements, showing that the bills [1] varied from 62 to 66·5 mm. in adult males, wings 210 to 222, bills 63·5 to 72 in adult females, wings 175–182 mm.

As the wings of adult *atratus* from Mt. Goliath, the Weylandt Mountains and Wandammen measure only: ♂ ad. wings 190, 195, 196, 198, 187, the bills 58–60, ♀ ad. wings 156 to 170 (if the latter is not a young male), the Schraderberg specimens form clearly a considerably larger subspecies, therefore I propose to name this after my friend Dr. Stresemann. Type ♂ ad. in the Tring Museum, Schraderberg 13.vi.913, No. 2094 of the collector.]

16. **Astrapia nigra** (Gm.).

Paradisea nigra, Gmelin, *Syst. Nat.* i, 2, p. 401 (1789—Ex Latham "Gorget Paradise Bird," *Gen. Syn.* i, p. 478, pl. 20. Latham says that the "Alfoories in Messowal shoot these birds and sell them to the people of Tidore." I don't know where "Messowal" was, but the original locality should be regarded as Arfak).

1 "♂" in "off plumage" from Dohunsehik, Issim valley, 17.vi.1928. "Iris dunkel, Schnabel schwarz, Füsse graubraun." This specimen has a wing of only 176 mm. It is rather blackish, there are only traces of whitish speckles, and the wings have no rufous edges on the outside. Mayr did not find this species in the other collecting stations in Arfak, where it is now probably rare, having been collected there for a long time. It is, however, still found there, as Mr. Shaw Mayer obtained a fine adult male in the Arfak Mountains, 2,300 m. high, 17.viii.1928. This species apparently is found only in the Arfak or Berau Peninsula.

17. **Cicinnurus regius claudii** Ogilvie-Grant.

Cicinnurus regius claudii Ogilvie-Grant, *Ibis, Suppl.* p. 16 (1915—From the Mimika River eastwards to S.E. New Guinea at least as far as Collingwood Bay, westwards to Misol. Type Mimika River).

A fine series from Momi, collected in June, and two in full moult from 15.iv.1928, but no females, nor nests were found.

This widely spread form has the black spot above the eye rounded, more

[1] Measured from forepart of nostrils to tip with a compass.

or less distorted in skins, if they are not of the very first quality, but never linear as in *coccineifrons*, *cryptorhynchus* and *similis*.

Weight 53–61 g.

18. Cicinnurus regius similis Stres.

Cicinnurus regius similis Stresemann (ex Neumann MS.), *Journ. f. Orn.* 1922, p. 405 (Torricelli Mts. to Astrolabebay).

Mayr found the "King Bird" apparently very common near Hollandia and Hol, from where he sent a fine series, obtained in August, and from the Cyclops Mountains and Ifaar, shot in the latter part of August.

Weight 50–52, rarely 56 g.

The iris of all *Cicinnurus regius* is brown, the bill in males yellow, feet light "violet blue." In females the iris is also brown, bill duller yellow, feet "blue." The testes of the red males were more or less enlarged, but also those of a male in female plumage were greatly enlarged. Males shot August 3rd and October 10th and 15th are in full moult from the brown female plumage to the red one. A male shot 13.x. has a curious plumage which is, I think, the second year's garb; it is mixed, but the brown parts are not greyish olivaceous brown, but more yellowish brown, while the elongated central rectrices are only half rolled up and their shafts are not quite bare; in the specimen from October 13th one of these feathers is like that of a perfectly adult male and the underside has the green pectoral bar and white abdomen, also the green-tipped pectoral tufts! I do not know how Ogilvie-Grant made out that the first plumage was worn two years. I think they must moult into the "mixed" garb in the second year.

The females and out-of-plumage males and young are perfectly alike, except that the males have a bit longer wings. All these birds are on the upperside more greyish olivaceous than females and juv. of *C. r. claudii*, while those of *C. r. regius* (Aru Islands) and *C. r. coccineifrons* (Jobi) are in colour like *similis*! In some young males in first plumage the middle rectrices are several millimetres longer than the rest, and show a slight enarrated web on the tip which is slightly curved.

The Berlin Museum received from Prof. Schultze some skins from the mouth of the Tami River, but these specimens cannot possibly be correctly labelled, therefore I fear they may have been received from natives because they agree absolutely with *C. r. coccineifrons* from Jobi, not even with Stresemann's *cryptorhynchus* from the north coast, though the latter is very near to *coccineifrons*.

19. Diphyllodes magnificus magnificus (Penn.).

Paradisea magnifica Pennant, *Forster's Indische Zool.*, *Faunula Indica*, p. 40 (1781—Ex Daubenton's *Oiseau de Paradis de la Nouvelle Guinée dit le Magnifique*, pl. 631. Terra typica restricta: Arfak!).

Paradisea speccosa (error for *speciosa*), Boddaert, *Tabl. Pl. Enlum.* p. 38 (1783—Also ex Daubenton's pl. 631).

Both Ernst Mayr and Shaw Mayer sent skins from Arfak, the former a fine series from Siwi, and also from Wondiwoi, Wandammen, the latter two males from near Sorong, 200 feet alt., and Agamuri village, 1,000 m. alt. The iris is dark brown, bill bluish white, light bluish grey, lead-grey, whitish blue-grey, the feet bright blue, violet-blue. Weight ♂ 85–111, ♀ 71–88 g. The

Manikion name according to Shaw Mayer "Pena," the Malayan name "Batarotang." A specimen from 17.v. in full moult.

The nomenclature and distribution of the various forms of *Diphyllodes magnificus* requires some explanation as it has hitherto not been sufficiently understood.

The oldest name is Pennant's *Paradisea magnifica* of 1781. This name, *magnifica*, has also been usually used, by Salvadori, Sharpe, Rothschild, Stresemann and most others, but Ogilvie-Grant, *Ibis*, 1915, *Suppl.* p. 22, preferred the name *speciosa* ("*speccosa*") because he did not look up Salvadori nor Rothschild, and quoted Pennant in Forster's *Ind. Zool.* 1795, but the first edition of that appeared in 1781. Moreover, Ogilvie-Grant applied the name *spcciosa* (both names, *magnifica* and "*speccosa*," were based on the same plate, 631, of Daubenton) to the wrong bird. There is no doubt whatever that Daubenton figured the form with what Ogilvie-Grant called "clay-coloured" secondaries, though the clay-colour has a distinct yellow admixture and is glossy. Mayr's and Mayer's specimens from the Arfak region show without doubt that the Arfak form is the one with yellowish glossy clay-coloured secondaries. The colour of the secondaries (in many descriptions called "wings"!) varies somewhat, sometimes being darker, more brownish, sometimes paler (probably faded), but it is never orange. Sharpe, in his *Monograph of the Birds of Paradise*, figured specimens with somewhat darker secondaries, under the name of *D. seleucides* Lesson, but *seleucides* is obviously a synonym of *magnifica*. Ogilvie-Grant, *Ibis*, 1915 *Suppl.* p. 24, gave the name of "*Diphyllodes rothschildi* sp. nov." to specimens from a plumassier, supposed to have come from Salwatti, with duller "clay-coloured wings." This was entirely erroneous, as the birds with "clay-coloured" secondaries are the ones inhabiting Arfak, and in fact most or the whole of the Berau (or Arfak) Peninsula, as Mayer collected a specimen near Sorong. Goodfellow (*Ibis*, 1915 *Suppl.* p. 25) must be quite right that there are no Paradise-Birds on the little island of Sorong, but that all skins purchased there come from Salwatti is doubtful, as it also occurs near by on the mainland.

[Along the foot-hills of the Snow Mountains occurs a form with the secondaries brighter, more glossy and more orange yellow than in *magnificus*, but much less bright than in *chrysopterus*, though somewhat variable. They are thus clearly intermediate between *magnificus* and *chrysopterus* and cannot be united with either of these, consequently they must have a new name, and I call it by the name that is suggested by these facts:

Diphyllodes magnificus intermedius, subsp. nov.

Type: ♂ ad. Snow Mountains, 2,500 feet, 13.viii.1910. No. 4604, A. S. Meek coll.

We have now three males, two from Meek, one collected by Pratt Bros. from the Wanggar district, south of Geelvink Bay, 2,000 feet high, 20 miles from the sea, January 1921. Wings 114, 115, 116 mm. The females have wings of 105, 106 mm., and agree in coloration with the Arfak birds, *D. m. magnificus*. There are half a dozen fully adult males from the Kapare, Waitakwa, Utakwa valleys, agreeing with ours, though one is a bit more bright, but not like *D. m. chrysoptera*! One is partially bright orange on the secondaries, but this is obviously not normal and apparently stained.]

A form with orange secondaries inhabits Jobi and the north coast of Papua as far east as the Speik river district and possibly still farther eastwards (Astrolabe Bay ?). This form must be called *chrysopterus*. This name is beyond doubt.

Stresemann rejected it, because it is uncertain that the type came from Jobi, but the type is in the British Museum and has been well described and figured, so whether it came from Jobi or the north coast of New Guinea, there is no doubt about its meaning, and *jobiensis* Meyer 1885 is a synonym of it.

East New Guinea, i.e. what used to be called British New Guinea, now an Australian colony (stupidly called "Papua" in opposition to other parts of New Guinea, while Papua is the old name often applied to New Guinea as a whole, and by no means given to the British colony in particular), and the Kai or Huon Peninsula: Simbang, Bongu, Sattelberg, Finisterre Mountains are inhabited by a race with bright orange secondaries, shorter wings, generally more reddish back and rump and much more glossy orange crown. This form is *hunsteini* Meyer, *septentrionalis* being a synonym.

The females also differ slightly.

Those of *D. magn. magnificus* from the Arfak (Berau) Peninsula and Wandammen, also Kapaur (Onin Peninsula) have the upperside olivaceous, with a more or less distinct golden or rufescent tinge, and underside is more rufescent, wings ♀ 106–110, once 112, males in female plumage wings 113–115.

Females of *D. magnificus chrysopterus* are above more olivaceous, the edges to the wings less yellowish, more greenish, and the underside lacks the slight rufescent tinge of *magnificus*. Wings of ♀ 110–115, males in female plumage 117–119 mm.

Females of *D. magnificus hunsteini* have the upperside more reddish brown, especially the crown more rufous. Wings ♀ 104–110, once 112, males in female plumage 110–116 mm.

20. **Diphyllodes magnificus chrysopterus** Elliot.

Diphyllodes speciosus var. *chrysopterus* Elliot (ex Gould MS.), *Mon. Paradis.* text to plate 13 (1873—Locality unknown).

Diphyllodes jobiensis Meyer, *Zeitschr. ges. Orn.* ii, p. 388 (1885—Jobi).

A fine series of both sexes from Hollandia (August) and the Cyclops Mountains (end of August).

The iris was found to be dark brown, but in a white-spotted variety (♂) it was whitish grey! This specimen has the whole upperside intermixed with white feathers and a few white feathers on the throat and chest.

Weight ♂ 92–111, ♀ 83–104 g.

The forms of *Diphyllodes magnificus* to be recognized are therefore as follows:

1. *Diphyllodes magnificus magnificus* (Penn.).

Paradisea magnifica Pennant, *Fors er's Ind. Zoot., Faun. Ind.* p. 40 (1781—Ex Daubenton 631).

Paradisea speccosa (err. for *speciosa*) Boddaert (1783—Based also on Daubenton 631).

Diphyllodes seleucides Lesson, *Hist. Nat. Ois. Paradis* (1835—New name for *magnificus*).

Diphyllodes rothschildi Ogilvie-Grant, *Ibis*, 1915, *Suppl.* p. 24 (Salawatti or Salwatti Island, from a specimen in the Gould coll.)

Arfak (Berau) and Onin Peninsula, also Salwatti.

2. *Diphyllodes magnificus intermedius* Hart.

See above, p. 36.

Foot of Snow Mountain Range, Kapare, Iwaka, Utakwa Rivers, up to 2,500 and 2,900 feet.

3. *Diphyllodes magnificus chrysopterus* Ell.

Diphyllodes speciosus var. *chrysopterus* Elliot, ex Gould MS., *Mon. Paradis.* text pl. 13 (1873—Locality unknown).

Diphyllodes jobiensis Meyer, *Zeitschr. ges. Orn.* ii, p. 388 (1885—Jobi).

Jobi and north coast east of Geelvink Bay at least as far east as the Sepik River.

4. *Diphyllodes magnificus hunsteini* Mey.

Diphyllodes Hunsteini A. B. Meyer, *Zeitschr. ges. Orn.* ii, p. 389 (1885—"Hufeisengebirge" in Owen Stanley Range).

Diphyllodes chrysoptera septentrionalis A. B. Meyer, *Journ. f. Orn.* 1892, p. 261.

Diphyllodes xanthoptera Salvadori, *Ann. Mus. Genova*, xxxvi, p. 111 (1896—Bubui River, north of Huon Gulf).

Eastern Papua, former British (now Australian) New Guinea and former German colony (now "Mandated Territory").

21. **Paradisaea minor minor** Shaw.

Paradisea minor Shaw, *Gen. Zool.* vii, 2, p. 486 (1809—No locality. I substitute Arfak, from where these birds used to come).

Adult males, females, and junior birds from Arfak (Siwi and Momi), Wondiwoi in the Wandammen Peninsula, and again near Hollandia and Mount Cyclops. From April to July males were in fullest plumage, but one April male is moulting. Shaw Mayer sent a male from the "mainland" opposite Sorong Island in full plumage, shot in October.

The iris is yellow, with a faint tinge of green, feet grey to bluish-slate colour, bill bluish grey, whitish grey, "almost lavender."

Weight 225–285 g.

The males in female plumage are larger than the females, and the underside, from the throat onwards, is snow white, with a more or less distinct yellow tinge on the sides. The females sent by Mayr have a brownish red zone beyond the dark brown throat, and this brownish red colour spreads along the sides. This, however, is apparently not a peculiarity of the females, but may be a sign of juvenility, as Doherty sent also males of that coloration.

The ornamental plumes of the males are in fresh plumage very bright, quite orange, especially in one from Momi, but in the collection they seem to get lighter, less orange.

22. **Manucodia chalybatus chalybatus** (Penn.).

Paradisea chalybata Pennant, *Forster's Zool. Ind., Faunula Indica*, p. 40 (1781—Ex Daubenton's pl. 634, New Guinea).

Both sexes were collected near Siwi, Wondiwoi and Wasior (in the coastal forest) in April, May and July. The iris of adult males was red or yellowish red. Wings ♂ ad. 180–187, ♀ 176 mm.

Weight ♂ 225–250, ♀ 210 g.

23. **Manucodia chalybatus orientalis** Salvad.

Manucodia orientalis Salvadori, *Ann. Mus. Civ. Genova* (2), xvi, p. 103 (1896—Owen Stanley Mts.).

2 ♂, 1 ♀ Hollandia and Ifaar on Lake Sentani. Wings ♂ 174, 180 !, ♀ 160 mm. Weight " ♀ " 210, ♂ 240 g.

24. **Manucodia ater ater** (Less.).

Phonygama ater Lesson, *Voy. Coquille, Zool.* i, part 2, p. 638 (1828—Dorey, Arfak).

A good series from Manokwari (Arfak), Wasior, Ifaar and Holiandia. Iris red.

Weight ♂ 205, 210, ♀ 200, 225 g.

25. **Phonygammus keraudrenii keraudrenii** (Less. & Garn.).

Barita keraudrenii Lesson et Garnot, *Férussac's Bull. Sc. Nat. et de Géologie*, viii, p. 110 (1826—Descr. from specimens collected by Lesson at Dorey, Arfak).

Fourteen skins from Siwi, Manokwari, the hills near Siwi and Momi.

Weights ♂ 140–175, ♀ 130–140 g.

These specimens show great variation in the colour, especially in that of the back which varies from a glossy steel-green to glossy purplish blue. The females are like the males, but are smaller and the tufts above and behind the eyes are as a rule shorter. Moulting specimens show that the juvenile plumage is a sort of raven-black, burnished or graphite black. The iris, at least of adult birds, is red, bill and feet black. This series is very instructive, and it confirms my idea that there is only one form in S.E. New Guinea.

Lord Rothschild was the first to state in print that *Ph. jamesi* Sharpe (*Cat. B. Brit. Mus.* iii, p. 181, 1877, Aleya, S.E. New Guinea) was the juvenile of *Ph. purpureoviolacea* Meyer 1885, described from the Astrolabe Mountains.

In 1915 Ogilvie-Grant (*Ibis Suppl.* pp. 5 and 6) declared that in S.E. New Guinea lived a form of the plains, which was identical with *keraudrenii*, while in the mountains lived *purpureoviolacea*, *jamesi* Sharpe being the young of *keraudrenii* and not of *purpureoviolacea* ; he says that Lord Rothschild now agreed with him ; apparently he wavered once in conversation, but I am of opinion that he was quite right in admitting *jamesi* as the young *purpureoviolacea*, and not as the young of *keraudrenii*. We know from the series in Tring and elsewhere that both *keraudrenii* and *hunsteini* (the form of the D'Entrecasteaux Islands) have blackish young, and our specimens in moult prove to me that the same is the case with *jamesi* (= *purpureoviolacea*). The specimens from S.E. New Guinea which Ogilvie-Grant declares to be *keraudrenii* are nearly all in moult from a juvenile plumage ; one specimen, said to be from the Brown River, collected by Emil Weiske, but without indication of date and sex (though from size surely a female) is indeed very similar to a *keraudrenii*, but the two forms are of course closely allied, and some stages of plumage vary much and young of the two forms are not always distinguishable ; the rectrices of young are more pointed than in the adult birds. Nor is there in my opinion enough material to prove that the more brilliant birds (" *purpureoviolacea* ") are all from higher elevations ; in fact we have a specimen which Ogilvie-Grant called *keraudrenii* shot by A. S. Meek's men at about 6,000 feet or more. Grant somewhat doubted the correctness of the elevation, but there can be no doubt about that whatever, so Grant ruled it out as an exceptional occurrence.

We have therefore the following forms of *Phonygammus*, which are all subspecies :

Phonygammus keraudrenii keraudrenii (Less. & Garnot).

Berau and Onin Peninsulas, southern slopes of Snow Mountains, east apparently to the Fly River, and Aru Islands.

Phonygammus keraudrenii neumanni Rchw. 1918.

Only known from the Lordberg, about 1,058 m., on the Upper Sepik River.

Phonygammus keraudrenii jamesi Sharpe 1877.

Synonym *Ph. purpureoviolacea* Meyer 1885.
South-East New Guinea, chiefly on the mountains.

Phonygammus keraudrenii hunsteini Sharpe 1882.

Fergusson and Normanby Islands.
Synonym *Manucodia thomsoni* Tristram, *Ibis*, 1889.

Phonygammus keraudrenii gouldii Gray 1859.

Synonym *Phonygammus yorki* Mathews 1924.
Cape York Peninsula (North Queensland).

26. **Oriolus szalayi** (Mad.).

(*Oriolus striatus* Quoy et Gaimard 1830 is unfortunately preoccupied by *Oriolus striatus* Hermann 1783 !)

Mimeta szalayi Madarász, *Termeszetrajzi Füsetek*, xxiv, p. 80 (1901—Madang (Finschhafen), North New Guinea).

♂ Manokwari, 7.iv.1928.
♂♀ near Siwi, 26.iv, 5.v.1928.
Iris blood-red. Bill red. Feet grey or black.

The female has the face and throat blacker ; we have a number of birds like it, but this character does not seem peculiar to the female sex, according to the material available.

27. **Mino dumontii dumontii** Lesson.

Mino dumontii Lesson (1826—Dorey, now called Manokwari).

Both sexes from the terra typica, Manokwari, from Wasior, Hollandia, Momi and Ifaar on Sentani Lakes. Males have longer wings than females.

The Manokwari specimens of April 10th and 11th have numerous little white plumes on the back and sides of the neck, and some on the black portions of the abdomen and back. These were correctly described by Sharpe as " hair-like white plumelets," and even more in detail by Lesson, *Voyage Coquille*, i, p. 652, as long ago as 1826. They look at first glance as if they were appendices on the tip of the feathers, but they are independent feathers rising from the skins between the feathers, quite narrow, shafts only, at base, but at the tip with a droplike white spatula. It seems that they are only greatly in evidence in freshly moulted birds, while they are worn off and largely fall out later on—perhaps they are comparable to the small white ornamental plumes of the cormorants, which disappear when the breeding time begins !

28. **Aplonis (Calornis) metallicus metallicus** (Temm.).

Manokwari, Hollandia.

29. **Aplonis cantoroides cantoroides** (Gray).

Ifaar (Sentani Lakes), 15., 18., 19.ix.1928.

30. **Dicrurus bracteatus carbonarius** Bp. 1850.

This common bird was met with and collected at Wasior (coast) 23., 24.vii.1928, Momi 2.vii.1928, Hollandia August and October, Cyclops Mountains 31.viii.1928, and Ifaar on Lake Sentani, end September 1928. The iris of adults is red, of the young greyish brown. A female from Ifaar in moult is mainly covered with a soft downy smoky black plumage, a few metallic glossy feathers beginning to grow on the underside, many on the upperside, wings and tail. As the body is about full grown and the dull black downy feathers are much too long for a first nestling's plumes it seems as if that downy sort of fluff dress is a second " mesoptile " plumage.

Adult females are like males, but considerably smaller.

Weight 73·5–86 g.

31. **Chaetorhynchus papuensis** Meyer 1874.

Terra typica, Arfak.

A big series from Siwi, April and Wondiwoi Mountains in the Wandammen Peninsula, July. Iris very dark brown. At the base of the inner secondaries is a hidden patch of small entirely or partially snow-white feathers. Salvadori described them as a scapular patch, Meyer and Sharpe do not mention this peculiarity. Skins from Siwi partially in moult, some showing remains of a loose fluffy juvenile plumage. Females smaller than males.

Weight 37–49 g.

32. **Artamus maximus** A. B. Meyer.

Siwi and Ditschi. Iris deep brown. Bill grey-blue.

Adults weigh 53, 55, 58, 63·5, 71 g.

33. **Artamus leucorhynchus leucopygialis** Gould.

Seven ad. from Ifaar on Sentani lakes, middle September, 1 Kaju Pulu (near Hollandia), 15.x.1928.

Wings 125–137 mm. Adults weigh 40–44 g.

Stresemann, Nov. Zool. 1913, pp. 289, 292, separates *A. leuc. leucopygialis*, wing 121–135 mm., average about 129 mm., from Australia, S.E. New Guinea, and Fergusson Islands (possibly only winter visitors in New Guinea), and *A. leuc. papuensis* Bp., wing 128–139 mm., and bill larger, from the Moluccas, Western Papuan Islands and New Guinea, with exception of S.E. New Guinea.

As will be seen, the wing-measurements of the Ifaar birds are hardly decisive. The bills are, it is true, sometimes much smaller in the Australian form, but very often, if not mostly, as big as in " *papuensis*." Although I myself once separated the Cape York form as *parvirostris* I did not afterwards recognize it as different. I believe it will be better to await more material before separating

leucopygialis and *papuensis*, though it seems that *some* of the former do have smaller bills, and often shorter wings.

34. **Munia vana** spec. nov.

♀ Upperside earth-brown, lighter on the forehead, darker on the back. Upper tail-coverts with dull straw-yellow tips, middle rectrices with straw-yellow edges, apparently slightly elongated and tapering. Quills deep brown, inner edges fawn colour. Chin and sides of head under eyes brownish white, a brown form side to side over the jugulum, followed by a narrow dull white band, breast and abdomen, thighs and under tail-coverts light chestnut-ochraceous. " Iris dark, bill leaden grey, feet dark grey. "Wing 51·5 mm., tail worn.

Kofo, Anggi gidji Lake, 11.vi.1928. Typus!

Beside the type there are three others, all three sexed " ♂ " which were bad skins, but are now made up quite nicely, all from the same place and date. Two are evidently adult males in moult, the third moulting from the juvenile plumage to that of the adult, and there is one young. They agree in coloration with the type. The wings measure 50–51 mm.

Weight 10–12 g.

35. **Munia spectabilis mayri** subsp. nov.

Differs from *Munia spectabilis spectabilis* (Scl.) of New Britain by having the back lighter, without any trace of the blackish colour on the interscapulium, and the bills are smaller. " Iris brown. Bill whitish-grey, feet dark grey " (Mayr). The upper tail-coverts are also much more yellow, not so brownish as in *M. s. spectabilis*. Wings ♂ 46, 47, 48, 49, ♀ 46, 47, 48 mm.

Weight 8–9·5 g.

Type: ♂ ad. Ifaar, 27.ix.1928. No. 2639 Mayr coll.

A series Ifaar, Sentani Lake, September and October. Sexual organs large in both sexes, evidently laying.

Named after its discoverer, Dr. Ernst Mayr.

36. **Munia grandis destructa** subsp. nov.

Very close to *M. grandis grandis*, but back more brownish, upper tail-coverts and edges to rectrices yellower. Wing ♂ 58, ♀ 50 mm.

Type: ♀ ad. Ifaar, 22.ix.1928. No. 2508 Ernst Mayr coll.

These two specimens were collected inland and were not brought in before night, when they were already in bad condition. Only two specimens, ♂ and ♀, were shot, and the male lost its tail.

37. **Munia tristissima** Wall. 1865.

Adult and young were collected at Siwi, Arfak, where the type came from, Ditschi and Ifaar on Lake Sentani. We had it formerly also from the Hydrographer Range.

Weight 8·5–12 g.[1]

[1] *Munia tristissima* was described from Arfak. Later on Reichenow described *Munia calaminoros* (*Orn. Monatsber.* xxiv, p. 169, 1916, Augustahafen), but Stresemann says that he compared his type with Arfak specimens, and does not separate it. I believe that the brown and spotted specimens are females, but our Arfak material is poor. Possibly an eastern subspecies will be separable, but our present material does not enable me to understand these forms.

38. **Munia castaneothorax sharpii** (Mad.).

Donacicola sharpii Madarász, *Bull. B.O. Club*, iii, p. xlvii (1894—Bongu).

♂♀ ad. Ifaar, Lake Sentani, 19.ix.1928.

The males have the crown of the head lighter than the females. Probably the birds from Vulcan Island should be separated, because they have lighter backs, but more material from the mainland of Papua should be compared.

Weights ♂ 10, ♀ 10·5 g.

39. **Erythrura trichroa sigillifera** De Vis.

Lobospingus sigillifer De Vis, Ibis 1897, p. 389. (No locality, but apparently Mt. Scratchley.)
Erythrura trichroa goodfellowi Ogilvie-Grant, *Bull. B.O. Club*, xxix, p. 29 (1911—Moroka Mts., S.E. New Guinea).

♂ Mountains near Ditschi 31.v., ♂ ad. and juv. Kofo (Anggi gidji), 12.vi. 1928.

♂♀ Siwi and Lehuma.

These birds belong to the small form, named *goodfellowi*.

Weight 13–15 g. Wings 61–63 mm.

A synonym is evidently *Erythrura trichroa macgillivrayi* Mathews, *Austral Avian Record*, ii, p. 103, 1914, from the Claudie River, North Queensland. Mathews says the blue on the head goes farther over the crown, but this is not constant.

40. **Erythrura papuana** Hart.

Erythrura trichroa papuana Hartert, *Nov. Zool.* vii, p. 7 (1900—Arfak Mts.)

♂ ad. Siwi, Arfak Mountains, 27.iv.1928.

♀ ad. Siwi, 10.v.1928.

"Iris dark brown, bill black, feet pale flesh colour or pale reddish brown."

Weight 19 and 21 g.

These two birds agree with the type, having a very large bill, wings of 69 and 68·5 mm., the blue on the forehead extending almost as far back on the crown as in the type. We have similar specimens from the Aroa River and Kotoi in S.E. Papua.

This form occurs in the same countries with the form described as *goodfellowi* by Grant, it can therefore not be a subspecies of *trichroa*, if *goodfellowi* it is. We have thus a similar case as in the genus *Geospiza* on the Galapagos Islands, a large and a small form occurring together.

41. **Myzomela nigrita nigrita** (?).

Myzomela nigrita Gray, *Proc. Zool. Soc.* 1858, pp. 173, 190 (Aru Islands).

Mayr sent two adult males from Siwi, Arfak Mountains, May 1928, weighing 9 and 10·5 g.

These two males (females were not sent) agree with males from the Aru Islands. Their wings measure 59–60 mm. Specimens of *M. nigrita meyeri* from the Sepik River Mountains have longer wings, up to 64 mm., but some are, teste Stresemann, smaller, with wings only 58·5 mm. The distribution given by Stresemann is peculiar; most of our S.E. Papuan birds agree more or less with the Arfak birds, and so do some from the Snow Mountains, while others from there have still shorter wings.

42. **Myzomela cruentata cruentata** A. B. Meyer.

Myzomela cruentata A. B. Meyer, 1874, Arfak.

Dr. Ernst Mayr sent a series from the Arfak Mountains, from Siwi and Ditschi, April, May and June.

Also two males from the Cyclops Mountains, 24.viii.1928.

♂ ad. 7·5–8 g.

43. **Myzomela erythrocephala adolphinae** Salvad.

Myzomela adolphinae Salvadori, 1875, Arfak.

Two ♀ near Siwi, Arfak.

Weight 7 and 8 g.

The females of *M. e. adolphinae* differ from those of *M. cruentata cruentata* by their smaller bill, lighter upper- and underside and brown tail and rump without red edges! "Iris dark brown, bill black, feet brownish grey or reddish grey."

44. **Myzomela rosenbergii** Schleg.

Myzomela rosenbergii Schlegel, 1871, Arfak Peninsula.

Mayr found this species on the mountains above Ditschi, between 1,200 and 1,500 m., at the Gunong Mundi near Ninei, 1,800 m., and on the Cyclops Mountains. On the latter they were apparently breeding. Iris dark brown.

Weight 9–11·5 g.

45. **Myzomela eques eques** (Less.).

Cinnyris eques Lesson, *Voy. Coqu., Zool.* i, p. 678, pl. 30 (1828—Waigiu and Arfak Peninsula).

1 ♂ ad. Siwi, 11.v.1928.

♀ juv. Hollandia, 13.x.1928.

The last specimen agrees with a pair from the Mamberano River described by Rothschild and Hartert, NOV. ZOOL. 1903, p. 223. Stresemann has described the juvenile plumages, and I am now sure that our specimens from the Mamberano and Hollandia about which we were doubtful are juvenile *eques*.

46. **Toxorhamphus iliolophus iliolophus** (Salvad.).

Melilestes iliolophus Salvadori, 1875 (Miosnom and Jobi).

Siwi, mountains near Ditschi 1300 m., Ditschi, Hollandia, and Cyclops Mountains.[1]

All these birds, like those from Jobi and Arfak, do not exhibit the pale yellow tufts of flank feathers which are conspicuous in a series from S.E. New Guinea, but some are intermediate. "Iris brown, bill black, feet grey."

The females are, as is well known, much smaller than the males.

For the genus, see NOV. ZOOL. xxi, p. 394, 1914.

Weights ♂ 11–13·5, ♀ 9–10 g.

[1] The specimens from the Cyclops Mountains are probably like the typical *iliolophus* from Miosnom and Jobi, of which, however, no good skins are available. Skins from the Arfak Peninsula seem to be less greenish, especially on the head, while S.E. Papuan birds are paler! There are therefore probably three subspecies (except *fergussonis*), but finer skins from Arfak are desirable!

47. **Toxorhamphus novaeguineae novaeguineae** (Less.).

Cinnyris Novae-guineae Lesson, *Voy. Coquille, Zool.* 1828 (Arfak, Dorey).

Siwi, mountains above Siwi, Hollandia and Cyclops Mountains.
Weights ♂ 13–14, ♀ 10 and 11·5 g.

48. **Melilestes megarhynchus stresemanni** subsp. nov.

Differs from *M. megarhynchus megarhynchus* from the Arfak region, Kapaur, lower Snow Mountains, Aru Islands and S.E. Papua by the colour of the underside, which is less yellowish-greenish, more greyish-brownish, and the darker, browner upperside. In colour like *M. m. vagans* of Waigiu, but bill slenderer!

The bill of *M. m. vagans* is much thicker than that of its allies.

Type of *M. m. stresemanni* ♂ ad. Hollandia, 13.x.1928. No. 2835 Ernst Mayr coll.

"Iris red. Bill black. Feet grey."

Mayr sent 2 ♂ Hollandia, 1 ♀ Cyclops Mountains, 23.viii.1928. Wings ♂ 101, 103, ♀ 105 mm.

To this subspecies belong also our birds from Takar, W. A. Doherty coll. 1896. Their wings measure ♂ 102–104, ♀ 95 mm.

Weights ♂ 46, 47, ♀ 42, 45 g.

49. **Melilestes megarhynchus megarhynchus** (Gray).

Ptilotis megarhynchus Gray, *Proc. Zool. Soc.* 1858, p. 174 (Aru Islands, type a young bird).

1 ♂ ad., 1 ♀ juv. Siwi, Arfak, 2.v.1928. ♀ ad. 40 g. Iris of the adult "rötlich (gelb)," of the young brown. The young are underneath streaked with very pale yellow, and there is a pale sulphur yellow ring round the eye.

50. **Glycichaera fallax** Salvad.

♂ ad. Siwi, Arfak, 16.v.1928. "Iris hellgelb. Schnabel schwärzlich. Füsse blaugrau."

Weight 12·5 g.

51. **Oedistoma pygmaeum pygmaeum** Salvad.

♀ Siwi, 15.v.1928.
♀ Cyclops Mountains, 24.viii.1928.
♀ Hollandia, 11.x.1928.
Weight 5–5·5 g.

52. **Melipotes fumigatus goliathi** R. & H.

Melipotes gymnops goliathi Rothschild & Hartert, *Nov. Zool.* xx, p. 515 (1913—Mt. Goliath).

Eleven specimens of both sexes from the Cyclops Mountains, first half of September. The sexual organs were rather highly developed. "Iris brown, bill black, feet grey." The large patch of bare skin around the eyes is "gamboge" according to Boden Kloss.

The distribution is rather interesting: Mount Goliath, Utakwa River, Mount Kunupi on the Weylandt Mountains, Schraderberg on the Upper Sepik River and Cyclops Mountains: "♂" wing 122, 117, 112, 115·5, 120, 119, 124, 114 mm.; "♀" wing 110, 111·5, 111 mm.

Weight ♂ 52–64, ♀ 50–58 g !

I conclude from these measurements that Stresemann's supposed larger form *anthophilus* from the Hunsteinspitze are not separable from *M. f. goliathi*, otherwise we would have both forms from the Cyclops Mountains, as topotypical *goliathi* measure ♂ 114–117, and two from Mount Kunupi 120, females 109–111 mm.

53. **Melipotes gymnops** Scl.

Melipotes gymnops Sclater, *Proc. Zool. Soc. London*, p. 695, pl. 56 (Hatam in the Arfak Mts.).

Mayr sent a series from the mountains near Siwi and Ditschi, from Lehuma and Wondiwoi in Wandammen. " Iris brown." " Nackte Haut dunkel dottergelb." ♂ wings 115–120, ♀ 108–112, once 115 mm.

Weight ♂ 58–61·5, ♀ 48–55 g.

54. **Melidectes torquatus torquatus** Scl.

Melidectes torquatus Sclater, *Proc. Zool. Soc. London*, 1873, p. 694, pl. 55 (Hatam, Arfak).

This subspecies, by no means common in collections, seems only known from Arfak, where Mayr collected seven specimens in the mountains near Siwi and Ditschi. Only two were males. The sexes are alike in coloration, but the males are considerably larger. ♂ wing 112, 115, ♀ 102–105 mm.

Weight ♂ 48, ♀ 39–45 g !

" Iris dark. Bill and feet blue-grey. Naked space around eyes bright lemon-yellow ; bare skin at base of bill brick-red ; little lappet on upper edge of rictus whitish pink."

55. **Melidectes (Melirrhophetes) leucostephes** Meyer.

Mountains of Siwi, Ditschi and Lehuma.

This form seems to be only known from the Berau Peninsula, now called " Vogelkop."

Naked skin around eyes whitish sky-blue, wattles on sides of neck bright brick-red.

Its iris is very dark, bill whitish or bluish grey, feet blue-grey (Mayr). The characteristic wattles on the sides of the foreneck are present in both sexes, but absent in young. The colour of these wattles is dark brick-red (E. Mayr).

Weight ♂ 78–93, ♀ 65–78 g !

56. **Melidectes (Melirrhophetes) ochromelas ochromelas** Meyer.

Melirrhophetes ochromelas A. B. Meyer, *Sitzungsber. Akad. Wissensch. Wien*, lxx, p. 111 (1874—Arfak Peninsula).

Two mountains near Ditschi, June.

Three Lehuma, June.

One Wondiwoi, Wandammen Peninsula, 10.vii.1928.

" Iris dark grey and dark brown, skin around eye greenish white, feet whitish, in the Wondiwoi specimen (♀) ' hellblaugrau.' "

Weight ♂ 61·5–65, ♀ 54–62·5 g !

As usual female smaller, otherwise like male. *M. ochromelas batesi* inhabits S.E. New Guinea.

57. **Meliphaga notata sharpei** (R. & H.).

Ptilotis aruensis sharpei Rothschild & Hartert, *Nov. Zool.* x, p. 442 (1903—Dorey in Arfak).

A very typical male, with long yellow ear-tufts and with blackish middle portions of the elongated rump feathers was obtained at Ifaar on Lake Sentani, near Hollandia, 15.ix.1928. Testes much enlarged! "Iris greyish brown. Bill black. Feet grey." Wing 89 mm.

Weight 27 g.

(Stresemann, *Journ. f. Orn.* 1925, in his excellent article on the forms and allies of *Mel. analoga* describes *M. analoga vicina* as a subspecies of *notata*, but I think that it is rather a form of *M. analoga*!)

58. **Meliphaga analoga analoga** (Reichenb.).

(The type of Reichenbach's *analoga* was apparently from Triton Bay.)

Collected at Manokvari (Dorey), Siwi, Ditschi, Hollandia, Ifaar and Cyclops Mountains. Quite young birds resemble the old ones very much in coloration, but are paler.

Weight ♂ ad. 18·5, 22, ♀ 18–20 g.

The specimens from Ifaar and Cyclops Mountains have mostly darker yellow ear-coverts, one female from Manokwari has white ear-coverts (aberr. *albonotata*). Possibly more than one subspecies may be separable on the mainland of New Guinea, but I doubt it. Specimens from Arfak are usually duller! The genus *Meliphaga* (formerly *Ptilotis*) has been reviewed by me in Nov. Zool. 1913, p. 519, and by Stresemann, *Journ. f. Orn.* 1925, p. 255. Grant's review in *Ibis*, 1915, *Supplement*, p. 63, is greatly confused.

59. **Meliphaga montana montana** (Salvad.).

Ptilotis montana Salvadori, *Ann. Mus. Civ. Genova*, xvi, p. 77 (1880—Arfak Mts.); id. *Orn. Pap.* ii, p. 333.

Mayr sent three skins of this somewhat uncommon form from the Arfak region:

♀ Manokwari, 9.iv.1928. Wing 79 mm.

2 ♂ Siwi, 29.iv. and 1.v.1928. Wing 88, 89 mm.

Weight 32 g.

The outer edges to the quills are olivaceous-greenish!

60. **Meliphaga montana germanorum** subsp. nov.

Three specimens from the Sattelberg (Wahnes coll.), from the Hunsteinspitze on the Upper Sepik River (Bürgers coll.) and the Cyclops Mountains (Ernst Mayr coll.) are very much darker, not greenish but a deep dark olive-brown on the upperside, which is especially striking on the quills. The undersurface is not uniform, but even more distinctly scaly than in topotypical *montana*, the feathers being greyish in the middle, and slightly yellowish on the edges. "Iris graubräunlich, Schnabel schwarz, Füsse blaugrau." Ernst Mayr collected specimens on the Sattelberg and in another locality in the "Mandated Territory" of Papua. Wings ♂ 89–91, ♀ 85 mm.

Type: ♂ ad. Cyclops Mountains, 30.viii.1928. No. 2097, Ernst Mayr coll.

Weight 32 g.

Very near to *M. montana germanorum* (all specimens known to me were sent by German collectors) is the form from the Aicora River in S.E. New Guinea. They do not belong to *M. montana montana*, being much less greenish, especially on the wings. The Aicora River specimens are either *M. montana germanorum* or a new unnamed subspecies with slenderer bills.

M. montana mimikae, in the original description erroneously compared with *M. orientalis*, is not more greenish than *M. m. montana* and in fact not separable from the latter, except by having a *generally* smaller bill. More material must show if that is constant enough to warrant its separation as a subspecies.

61. **Stigmatops alboauricularis** Rams.

Stigmatops alboauricularis Ramsay, *Proc. Linn. Soc. N.S. Wales*, iii, pp. 75, 285 (1878—Small islet near S.E. point of New Guinea).

3 ♂ Ifaar, 24.ix., 1.x., 2.x.1928. "Iris dark, bill black, feet grey."

Weights 13·5, 14, 17 g.

The distribution of this distinct and peculiar species is remarkable. Except the types there seem to be only known specimens collected by Tappenbeek on the Lower Ramu River.

62. **Xanthotis flaviventer flaviventer** (Less.).

Myzantha flaviventer Lesson, *Manuel d'Orn.* ii, p. 67 (1828—Dorey in Arfak Peninsula).

A number of specimens of both sexes from Siwi, April and May. Males much larger, wing of two males 108, 110, females 96–104 mm. Also one female from Wasior.

Weight ♂ 47 and 50, ♀ 40–44·5 g.

63. **Xanthotis flaviventer meyeri** (Salvad.).

Ptilotis meyeri Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 947 (1875—Jobi).

Hollandia, Ifaar near Lake Sentani, evidently common. "Iris dark brown, bill black, feet grey." Males as usual much larger than females. The ear-tuft is orange yellow.

Weight ♂ 40–53, ♀ 42–47 g.

64. **Xanthotis polygramma poikilosternos** Mey.

Xanthotis poikilosternos A. B. Meyer, *Sitzungsber. k. Akad. Wiss. Wien*, lxx, p. 112 (1874—Andai, at foot of Arfak Mts.).

♀ ad. Hollandia, 11.x.1928, ♂ juv. Siwi, 9.v.1928. As mentioned already by Stresemann, the young bird lacks the white spots on the nape and has pale rufous or rusty edges to the upper wing-coverts—also the yellow ear patches are paler and sometimes washed with grey. Of the Siwi bird Mayr describes the iris as "dark," bill black, skin above and below the eye yellow, behind the eye pink.

Weight ♂ 20 g.

It is curious that it has not hitherto been mentioned, that the Waigiu specimens have not yellow, but glossy ashy grey ear-coverts, a black line in front as in *X. p. poikilosternos*. The Waigiu bird has also longer wings, 2–3 mm. *X. polygramma* (Gray) was originally described from Waigiu only, and it is

therefore wrong in the *Cat. B. Brit. Mus.* ix, p. 233, to say that the Mysol specimens were the types! In fact the Mysol specimens differ again from *poikilosternus*. There are 5 in Tring and 4 in London and none of them has the crown black with short olive longitudinal stripes, but olive with some dull dusky spots and stripes. It is true we have only two adult ones, and those in London are juvenile, but the old birds also have the heads greenish, not blackish. Iris according to Kühn, chocolate or dark coffee-brown. Size as in *X. p. poikilosternos*.

Type: "♀" Misol (Mysol), 21.i.1900. Heinr. Kühn coll.

I propose for the Misol subspecies the name

Xanthotis polygramma kuehni, subsp. nov.

(The three races were separated for years in the Tring Museum drawers.)

65. **Ptiloprora erythropleura** (Salvad.).

Ptilotis erythropleura Salvadori, 1875, Arfak Mts.

Eight skins from the mountains above Ditschi, 1500 m., end of May, one from Lehuma, 29.v.1928. "Iris red-brown to red, bill black, feet blue-grey." Wing ♂ 83, 90, ♀ 77–80 mm.

Weight ♂ 21, 21, 23, ♀ 18·5–20·5 g.

As *Pt. erythropleura* and a subspecies of *P. guisei* occur together on the southern Snow Mountains, the latter and its allies cannot be subspecies of *erythropleura*. One of the important differences is the colour of the iris which is green or greenish in all known subspecies of *Pt. guisei*, but red or reddish brown in *Pt. erythropleura*. The latter is a new species for the Tring collection, which we had only known from descriptions and more recently from the coloured plate in Grant's *Ibis Supplement*, 1915.

66. **Ptiloprora guisei praedicta** subsp. nov.

4 ♂, 1 ♀ from Wondiwoi (Wandammen) are very closely allied to *Pt. guisei lorentzi* from the Snow Mountains, but the rump is less rufous-brownish. This form was already marked on the labels as "subsp. nov." by the collector, it is, however, surprising that it is so close to the Snow Mountains form.

Type: ♂ ad. Wondiwoi, 8.vii.1928. No. 1394 Mayr coll.

"Iris yellowish green, light greyish green. Bill black. Feet light blue-grey."

Weight ♂ 30·5–32, ♀ 26 g.

Wings ♂ 101, 102, 104, ♀ 90 mm.

67. **Ptiloprora guisei mayri** subsp. nov.

Differs from *Pt. guisei guisei* by larger size, the pure grey edges to the feathers on the head, which are olivaceous-grey in *P. g. guisei*, and somewhat narrower and less bright rufous edges to the feathers of the back. Wing ♂ 98–104, mostly 99–101, only once 194, ♀ 90–94, mostly 90–92 mm. "Iris greyish green."

Weight ♂ 28·5–35, ♀ 27–29 g.

The young have on the underside greenish sulphur-yellow edges to the feathers.

Type: ♂ ad. Cyclops Mountains, 31.viii.1928. No. 2125. Mayr coll.

On 6.ix.1928 a female was shot with an egg ready for laying; others from the same time had the ovaries only a little developed.

This form was common on the Cyclops Mountains, west of Hollandia, where a fine series was collected.

68. **Ptiloprora cinerea cinerea** (Scl.).

Ptilotis cinerea Sclater, *Proc. Zool. Soc. London*, 1873, p. 693 (Hatam, Arfak Mts.).

A series of ten from Siwi and the mountains above Siwi, Arfak Mountains. The iris of this species is brown. The males and females are similar in colour, but the latter are smaller.

This is another form only known from the Arfak Mountains; it is represented in S.E. New Guinea by *Pt. cinerea marmorata*, which has also been collected on the southern slopes of the Snow Mountains.

In one female fruits were found in the stomach.

Weight ♂ 45, 48, 50, ♀ 40·5–44 g.

69. **Philemon novaeguineae jobiensis** Meyer.

Philemon jobiensis A. B. Meyer, *Sitzungsber. Ak. Wiss. Wien*, lxx, p. 113 (1874—Jobi).

Half a dozen specimens from Ifaar, near Lake Sentani, September 1928. "Iris brown or dull grey." Wings ♂ 155–161, ♀ 155–158 mm.

Weight ♂ 140–160, ♀ 127, 140 g.!

Five subspecies are recognizable on New Guinea and Aru Islands. Grant, *Ibis Supplement*, p. 78, expressed doubt in the differences of these forms, but without reason. Stresemann, in his Sepik article, p. 64, recognized them all.

70. **Philemon (Philemonopsis) meyeri** Salvad.

Philemon meyeri Salvadori, *Ann. Mus. Civ. Genova*, xii, p. 339 (1878—Rubi).

♀ Hollandia, 16.x.1928.

Weight 45 g.

♀ Cyclops Mountains, 2.ix.1928.

Weight 42 g.

"Iris dark brown-grey or brown."

71. **Timeliopsis fulvigula fulvigula** (Schleg.).

Euthyrhynchus fulvigula Schlegel, *Nederl. Tijdschr. Dierkunde*, iv, p. 40 (1871—Arfak region).

One male, head shot to pieces, mountains near Ditsehi, 31.v.1928. "Iris red-brown, bill black, feet greyish brown."

Weight 16·5 g. Wing 78 mm.

This form, from which *T. f. meyeri* (Salvad.), of S.E. New Guinea is doubtfully distinct, is very rare in collections.

In the *Ibis Suppl.* 1915, p. 79, Ogilvie-Grant called this bird *Timeliopsis flavigula meyeri*, instead of *T. fulvigula meyeri*!

72. **Timeliopsis griseigula** (Schleg.).

Euthyrhynchus griscigula Schlegel, *Nederl. Tijdschr. Dierkunde*, iv, p. 39 (1871—Sorong and near west coast of Geelvink Bay).

♂ Hollandia, 15.x.1928.

This specimen agrees with a male from Takar, collected by Doherty, and fairly well with one from Andai (Arfak), though the latter is more reddish and brighter, but that may be due to individual variation. Wing 96 mm.

I used the name *griseigula*, though there is no grey ("gris rougeatre très pâle"), but this is not mentioned in the description by Salvadori, who had two Andai examples, and who had examined the Leiden specimens. I cannot call the bird *flavigula* because the wing is supposed to be only 80 mm., which is too little for any "*griseigula*."

Perhaps *flavigula* is the same!

73. Cinnyris jugularis frenata (S. Müll.).

Nectarinia frenata S. Müller, *Verh. Nat. Gesch., Land- en Volkenkunde*, p. 173 (1843—Lobo, New Guinea).

2 ♂ ad. and 1 ♀ Manokwari, one female, Ifaar.

The eastern subspecies is well marked and is now called *Cinnyris jugularis flavigastra* (Gould), originally described from New Ireland.

One female was weighed: 7·5 g.

74. Cinnyris sericeus sericeus Less.

Cinnyris sericeus Lesson, *Dict. Scienc. Natur.* i, p. 21 (1827—Dorey).

Manokwari, Hollandia and Ifaar.

Weight ♂ 8–9 g.

75. Dicaeum geelvinkianum simillimum subsp. nov.

Extremely similar to *D. g. diversum* R. & H. (Nov. Zool. 1903, p. 215), but differs by the deeper red colour of the crown, breast patch and rump. Type: ♂ ad. Hollandia, 1.viii.1928. No. 1690 E. Mayr coll.

Weight 6 g.

With this specimen agrees a male from "near Humboldt Bay," received from J. Dumas.

With the type of *diversum* agrees the series from the southern Snow Mountains, and a female from Takar, north coast of New Guinea, has the crown lighter than in adult females of *rubrocoronatum*, so that I consider it to belong to *diversum*, and not to *simillimum*.

It is perhaps risky to describe a form which differs so little, but this form is interesting as standing in between *rubrocoronatum* and *diversum*, in having the deep red of the former and the more steel-blue (not purplish) edges of the latter, and its geographical position is equally intermediate.

76. Dicaeum pectorale S. Müll.

Dicaeum pectorale S. Müller, *Verh. Nat. Gesch. Ned. Ind., Land- en Volkenkunde*, p. 162 (Lobo).

A small series from Siwi, above Wasior, and Manokwari, also one ♂ ad. from Wondiwoi, Wandammen Peninsula.[1]

Weight ♂ 7·5–8, ♀ 7·5 g.

77. Melanocharis bicolor bicolor Rams.

Melanocharis bicolor Ramsay, *Proc. Linn. Soc. N.S. Wales*, iii, p. 277 (1879—"Goldie River, British New Guinea").

Ten adult males and some adult females, with enlarged ovaries, were collected near Hollandia and on the Cyclops Mountains in August and October.

[1] What is *Dicaeum arfakianum* Finsch, *Notes Leyden Museum*, xxii, p. 70 (1900—supposed Moris, Arfak Mountains), described from one skin at Leiden, with a brownish grey crown, yellow tufts on the sides of the breast, and a wing of 62 mm.! Dr. Mayr considers it to be an *Acmonorhynchus* with wrong locality!

" Iris brown, bill and feet black." The males are blue-black above and below, females above olivaceous-green, underneath grey with an olive-greenish wash. Wings ♂ 63–67, mostly 64–66, ♀ 61–65, mostly 62–64 mm.

Weight ♂ 10–12, ♀ 13·5–16·5 g.

78. **Melanocharis nigra nigra** (Less.).

Dicaeum niger Lesson, *Voy. Coquille, Zool.* i, p. 673 (1828—Dorey, now called Manokwari).

Two males Siwi, May 1928. Weight 12 and 13 g. " Iris dark grey-brown." This bird is not very numerous in collections, and I should say it would be impossible to distinguish it in the trees from *Melan.* (" *Urocharis* ") *longicauda*. In our *Notes on Papuan Birds* Lord Rothschild and I mixed this bird up with *N. longicauda*, but in Nov. Zool. 1907, p. 476, we put ourselves right and stated the differences between males and females of the two species.

79. **Melanocharis longicauda** Salvad.

Melanocharis longicauda Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 942 (1875—Arfak).

A series was obtained near Siwi, Ditschi, Lehuma, and two at Wondiwoi. " Iris ♂ brown, ♀ greyish brown."

Weight ♂ 11–13, ♀ 13, 14·5, 15 g. *Loranthus* was found in one stomach.

I do not consider the more emarginated first primary and the tail, which is some millimetres longer, useful generic characters, and therefore unite " *Urocharis* " (type *longicauda*) unhesitatingly with *Melanocharis*.

80. **Pristorhamphus versteri versteri** Finsch.

Pristorhamphus versteri Finsch, *Proc. Zool. Soc. London*, 1875, p. 642 (Arfak).

♂♀ Dohunsehik (Issim valley), 17.vi.1928.

Kofo (Anggi lakes), 13.vi.1928.

3 ♂, 2 ♂ juv., 6 ♀ mountains above Ditschi, May.

Adult males, juvenile males and many females from the Cyclops Mountains, September and August. " Iris dark brown." The two forms which Rothschild and I separated in *Bull. B.O. Club*, xxix, p. 36, are very good. It may be added that the back of *P. v. versteri* and *P. v. maculiceps* DeVis is in the adult male much more glossy than in *P. v. meeki* and that the abdomen of *P. v. meeki* is darker in the middle than in *P. v. versteri*, of which we had only two poor males and a female.

The larger body, bill, wings and shorter tails of the females of *Pristorhamphus* have been noted by most writers. The young males are like the females but they have more black in the tails and are easily distinguished by the narrower, smaller bills and shorter wings.

Weight ♂ ad. 10·25–13·5 g, ♀ 16–17·5 g.

81. **Oreocharis arfaki** (Meyer).

Parus (?) *arfaki* A. B. Meyer, *Sitzungsber. Isis, Dresden*, 1875, No. of April 1 (Arfak).

Four males Lahuma (Arfak) and Kofo (Anggi gidji), June 1928. " Iris dark, bill black, feet blackish."

Weight 18·5–20 g.

82. **Zosterops minor** A. B. Meyer.

Zosterops albiventer minor A. B. Meyer, *Sitzungsber. Akad. Wiss. Wien*, lxx, p. 115 (1874—Jobi).

1 ♂ ad. Cyclops Mountains, 27.viii.1928. Testes large.

Weight 10·5 g.

This species (*minor* Mey. 1874, *aureigula* Salvad. 1878) was formerly only known from Jobi, but Bürgers discovered it on the mountains of the Sepik region, and now one was sent from the Cyclops Mountains. It agrees with our five Jobi specimens except that the orange-yellow throat appears less restricted ; but this is apparently due to preparation, the throat in the Cyclops Mountain skin being too much contracted, those of the Jobi specimens very much elongated.

83. **Zosterops chrysolaema** Salvad.

Zosterops chrysolaema Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 954 (1880—Arfak).

1 ♂, 1 ♀ Siwi. "Iris bleich grau-braun. Schnabel schwarz. Füsse dunkelgrau."

♂ Weight ♂ 11 g.

84. **Zosterops novaeguineae** Salvad.

Z. novaeguineae Salvadori, *Ann. Mus. Civ. Genova*, xii, p. 341 (1878—Arfak).

6 ♂♀ ad. and two juveniles with fluffy plumage and paler yellow throats, Siwi, Arfak, 23.iv.1928.

One male from Wokan, Aru Islands, appears to be duskier, darker on the sides of the head, but a series would be necessary to confirm this !

Weights 1 ♂ 10·5, 1 ♀ 10·5 g.

85. **Zosterops fuscicapilla** Salvad.

Zosterops fuscicapilla Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 955 (Arfak).

Four Siwi, Arfak, three Cyclops Mountains. "Iris brown. Bill black. Feet grey."

Weight ♂ 11·5–12·5, ♀ 12–12·5 g.

86. **Pachycare flavogrisea flavogrisea** (A. B. Meyer).

Pachycephala flavogrisea A. B. Meyer, *Sitznugsber. k. Akad. Wissensch. Wien*, lxix, p. 495 (1874—Arfak).

A fine series from Siwi, Ninei, and three from Wondiwoi.

Weight ♂ 17·35–19·5, ♀ 18 g.

The Wondiwoi specimens are very bright, more orange yellow, but they are not so orange as *P. f. subaurantia*, though the orange yellow on the underside and face differs somewhat in brightness. It seems that this colour fades, as seven old skins, collected in 1874 and 1879 in the Arfak Mountains by Bruijn's hunters, are paler than our fresh material. There can, however, be no doubt that the birds from S.E. New Guinea are paler than the Arfak ones and they also differ in having finer, less bulky bills. The wings of the S.E. New Guinea specimens are also on an average shorter, ranging from 63 to 66, very nearly 67, while in Arfak the wings are 66 to 67, rarely 68 mm. I therefore name the S.E. Papuan form

Pachycare flavogrisea subpallida, subsp. nov.

Type : ♂ ad. Bihagi, head of Mambare River, 28.iii.1906. A. S. Meek coll. (Eichhorn praep.). No. A. 2670 Meek coll.

There can be no doubt (though a few specimens are wrongly sexed on the labels) that the specimens with a dusky patch on the ear-coverts are females ; they are also smaller, wings 3–4 mm. shorter, than males. A young female of *subaurantia* is paler underneath than the adult, the forehead quite pale and there is no black cross-bar across the forehead behind the yellow line, the bill is much shorter.

Specimens from the Aicora River in N.W. British New Guinea, and a female from the Rawlinson Mountains seem somewhat intermediate between *subpallida* and *flavogrisea*, but to belong to *subpallida*.

It seems that the yellow colour in skins is subject to fading in time, as old skins are apparently faded, compared with fresh ones.

87. **Pachycephala schlegelii schlegelii** Schleg.

Pachycephala Schlegelii Schlegel (name ex Rosenberg MS.), *Nederl. Tijdschr. Dierkunde*, iv, p. 43 (1873—Interior of Arfak Peninsula).

Both sexes from the mountains above Ditschi and Lehuma, Arfak Peninsula, also series of both sexes from Wondiwoi, Wandammen Peninsula.

The series from the Arfak Peninsula agrees perfectly with those from Wondiwoi. Some young birds have traces of the red-brown first juvenile plumage on the head and wing-coverts.

Unfortunately many of this form and the following were moulting their body plumage.

88. **Pachycephala schlegelii cyclopum** subsp. nov.

♂ ad. In coloration like *P. s. schlegelii*, but bill as a rule larger, higher, wings longer.

♀ ad. Like that of *P. s. schlegelii*, but upperside somewhat more greenish, less brownish, wings longer, chest paler grey, followed by a paler band.

Wings *P. s. schlegeli* ♂ ad. : 86, 85, 85·5, 85, 87, 86, 87, 84, 84, 85, 87·5, 85 (84–87·5) mm. Weight 19·5–24·5 g.

P. s. schlegeli ♀ ad. : 80, 85, 86, 86, 85, 85, 85, 81, 81, 84, 83, 83, 81, 81, 82·5 (80–86) mm. Weight 19·5–25 g.

P. s. cyclopum Hart. ♂ ad. 88, 91, 90·5, 91, 91·5, 89·5, 90, 88·5, 89·5, 90, 88, 89, 91 (88–91) mm. Weight 23·5–26·5 g.

P. s. cyclopum ♀ ad. : 87, 87·5, 88, 87, 87, 87, 89, 90, 90, 89·5, 87 (87–90) mm. Weight 24–26·5 g.

Type : ♀ Cyclops Mountains 31.viii.1928. No. 2123 Ernst Mayr coll.

89. **Pachycephala meyeri** Salvad.

Pachycephala meyeri Salvadori, *Aggiunte Orn. Pap.* ii, p. 104 (1890— Hatam, Arfak Mts. Type in Mus. Dresden, compared by me with Mayr's specimens 8.ii.1930).

As far as I know only the two specimens (unfortunately for many years mounted in the glass-cases and therefore now dirty, the throats brownish grey) in Dresden were hitherto known. They are both females. Now Mayr sent a male and female adult from the mountains near Siwi, 21.iv.1928 and 13.v.1928, and an apparent young male from Ditschi. The sexes are alike.

The crown is slaty grey, rest of upperside olive-green, throat greyish white with faint dusky tips to the feathers, a pale brown chest-band ; abdomen and

under tail-coverts bright lemon yellow, under wing-coverts and axillaries very pale yellow. "Iris brown. Bill black. Feet grey." Wing 90 mm.

Weight ♂ 19 g.

90. **Pachycephala griseiceps squalida** Oust.

Pachycephala squalida Oustalet, *Bull. Soc. Philomatique septième série*, ii, p. 56 (Publ. 1878—1 ♀ young from Amberbaki, north coast of Berau or Arfak Peninsula).

A series from Siwi, 800 m., in the Arfak Mountains must, I think, belong to this subspecies. The throat is whitish and in the very cleanly and smoothly made skins the throat is mostly very distinctly striated with pale grey, but sometimes the streaks are hardly visible, and in skins where the throat is a bit ruffled the streaks cannot be seen.[1] The abdomen is pale sulphur yellow. Wing ♂ (5) 81–83, once 85, ♀ 78–80, once 81, once 74 mm.

Weight ♂♀ 18–23 g.

"Iris dark brown, bill black, feet grey." The line from base of upper bill to eye is distinctly brownish white, ear-coverts brown and whitish.

The forms of *P. griseiceps* are somewhat difficult to define, not only, though mainly, on account of want of well-collected and sufficient series; unfortunately few skins came to hand as perfect and smooth as those of Albert Eichhorn.

We have now before us the following forms:

Pachycephala griseiceps griseiceps Gray, 1858, Aru.

We have specimens from various islands of the Aru group, but all in worn plumage; the streaks on the throat are very faint, but clearly present in at least some specimens. With the Aru birds seem to agree those from the Aroa River in S.E. New Guinea, though it is possible that they differ slightly if equally good material was at hand from the Aru Islands.

Pachycephala griseiceps squalida Oust., 1878, Amberbaki.

Except the Arfak specimens those from Misol, Sorong and Waigiu seem to belong to this form, though it is possible that the latter are less clearly striated on the underside, but at present this cannot be said with certainty. The Misol specimens have the brown chest-band very pronounced (more like Aru birds, i.e. typical *griseiceps*).

Pachycephala griseiceps jobiensis Meyer, 1874, Jobi.

Underside undoubtedly slightly brighter yellow, at least on abdomen and under tail-coverts, striations on throat and breast absent or only faintly indicated. Ear-coverts brown. We have this form from Jobi Island, but we cannot distinguish from the Jobi skins those from Kapaur (Fakfak) on the southern part of the Onin Peninsula. This is, as far as our present knowledge goes, not a satisfactory distribution, but it may be that this form is one of the plains and much wider spread than we know.

(*P. griseiceps rubiensis* Meise, *Abh. & Berichte Mus. Tierkunde, Dresden*, xvii, No. 4, p. 15, 1929, is indistinguishable from *jobiensis*. Compared with

[1] Monsieur Berlioz kindly tells me that in the type of *squalida* the throat and breast are in bad condition, and that he cannot see any trace of stripes; I think nevertheless that our specimens from the Arfak region are the same, as sometimes the stripes are practically absent, and in bad skins they would be invisible.

squalida it is *not* more intensively yellow underneath, and the edge of the wing is of the same colour. Described from *one* old skin, compared with *one* Andai specimen !)

91. **Pachycephala griseiceps subflavidior** subsp. nov.

Very similar to *P. g. jobiensis* from Jobi, but abdomen and especially under tail-coverts brighter yellow, the latter brightest. The whitish line from bill to eye is hardly indicated, ear-coverts brown !

This form replaces *jobiensis* on the north coast east of Geelvink Bay, at Takar and the Cyclops Mountains and Hollandia.

Ernst Mayr sent a series of nine from the latter two places.

Weight 19·5–23 g.

Type : ♀ ad. Cyclops Mountains 23.viii.1928. No. 1959 Mayr coll.

Pachycephala griseiceps perneglecta subsp. nov.

The specimens from the southern Snow Mountains differ by the dark and distinct striations not only on the throat and breast, but even along the abdomen. There is a distinct greyish brown band across the chest and the superciliary line from bill to over the eyes is distinct and dirty whitish. Ear-coverts brownish, not striated. Abdomen and under tail-coverts very pale yellowish. Wings ♂ of to 85 and 86 mm.

Type : ♂ ad. Snow Mountains, 26.x.1910. No. 4903 A. S. Meek coll., skinned by A. Eichhorn.

Pachycephala griseiceps miosnomensis Salvad. 1879, Miosnom.

We do not possess a specimen of this long-winged form, but a similarly large subspecies inhabits the small island south-west of Waigiu, called Gagi. Both have the wings about 90 mm. or more and are generally larger.

(*P. dubia* I cannot confidently regard as a subspecies of *griseiceps*, as it occurs in many places in S.E. Papua, also on the Hydrographer Mountains, while *P. griseiceps* is found there at Naiabui, Kotoi district, and Aroa River.)

92. **Pachycephala hyperythra hyperythra** Salvad.

Pachycephala hyperythra Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 932 (1875—Arfak Mts. and Kapaur).

13 ♂♀ ad. from Siwi, Arfak Mountains, 1 ♂ Ninei, ♀ juv. mountains near Ditschi, 1 ♂ Wondiwoi.

Weight 25–29·5, one ♀ 33·75 g !

The males have the upperside less rufous, more yellowish than the females, the edges to the primaries a shade less reddish. " Iris dark brown, bill blackish, feet greyish pink, flesh-colour." The young bird has the edges of some of the upper wing-coverts and outer edges to the quills rufous-chestnut, and the bill in our specimen is (in skin) light, not blackish, the throat not so white, more yellowish.

93. **Pachycephala rufinucha rufinucha** Scl.

Pachycephala rufinucha Sclater, *Proc. Zool. Soc. London*, 1873, p. 692 (Hatam).

Half a dozen from the mountains above Ditschi, about 1,500 feet, end of May and June. Two from Lehuma. " Iris hellbraun, blass graugelblich, milchkaffeefarbig. Schnabel schwarz." Wing ♂ 90, 90, 92 (one 87 might be ♀), ♀ 86, 87, 89, 88 mm.

Weight ♂ 36, ♀ 35, 41 g.

The forehead is grey without black centres to the feathers. There is no blackish chin-spot.

This species is also somewhat short-tailed, and if *P. hattamensis* is generically separated as *Pachycephalopsis*, then *rufinucha* must either be united with the latter, or receive another generic or subgeneric name. The bright rufous colour of the young shows, however, the close relationship to other species of *Pachycephala*. (Voice and habits of *rufinucha* prove the *Pachycephala*-relationship, while *hattamensis* is something quite different.—*E. Mayr.*)

94. **Pachycephala rufinucha niveifrons** subsp. nov.

This form agrees with *P. r. gamblei* in having the much larger chestnut nuchal patch and dark centres to the frontal feathers, but the latter are purer snow-white, and the sides of the body are darker olive-green, also the upper surface is a shade darker and greener. Wings ♂ 86, ♀ 84, 86 mm.

Weight ♂ 43, ♀ 40, 40 g.

Type: ♂ ad. Wondiwoi Mountains, Wandammen, 11.vii.1928. No. 1465 Ernst Mayr coll.

1 ♂, 2 ♀ from the Wondiwoi Mountains. With these birds agree in every detail the seven skins collected by A. S. Meek on Mount Goliath in January and February 1911.

There is a curious variation in the colour of the iris in *P. rufinucha*. The three Wondiwoi specimens have the iris marked: "♂ gelblichgrau, ♀ dunkelbraun." The Mount Goliath birds: ♂ "Light yellowish brown, light yellowish white, silvery grey (several); ♀ pale chocolate, silvery grey, brown." The *P. r. gamblei* from S.E. New Guinea: ♂ light brown (several), silvery brown, dull yellow, silvery grey, light reddish brown; ♀ silvery grey, brown, light brown (several). (*P. r. rufinucha*, see under that heading.)

95. **Pachycephala pectoralis soror** Scl.

Pachycephala soror Sclater, *Proc. Zool. Soc. London*, 1873, p. 692 (Arfak).

Mountains near Siwi and Ditschi, Ninei.

♂ ad. "Iris brown. Bill black. Feet grey."

Weight ♂ 25–26, ♀ 24–27 g.

These specimens are of course typical *soror*. Ogilvie-Grant correctly separated what used to be called *soror* into three forms, differing by the coloration of the rectrices, *soror* from the Arfak Mountains, *klossi* from the Snow Mountains, *bartoni* from S.E. New Guinea; though these are very close to each other, they must be distinguished. A more difficult question is if these forms are subspecies of *pectoralis* or if they form a separate species.

(Dr. Stresemann's reasons for not considering them subspecies of *pectoralis* are perhaps not valid. Neither the occurrence of an Australian subspecies in the lowland of Naiabui, S.E. New Guinea, where *P. soror* has never been recorded, nor the fact (if universally established) that *soror* is a mountain bird, while the forms of *pectoralis* inhabit the lowlands, reflect on the status of *soror* as a species or subspecies of *pectoralis*.)

96. Pinarolestes megarhynchus megarhynchus (Quoy et Gaimard).

Muscicapa megarhyncha Quoy et Gaimard, *Voy. Astrolabe, Zool.* i, p. 172, pl. iii, fig. 1 (1830—Dorey, Arfak Peninsula).

Ernst Mayr sent a nice series from Siwi (in the mountains S.E. of Anggi Lakes) Mountains near Ditschi, Manokwari (Dorey), and Wondiwoi (Wandammen). The males and females have a dark horn-brown bill! Wings ♂ 94–102, ♀ 92–94 mm.

Weight ♂ 34–37·5, ♀ 36–37 g.

97. Pinarolestes megarhynchus obscurus (Mey.).

Rectes obscura A. B. Meyer, *Sitzungsber. k. Akad. Wiss. Wien*, 1874 (Ansus, Jobi Island).

11 ♂, 1 ♀ Hollandia (Humboldt Bay), Hol, Cyclops Mountains, Ifaar near Lake Sentani.

Weight of nine males 35–40 g. Testes of some large.

This form belongs to the group in which the males (at least the adult ones) have black bills, while in the females they are brown.

Comparing these specimens with our poor series of badly made skins from Jobi (Ansus), I cannot confidently separate them. Dr. Meise separated the north coast form under the name of *hybridus* (*Abh. u. Ber. Mus. f. Tierkunde, Dresden*, xvii, No. 4, p. 17, 1929) from *obscurus*, but he had only one bad skin from the Tring Museum, from Tana Mera, collected by William Doherty. I do not admit it for the time being; it was certainly premature and probably wrong to separate this form on such meagre evidence, especially as one from the Mamberano River does not agree with the type of "*hybridus*."

Wings of Mayr's specimens: ♂ 99, 99·5, 99, 98, 100·5, 100, 95; ♀ 95, 95 mm. The 95 ♂ has a black bill. Some specimens in September and October moult wings and body feathers.

Pinarolestes megarhynchus has many subspecies, and I agree with Meise, who includes in this species also the greyish forms, *obscurus*, etc., with black-billed adult males.

Pinarolestes megarhynchus misoliensis Meise 1929 is a very distinct form with pale underside, bill ♂ pale brown.

Very close to *aruensis*, only underside still paler, as a rule.

Pinarolestes megarhynchus batantae Meise 1929 is very closely allied to *P. m. megarhynchus*, but the upperside slightly more olivaceous, less rufescent. Edges of quills not olivaceous. Bill of male as in females, brown.

Pinarolestes megarhynchus affinis of Waigiu is very distinct, having an olivaceous grey underside without rufous.

Pinarolestes megarhynchus aruensis (Gray) 1858. Pale underside but still more reddish than the very pale *misoliensis*. Bill of both sexes brown.

Pinarolestes megarhynchus tappenbecki (Rchw.) 1899 from the Sepik to the Astrolabe Bay is very similar to *P. m. megarhynchus*, but usually the upper throat darker and more grey. Bill also in male brown.

Pinarolestes megarhynchus madaraszi R. & H. 1903 from N.E. Papua ("Kai Peninsula") is smaller than *tappenbecki*, and the male has a black bill.

Pinarolestes megarhynchus maeandrinus Stres. 1921. Underside paler than in *tappenbecki* and *madaraszi*, bill adult male blackish.

About other subspecies, see Nov. Zool. 1903, and Stresemann, *Archiv f. Naturg.* vol. 89, 1923, p. 76.

[For twenty years we had in the Tring Museum a *Pinarolestes* shot by one of Albert Meek's men at Merauke in South New Guinea, east of the Marianne Strait and Frederik Hendrik Island. This specimen does not agree with any of the known New Guinea subspecies of *Pinarolestes megarhynchus*, but the upperside is more reddish than any specimen in the large series of *P. megarhynchus rufogaster* (and *gouldi*, if the latter is separable), mostly from the Mathews collection.

That this new form is nearer to the Australian ones than to any of the New Guinea races is very interesting, as the Merauke plains show a striking faunal affinity to Australia. In the list of a poor and badly prepared and labelled collection from Merauke listed by Bangs and Peters in the *Bull. Mus. Comp. Zool. Harvard*, lxvii, 1926, p. 421, and in Dr. van Oort, Nova Guinea, 1909, about half a dozen birds are mentioned from Merauke, which are otherwise only known from Australia! Unfortunately the region of Merauke is very imperfectly known.

I call the Merauke form

Pinarolestes megarhynchus goodsoni subsp. nov.

after my faithful assistant Arthur Goodson, who has helped me comparing Mayr's Papuan collection.

Type: ♂ ad. Merauke, 4.vi.1910. "Iris light brown. Bill horn colour. Feet dull pinky shade."]

98. **Pitohui nigrescens nigrescens** (Schleg.).

Rectes nigrescens Schlegel, *Ned. Tijdschr. Dierk.* iv, p. 46 (1871—Arfak Mts.).

3 ♂ Lehuma, Arfak Mountains, 1 ♂ Kofo (Anggi gidji), 11.vi.1928.

1 ♂ Dohunsehik, 1,400 m., 17.vi.1928.

3 ♀ Lehuma, 1.vi.1928.

The females are of the typical coloration, the upperside dull rufous-brown, crown generally with a distinct grey tinge, underside much paler and as a rule with a faint, greyish tinge on the abdomen. The adult males are slaty-black, the bill black. Younger males are bright ochraceous underneath and have the bill not black, later on the upper bill becomes black, the lower mandible whitish.

Weight ♂ 58–72, ♀ 65, 66 g.

99. **Pitohui nigrescens wandamensis** subsp. nov.

1 ♂, 1 ♀ Wondiwoi, 9.vii. and 14.vii.1928. The male agrees in every way with that of *P. nigrescens nigrescens*, except that the abdomen is a little deeper and purer black, but the female is deeper rufous brown above and below the crown like the back, the underside brighter and more rufous on the lower throat.

Type: ♀ ad. Wondiwoi. No. 1410 Mayr coll.

The two females from the Weyland Mountains are less bright than the type of *meeki*, but not so dark as *wandamensis*.

Weight ♂ 73·5, ♀ 68·5 g.

100. Pitohui dichrous dichrous (Bp.).

Rectes dichrous Bonaparte, *Compt. Rend. Acad. Paris*, xxxi, p. 563 (1850—Lobo, from Salomon Müller).

5 ♀ ad., 1 ♂ juv., Siwi, April–May 1928.

4 ♂ Wondiwoi, Wandammen, 17.vii.1928.

♂♀ Hollandia, 3.viii.1928, 2 ♀ October.

16 ♂♀ Cyclops Mountains, August 1928.

♂♀ Ifaar, September 1928.

The iris is marked as red and red-brown, in one case as grey-brown.

Weight, 63–80, mostly about 68–73 g.

The sexes are alike in colour, and so are the young, but the plumage of the latter is more fluffy and more silky. Wing ♂ 107–112, ♀ 102–106 mm., a "♂" with 105 mm. is perhaps wrongly sexed.

End of August sexual organs began to get much enlarged, but by no means in all individuals.

101. Pitohui kirhocephalus kirhocephalus (Less.).

Lanius kirhocephalus Lesson, *Voy. Coquille, Atlas*, pl. xi (1827—New Guinea, collected by Lesson near Dorey, Arfak Peninsula, see *Voy. Coquille, Atlas*, i, 2, p. 633).

1 ♂, 3 ♀ Manokwari, 9.–10.iv.1928.

2 ♂ (?), 1 ♀, 1 unsexed Momi (Wariap), April and June 1928.

Males darker on back and head, throat and abdomen, bill darker ("blackish"), in female "reddish grey."

There is some variability in these birds, apparently not entirely dependent on sex.

A "♀" from Mount Moari, in the Berau Peninsula (near Oransbari), 3,000 feet, collected by J. M. Dumas, appears to belong to this form, also an unsexed bird, but obviously ♀, from Etna Bay, taken 3.viii.1896, which agrees much better with *kirhocephalus* than with *decipiens* which should range to Etna Bay, according to Stresemann.

Weight ♂ 81, ♀ 74, 77, 85 g.

102. Pitohui kirhocephalus dohertyi R. & H.

Pitohui dohertyi Rothschild & Hartert, *Nov. Zool.* x, p. 95 (1903—Ron Island, just north of the Wandammen Peninsula, Geelvink Bay).

11 ♂, 10 ♀ Wasior, coast of Wandammen Peninsula, 20.–31.vii.1928. Agree perfectly with the Ron specimens.

♂♀ iris dark brown, bill and feet black.

While the males are all black-headed, the females vary from dark grey, almost black, to a dull ashy grey, and some such specimens are hardly separable from some *decipiens*, though the latter, in the series, are different.

Weight ♂ 95–103, ♀ 90·5–102 g. Wings ♂ 118–128, mostly 122–123, ♀ 117–123 mm.

103. Pitohui kirhocephalus meyeri R. & H.

Pitohui meyeri Rothschild & Hartert, *Nov. Zool.* x, p. 96 (1903—Takar, Tana Mera).

9 ♂♀ Hollandia, 3 ♂♀ Cyclops Mountains, 27 Ifaar, near Sentani Lakes, September 1928.

Bills always brownish in skin, marked as reddish grey, greyish-red, fleshy. Iris dark brown.

Weight ♂ 73–79, ♀ 68–80 g !

Younger birds are paler on the underside, but variable.

104. **Pitohui ferrugineus ferrugineus** (Bp.).

Rhectes ferrugineus Bonaparte, *Compt. Rend. Acad. Paris*, xxxviii, p. 536 (1850—Ex Müller in Mus. Lugd., from Lobo).

1 Manokwari, 4 Siwi and mountains above Siwi, 1 Wasior, 2 Hollandia, 3 Cyclops Mountains, 2 Ifaar.

All these differ somewhat individually in the tint of coloration, but no local forms can be separated.

The iris is marked as cream-colour, twice as café au lait, bill black, feet light grey, or lead-colour.

Weight 83–100 g.

105. **Pitohui cristatus cristatus** (Salvad.).

Rectes cristata Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 930 (1875—Mt. Morait in West New Guinea).

2 ♂, 3 ♀ Siwi, Arfak Mountains.

The young bird has the bill smaller and not black, but brownish. Plumage the same in colour.

Iris dark brown, or brown.

Weight ♂ ad. 103–111·5, ♀ 97 g.

106. **Pitohui cristatus arthuri** subsp. nov.

Differs from *P. c. cristatus* in having the crown of the head lighter and not so deep rufous brown, but almost olivaceous brown, the whole back, scapulars, wing-coverts and outside of wings more olivaceous brown, less deep rufous brown. Wings ♂ 126, ♀ 118 mm.

Weight 104 and 100·5 g.

♂♀ Cyclops Mountains, 22., 23.viii.1928. Type ♂ No. 1962 Ernst Mayr coll.

Named after Mr. Arthur Goodson, who has greatly helped me with the working out of Dr. Mayr's collection.

There are three subspecies of *Pitohui cristatus*:

1. *P. cristatus cristatus* (Salvad.) West Papua. Exact distribution uncertain, but apparently Berau Peninsula to Lower Snow Mountains.

2. *P. cristatus brunneiceps* (Ramsay).

? *Rhectes* (*Oreoica* ?) *brunncipes*[1] Ramsay, *Proc. Linn. Soc. N.S. Wales*, iv, p. 467 (1879—Goldie River, S.E. Papua, 30 miles inland).

S.E. New Guinea. Upperside as in *P. c. cristatus*, but underside beyond the dark rufous jugulum much paler, ochraceous-buff, to almost buff.

107. **Craticus cassicus** (Bodd.).

1 ♂ Manokwari, 2 ♂♂, 1 ♀ Momi, and (♂ juv.) Ifaar. "Iris very dark brown."

Weight adult 150–165 g.

[1] Obvious misprint for *brunneiceps*.

108. Craticus quoyi quoyi (Less.).

1 ♂ Wasior and 1 ♂, 1 ♀ Hollandia.

Weight of a male 170 g.

109. Gerygone palpebrosa palpebrosa Wall.

Gerygone palpebrosa Wallace, *Proc. Zool. Soc. London*, 1865, p. 475 (Aru Islands).

Siwi and mountains near Siwi, both sexes. Iris red or red-brown.

Weight ♂ 8–9 g, ♀ 7–8 g.

On the south coast this form, not *wahnesi*, extends to Avera on the Aroa River!

The shape of the white line is easily altered by preparation, being more like a round patch, when the neck is made short and thick, line-like and narrower, when the neck is long and thin.

110. Gerygone palpebrosa wahnesi (Mey.).

Pseudogerygone wahnesi A. B. Meyer, *Orn. Monatsber.* 1899, p. 144 (Bongu, German New Guinea).

♂ Hollandia, ♂ Cyclops Mountains, August 1928. Iris red.

Weight as in *G. p. palpebrosa*.

We have this excellent subspecies, which differs in its dusky black crown, now from Simbang (Wahnes), Kumusi River (Meek), and Hydrographer Mountains (Eichhorn). The underside in these is not paler than in *G. p. palpebrosa*, except in the Jobi example, which is paler underneath.

Another subspecies is *G. palpebrosa personata* Gould 1866 from Australia, in which the black of *palpebrosa* is replaced by brown. I am obliged to Arthur Goodson, who called my attention to this relationship.

111. Gerygone cinerea Salvad.

Gerygone (?) *cinerea* Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 958 (1875—Arfak Mts.).

♂♀ Mountains above Ditsehi, June 1928.

♀ Mount Wondiwoi, 1,000 m., 17.vii.1928.

♀ Mount Lahuma, 1.vi.1928. "Iris chestnut-brown."

Sexes alike.

Weight 6–7 g.

112. Gerygone chloronota cinereiceps (Sharpe).

Pseudo-gerygone cinereiceps Sharpe, *Nature*, xxxiv, p. 340 (August 12, 1886—Astrolabe Mts., S.E. New Guinea).

Gerygone placida Madarász, *Orn. Monatsber.* viii, p. 3 (1900—Sattelberg).

♂ Siwi, 24.iv.1928. Iris brown, bill and feet black.

Weight 6·5 g.

G. placida is a synonym, and Stresemann, *in litt.*, now quite agrees with me that it is not separable.

G. cinereiceps is a subspecies of the North Australian *chloronotus* (1842), from which it differs, however, in the more greenish, less yellowish, upperside. *G. chloronota darwini* Mathews, *Austral Avian Rec.* i, 2, p. 4 (1912—N.W. Australia) is a synonym of *chloronotus*; the supposed longer wing is due to Mathews having only females from the Northern Territory, and the head is not lighter as a rule. *G. chloronota apsleyi* Mathews, *l.c.*, from Melville Island is also a synonym, as there is no constancy at all in the supposed darker head and greener back.

113. **Gerygone chrysogaster** Gray.

Gerygone chrysogaster G. R. Gray, *Proc. Zool. Soc. London*, 1858, p. 174 (Aru Islands).

1 ♀ Cyclops Mountains, 21.viii.1928. "Iris brown, bill black, feet pale yellowish grey."

Weight 7·5 g.

The sides of the head are somewhat greyish, the crown perhaps more greyish than the back.

[It seemed to me, after comparing our fine series from various parts of New Guinea and the Aru Islands and Jobi, that a northern form from Jobi and the north coast of New Guinea could be separated from the typical one from Aru to the foot of Snow Mountains and S.E. New Guinea, as among the former there were some lighter heads. It seems, however, that dark and more greyish heads are found in the same regions, as, for example, on the Sepik River.

Specimens from the Mimika River were separated from the typical form as being darker above and paler yellow, but I cannot confirm this difference. As there is no "green tinge" on the vent in typical *G. chrysogaster*, I cannot see how it can be absent in "*guineensis*," as Mathews called his supposed new form; the name "*guineensis*" is absurd, as Guinea is part of West Africa.]

114. **Gerygone magnirostris ramuensis** Rchw.

Gerygone ramuensis Reichenow, *Orn. Monatsber.* v, p. 26 (1897—Ramu, Mandated Territory, N.E. New Guinea).

3 ♂, 3 ♀ Ifaar, Sentani Lake, second half of September and beginning of October 1928. "Iris red-brown. Bill black. Feet dark grey."

Weight 7–8 g.

I prefer to call this form *ramuensis*, as it agrees entirely with the latter, of which I have many specimens to compare (among them one of the co-types), from East and S.E. Papua. Stresemann calls these birds *affinis* Meyer, and says the type locality of that name is Jobi. I have before me, through the kindness of Dr. Meise, the type and co-types of Meyer, from Jobi and Passim. Unfortunately these are old and have mostly been mounted, and are therefore hardly fit for intricate comparison, but it seems to me that the specimens from Jobi approach ours from Kapaur, which we called *conspicillata*, and that the Passim ones are partially *ramuensis*. Fresh material from Jobi and Passim may very likely prove that *ramuensis* and *affinis* are the same, but at present this is doubtful.

115. **Gerygone ruficollis ruficollis** Salvad.

Gerygone ? *ruficollis* Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 959 (1875—Hatam, Arfak Mts.).

♂, about 1,000 m., in the mountains near Siwi, 17.v.1928. "Iris light red-brown, bill and feet black."

Wing 52·5 mm.

Weight 6 g.

I think that this specimen is *G. ruficollis*. Through the kindness of Dr. Gestro I have the type of *G. ruficollis* (the only specimen I know of) before me. It is of course true that there is a (somewhat indistinct) rufous loral line and that the throat is rufescent, as described, but this rufescent colour is pale, and, though the Siwi example has the throat white, I think it must be the same, and

there is a rufescent patch on the sides of the neck. The tail is incomplete and on the outer rectrix is also a white spot on the outer web, in the type only on the inner web. Another subspecies seems to inhabit N.E. New Guinea.

116. Gerygone neglecta virescens (Blyth).

"*Sylvia virescens* S. Müll." Blyth, *Ibis*, 1870, p. 169 ("New Guinea." The specimen in the Leyden Museum, which Salomon Müller had called "*Sylvia virescens*," was from Lobo Bay !). Cf. Finsch, *Notes Leyden Museum*, xx, p. 135, 1898.—Hartert, *Nov. Zool.* 1920, p. 493.
Gerygone neglecta dohertyi Rothschild & Hartert, *Nov. Zool.* x, p. 473 (1903—Kapaur).

1 ♂ Siwi, 18.v.1928. "Iris dark grey. Bill (upper) black. Feet light grey-brown." Testes small.

Weight 7·75 g.

This form, of which we had a series from Kapaur, does not seem to have been found before in the Arfak Peninsula. The wing measures only 51 mm., which agrees with our Kapaur females, while the males have longer wings ! (Possibly this bird from Siwi is a ♀, label changed by native ?)

117. Gerygone (Eugerygone) rubra (Sharpe).

Pseudogerygone rubra Sharpe, *Notes Leyden Mus.* i, p. 30 (1879—Arfak Mts.); *Cat. B. Brit. Mus.* iv, p. 225.

2 ♂ ad. Kofo (Anggi gidji), Arfak Mountains, 12., 15.vi.1928. "Iris dark brown, bill black, feet yellowish brown."

♂ juv. mountains near Ditschi, 31.v.1928.

♀, label lost, probably Kofo.

This red-backed species is very rare in collections. Lord Rothschild and I recorded specimens from S.E. New Guinea in NOV. ZOOL. 1903, pp. 474, 475. On the 6th or 7th primary begins a white bar across the wing, formed by white spots on the outer webs, while on the underside of the wing is a wider bar of whitish buff on the inner remiges. Wings ♂ 58–62·5 mm.

Weight 8 g.

The younger male has the upperside not pure crimson, but crimson with a yellowish wash.

The female has hitherto remained undescribed. What Rothschild and I described, NOV. ZOOL. 1903, p. 475, is *not* the female ! The skin without a label is obviously adult and agrees in every way with the male, except that the upperside is brown with a rufous tinge. The white markings on wings and tail are as in the male. Wing 57·5 mm.

The tail is longer than in other Papuan *Gerygone* (and *Pseudogerygone*), and this may for genus-splitters be an excuse for the genus *Eugerygone*.

118. Phylloscopus trivirgatus poliocephalus (Salvad.).

Gerygone ? poliocephala Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 960 (1875—Arfak).

Eight skins from Siwi and four from Ditschi in the Arfak region obviously belong to this rare form. "Iris dark greyish brown or dark greenish grey. Bill black. Feet dark grey (in adults)."

Wings ♂ 56–57, ♀ 52–53.

Weights ♂ 8·5, ♀ 9·5 g.

The yellow line across the wings, formed by the tips to the greater wing-coverts, is sometimes indistinct, generally quite visible.

The greyish dusky crown is, especially in females, often quite brownish to olive-brown; in an apparently younger bird greenish brown, and the throat yellow.

119. **Phylloscopus trivirgatus cyclopum** subsp. nov.

Very near to *Ph. trivirg. giulianettii*, but upperside a little brighter, more yellowish, the top of the head (the sides, not the yellowish median line) less blackish, more greenish, sides of head less yellowish, more greyish, sides of body, under wings, cleaner yellow. Wings apparently a little shorter: ♂ 57, ♀ 53, 54 mm. "Iris grey-brown, once brown-grey, bill blackish (lower however pale !), feet grey."

Type ♀ Cyclops Mountains, 24.viii.1928.

Weight ♂ 8·5, ♀ 8, and 9·5 g.

Only three skins, Cyclops Mountains, 12.ix. and 24.viii.1928.

I am obliged to Dr. Ernst Mayr, who called my attention to this quite distinct subspecies.

(The species was heard in the Wandammen Mountains, but no specimens could be obtained.—*Ernst Mayr.*)

120. **Microeca griseiceps occidentalis** R. & H.

Microeca griseiceps occidentalis Rothschild & Hartert, *Nov. Zool.* x, p. 471 (1903—"Warmendi," Arfak).

3 ♂♀ Siwi, 3 ♂ Ditschi. "Iris dark, bill underneath yellow, above blackish, feet orange yellow." Wing ♂ 75, ♀ 71, 74 mm.

Weight ♂ 12, ♀ 12, 12·5, 13·5 g.

Differs from *M. griseiceps griseiceps* of S.E. New Guinea in having the crown more olive-brown, the back of a slightly darker green, the whitish colour of the throat generally more extended, and larger size, wing in *M. g. griseiceps* ♂ 68–69, ♀ 66 mm. The latter we had also from the Hydrographer Mountains. Young birds are rufous, spotted with whitish tips !

Another subspecies of *M. griseiceps*, and in fact hardly separable, is "*Kempiella*" *kempi* Mathews. It is only a little browner on the head and darker on the back, and perhaps smaller. There are (in Europe) only three specimens, one good male and two bad ones, two from Cape York, one from Claudie River, North Queensland. When Mathews described it (*Austral Avian Rec.* ii, p. 12, 1913), he compared it with *Poeciliodryas capilo*, being ignorant of the existence of *Microeca griseiceps*; the form must therefore be called *Microeca griseiceps kempi*. It adds another Papuan form to the fauna of the Cape York Peninsula.

121. **Microeca flavovirescens** Gray.

Microeca flavovirescens Gray, *Proc. Zool. Soc. London*, 1858, p. 178 (Aru Islands).

♂♀♀ Hollandia, August and October 1928.

One female had an egg almost ready for laying on 9.x.

Weight 14·5–15 g.

122. Microeca papuana Mey.

Microeca papuana Meyer, *Sitzungsb. Ges. Isis*, 1875, p. 74 (Arfak).

♂ Kofo (Anggi gidji), 11.vi.1928.

2 ♂, 1 ♀ Lehuma, June 1928.

♀ juv. mountains near Ditschi, 9.vi.1928.

♀ Wondiwoi Mountains, Wandammen Peninsula, 10.vii.1928.

" Iris dark brown. Bill, upper and under, black. Feet orange yellow."

Weight 12–14·5 g.

Microeca hemixantha Sel. 1883 from Tenimber is very much like *M. papuana* and might be looked upon as a subspecies, but the under mandible is pale (" colour-less " as Kühn puts it on a label) and the feet are black !

123. Poecilodryas cyanus cyanus (Salvad.).

Myiolestes ? cyanus Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 394 (1875—Hatam, Arfak Mts.).

1 ♂ mountains near Siwi.

1 ♂, 4 ♀ mountains above Ditschi.

The sexes are alike in colour, but males larger.

Wings ♂ 86, 86·5, ♀ 82–84·5 mm.

Weight ♂ 24, 24·5, ♀ 20·5, 22·5, 22·5 g.

124. Poecilodryas cyanus subcyaneus De Vis.

Poecilodryas subcyanea De Vis, *Ibis*, 1897, p. 377 (S.E. New Guinea). (Cf. *Nov. Zool.* x, p. 470. 1903, for synonyms.)

3 ♂, 5 ♀ Wondiwoi Mountains, Wandammen Peninsula, July.

10 ♂, 16 ♀ Cyclops Mountains, September.

Wings ♂ 94–101, ♀ 83–88, sometimes 90 and 93 mm., if the latter are correctly sexed.

Weight ♂ 27·5–34, ♀ 20·5–28 g.

In colour like *P. cyanus cyanus*, but a little darker and more bluish.

It is interesting that the Wandammen specimens agree in this case with the eastern form ; the fauna of Wandammen is a mixed one, but in the majority of cases the birds are the same as in the Arfak peninsula.

Sexual organs very large in September.

125. Poecilodryas leucops melanogenys Mey.

Poecilodryas melanogenys A. B. Meyer, *Abh. & Ber. Mus. Dresden*, 1892–93, Art. 3, p. 12 (Sattelberg).
Poecilodryas salvadorii Madarász, *Orn. Monatsber.* viii, p. 1 (1900—Sattelberg).
Poecilodryas leucops nigriceps Neumann, *Verh. Orn. Ges. Bayern*, xv, p. 237 (1922—Hunstein Range).

Twenty-eight from the Cyclops Mountains. A quite young bird shot 27.viii.1928 in fluffy down plumage is dark dull chestnut-brown with paler shaft-lines, one from 21.viii.1928 retains still juvenile feathers on back and underside.

Weight 14·5–19 g.

I do not think that *nigriceps* is separable.

126. Poecilodryas leucops leucops (Salvad.).

Leucophantes leucops Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 921 (1875—Arfak Mts.).

A series from Siwi, above Ditschi, and Ninei. Wing ♂ 75–81 mm. Weight 15–18 g. A young bird from Ditschi, 8.vi., is like the one from 21.viii. of *melanogenys*, but has not yet much white on the forehead.

127. **Poecilodryas leucops mayri** subsp. nov.

Almost exactly like *P. l. leucops*, but no black line from eye to base of bill! There is also generally more greenish wash on nape and hind-neck, the bill is generally slightly larger and wings 79–82 mm.

Type: ♂ ad. Wondiwoi, 14.vii.1928. No. 1526 Dr. Ernst Mayr coll.

This form inhabits Wondiwoi, Wandammen Peninsula. It is very near to *P. l. nigroorbitalis*, but slightly longer winged, the white on the throat a little less extended, the crown and nape less blackish. *P. l. nigroorbitalis* is known from the Snow Mountains.

128. **Poecilodryas cryptoleucus** spec. nov.

Differs from *Poecilodryas cyanus cyanus* and *subcyaneus* in having a white patch at the base of the inner primaries, the head is not so blackish, more greyish, and therefore less in contrast to the back, the back less blue, more sooty grey, the underside pale grey, almost without any blue in it. "Iris dark brown. Bill and feet black." Wings ♂ 82–88, ♀ 78·5 mm.

Weight ♂ 18, 19, 20 g.

Type: ♂ ad. Lehuma, 4.vi.1928. No. 993 Ernst Mayr coll.

This species, though somewhat near to *P. cyanus*, is, as described, quite distinct.

We had it from the mountains near Ditschi and Lehuma, four specimens in all, also an old one from Hatam, collected by Beccari.

Salvadori, in his immortal *Orn. Pap.* ii, p. 89, mentions the white patch at the base of the remiges, visible from the underside, in the diagnosis of *P. cyanus*. This mistake was caused by two specimens which he had of *Poecilodryas cryptoleucus*, which he describes and of which he said they were perhaps not quite adult. In the blue specimens (*cyanus*) there is no such white patch, or only a paler shade.

These two species occur together, as do *Parus palustris* and *atricapillus*, *Certhia familiaris* and *brachydactyla* and others in Europe.

129. **Poecilodryas brachyura brachyura** (Scl.).

Leucophantes brachyurus Sclater, *Proc. Zool. Soc. London*, 1873, pp. 691, 692, pl. liii ("Hatam, Arfak Mts.," but this is an error, as they came from Andai on the coast. Cf. Salvadori, *Orn. Pap.* ii, p. 87).

1 ♂ above Wasior, Wandammen Peninsula, 25.vii.1928. "Iris dark brown, bill black, feet pale flesh-colour." Wing 89 mm.

Weight 25 g.

130. **Poecilodryas brachyura dumasi** Grant.

Poecilodryas brachyura dumasi Ogilvie-Grant, *Ibis Suppl.* 1915, p. 163 ("Northern New Guinea," Dumas coll.).

Upperside black like the head instead of dark grey. See also Stresemann, *Sepik-Vögel*, p. 88.

2 ♂ Hollandia, 3 ♂ ad., 3 ♀ ad., 1 ♂ juv. Cyclops Mountains.

The young bird is in moult, on the nape, back and underside some dark chestnut feathers of the first plumage are retained.

Weight 22–27·5 g.

The Jobi form I do not know.

131. **Poecilodryas hypoleucus hypoleucus** (Gray).

Petroica hypoleuca G. R. Gray, *Proc. Zool. Soc.* 1859, p. 155 (Dorey).

♂♀ Momi (near Wariah), on the east coast of the Berau Peninsula, 25.vi. and 1.vii.1928.

Weight ♂ 19·5 , ♀ 17 g.

The female is brown above, the male may be called black, though the black is duller than in specimens from Hollandia and Ifaar.

This species is somewhat difficult to divide into subspecies. In all descriptions (Salvadori, Sharpe, Gray) the upperside is described as brown or brownish black. This seems to apply to birds from Arfak, Kapaur, Misol and Waigiu, though the latter may still differ in other respects. On the other hand, our specimens from Hollandia and Ifaar are pure black above, and the white alar speculum is wider than in most western birds. There are nevertheless some specimens from S.E. New Guinea and the Utakwa and Setekwa Rivers which are not so black and agree better with the Arfak ones—the size of the white alar speculum differs also. Of the Utakwa examples Grant (*Ibis*, 1915, *Suppl.* p. 164) has already mentioned this variability. The white line above the lores varies in width and length and is not a subspecific criterion. The browner birds before me are females, but other females are as black as males.

132. **Poecilodryas hypoleucus hermani** Mad.

Poecilodryas hermani Madarász, *Bull. B.O. Club*, iii, p. xlvii (1894—Finisterre Mts.).

2 ♂ Hollandia, 13.x., 2 ♂ Ifaar, 25.ix.1928.

Weight 19, 19·5, 20, 21 g.

133. **Poecilodryas albonatatus albonatatus** (Salvad.).

Megalestes albonotatus Salvadori, *Ann. Mus. Civ. Gen.* vii, p. 770 (1875—Arfak).

1 ♂ ad. Arfak Mountains, 2,000 m., 18.viii.1928. "Iris brownish black. Bill and feet black." Mayer. Coll. by F. Shaw Mayer.

♂ ad. Siwi. No. 127. Coll. by Ernst Mayr. Only a "tag," no real label.

These two specimens are the topotypical *albonotatus*, only known from Arfak. Wings 113, 114 mm.

We had formerly only two very bad skins, therefore we united with *albonotatus* the birds from S.E. New Guinea, which, however, are quite different. I separate this latter form as

Poecilodryas albonotatus correctus subsp. nov.

Upperside paler grey, especially on the head. The black of the throat and foreneck, which in *P. a. albonotatus* reaches to the centre of the breast, only just surpasses the throat. The white on the abdomen is pure and conspicuous.

Wings ♂ 103, 104, 104·5, 105, 106, 106, 106, 107, 108, ♀ 100, 101, 102, 102 mm.

Type: ♂, Mount Cameron, Owen Stanley Range, 10.viii.1896. A. S. Anthony coll.

134. **Poecilodryas bimaculatus bimaculatus** (Salvad.).

Myiolestes ? bimaculatus Salvadori, *Ann. Mus. Civ. Genova*, vi, p. 84 (1874—Putat, Arfak Peninsula).

9 ♂♀ ad., 1 juv., Siwi, April and May.

Weight 21·75–30 g.

Judging from the young specimen and another of *P. bimac. vicaria* from S.E. New Guinea, the young are duller, browner, but not spotted, except with brown terminal patches to the wing-coverts.

135. **Pachycephalopsis hattamensis hattamensis** Mey.

Pachycephala hattamensis A. B. Meyer, *Sitzungsber. k. Akad. Wiss.* lxix, p. 391 (1874—"Hattam" in the Arfak Mts.).

16 ♂♀ from the mountains near Siwi, 1 mountains near Ditschi, 1 Ninei, 1 Lehuma. "Iris brown and pale brown, bill black, feet pale grey-reddish."

Weight 34–39, once 41 g.

Wings ♂ 106, 103, 98, ♀ 92, 95, 94, 94, 90, 91, 94, 95, 95, 93·5 mm., also two 97, 98 mm., which may be males.

The short tail removes this species from *Pachycephala*.

136. **Pachycephalopsis hattamensis ernesti** subsp. nov.

This interesting new subspecies differs from *P. hattamensis hattamensis* as follows: The white patch on the chin and upper throat is less extended and separated from the olive-green breast by an ashy grey patch; the breast is darker, olive-green, and there is less yellow on the abdomen, the under tail-coverts are pale greenish yellow instead of light rusty. Iris in two specimens "whitish," in one ochre. Wings ♀ 92, 93, 94 mm.

Weight 33, 35, 35 g.

Type: ♀ Wondiwoi, 17.vii.1928. No. 1564 Ernst Mayr coll.

This form is very interesting, because of the existence of a form almost exactly like *P. h. hattamensis* on the Snow Mountain range.

It is so distinct that it was already recognized as a new subspecies by the collector in the field and marked as new subspecies on one of the labels. I gave it the collector's Christian name, as using his family name would easily have caused confusion with the *Pachycephala* named after A. B. Meyer.

137. **Heteromyias albispecularis albispecularis** (Salvad.).

Pachycephala albispecularis Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 931 (the article is dated 31.xii.1875, so it must have priority over the name *cinereifrons*—Arfak Mts.).

6 ♂♀ Lehuma, Arfak Mountains, 1 mountains near Siwi, 2 mountains near Ditschi, 2 Dohunsehik in the Issim Valley.

"Iris dark brown, bill blackish, feet whitish, to pinkish white."

Weight 28–37·5 g.

I agree with Stresemann, that *H. armiti* from S.E. New Guinea should be looked upon as a subspecies of *albispecularis*, though the pure white instead of grey post-supereiliary stripe, black lores, auricular patch and crown (instead of grey), and whiter underside give it a rather different appearance, but equally *H. cinereifrons* is a subspecies of *albispecularis*, differing in the paler grey crown, more rusty back and upper tail-coverts, dark rusty ear-coverts, rusty sides of body, belly and under tail-coverts. "*Poecilodryas*? *cinereifrons*" Ramsay is described in the *Proc. Zool. Soc. London* "1875," but according to Mathews was not published till April 1876.

But there are still more subspecies, and we must accept the following forms:

Heteromyias albispecularis albispecularis, Arfak Mountains.

Heteromyias albispecularis armiti, S.E. New Guinea.

Heteromyias albispecularis rothschildi subsp. nov., Snow Mountains.

Heteromyias albispecularis subsp. ?, Weyland Mountains.

Heteromyias albispecularis subsp. ?, Schraderberg.

Heteromyias albispecularis cinereifrons, North Queensland.

H. a. albispecularis and *armiti* have been shortly characterized above.

H. a. rothschildi from Mt. Goliath (*cf.* NOV. ZOOL. xx, p. 497, 1913) differs from *armiti* in having the chin-spot not slate-colour but dull black, the same colour as the head. Wings males: 97·5, 96·5, females: 91, 92, 91, 92 mm.

Type: ♀ ad. Mount Goliath, 17.ii.1911. No. 5412 A. S. Meek coll.

The wings of *H. a. armiti* are ♂ 98, 100, 101, 101, 102, ♀ 89–94 mm.

H. albispecularis subsp. from the Weyland Mountains is probably different again, as our only specimen has the back darker and seems to have a grey band across the breast.

H. albispecularis subsp. from the Schraderberg may also be different again, as Stresemann said his only specimen had a much paler buff vent and abdomen.

Another point is of great interest: While the whole bill is black or blackish in both sexes in *H. a. albispecularis*, it is black or blackish with a white or whitish tip in males of *H. a. armiti* and *rothschildi*, quite black in females, while in *H. a. cinereifrons* it seems to have a yellow tip in both sexes!

The systematic position of *Heteromyias* is very interesting. The young bird is chestnut-red, like so many young *Pachycephala*!

138. **Monachella mülleriana** (Schleg.).

Muscicapa Mülleriana Schlegel, *Ned. Tijdschr. Dierk.* iv, p. 40 (1871—North Peninsula of New Guinea).

One unsexed, camp above Momi, 125 m., 16.iv.1928.

139. **Machaerirhynchus nigripectus nigripectus** (Schleg.).

Macheirhynchus nigripectus Schlegel, *Ned. Tijdschr. Dierk.* iv, p. 43 (1871—Arfak Mts.).

♂ ad., ♀ ad. Lehuma 8.vi.

♂ ad., ♀ ad., ♂ juv. Kofo (Anggi gidji), 11.vi.

Wings ♂ 58–60, ♀ 62–64 mm.

Weight 10–12g.

M. nigripectus saturatus R. & H. is a very distinct subspecies, larger and deeper yellow, ♀ nearly black above.

M. nigripectus harterti van Oort seems to be only distinguishable in the female!

140. **Machaerirhynchus flaviventer albifrons** Gray.

Machaerirhynchus albifrons G. R. Gray, *Proc. Zool. Soc. London*, 1861, p. 429, pl. 43, fig. 1 (Waigiu and Misol).

3 ♂ ad., Siwi, Arfak Mountains, 1 ♂ Hollandia, ♂♀ (with large egg in oviduct) Cyclops Mountains ♂ Ifaar.

Weight 1 ♂ 11, 1 ♀ 10·5 g.

141. **Peltops blainvillii blainvillii** (Less. et Garn.).

Eurylamus blainvillii Lesson et Garnot, *Férussac's Bull. Sc. Nat. et Géologie*, xi, p. 302 (1827—Dorey, formerly called Doréri).

6 ♂♀ Hollandia, August. ♀ Wasior, Wandammen.

This is the form first described, which has a larger bill and shorter wing and tail than the mountain subspecies, appropriately called *montanus* by Stresemann. The wings of these specimens measure: ♂ 98, 98·5, 98, 99, "♀" 97, 99 mm.

Weight ♂♀ 28–29 g.

142. **Peltops blainvillii montanus** Stres.

Peltops blainvillii montanus Stresemann, *Anzeiger Orn. Ges. Bayern*, No. 5, p. 35 (1921—Hunsteinspitze on the Upper Sepik).

♀ Ditschi, 7 ad. ♂♀, one unsexed juv. Mountains near Siwi.

As Stresemann described: Bill conspicuously smaller, specially shorter, wings and tail longer, white patch on back larger. The white patch on back, however, varies in extent, and its larger size is sometimes obscured in bad skins. Wings ♂ 112, ♀ 110, 110, 108, 114, cr. 107, 107, 111 mm.

Weight 29–35 g.

The existence of a smaller and larger form was already recognized by De Vis, who in 1894 (*Report on New Guinea for* 1893, p. 2) named the small form "from the sea-level" *Peltops minor*. The specimens he had were evidently partially young. Stresemann distinguished the two forms as species, but they are the most typical subspecies, *montanus* being the mountain form of *blainvillii blainvillii*. Moreover, there are, specially from the Kumusi River, at least in size, intermediates, whether just varieties, or from intermediate altitudes (?) or hybrids, one cannot at present say. Stresemann mentions already a wing of the small race of 103, one of the big form with 105 mm., which is not much of a difference. We have examples from Stephansort with wing 107, Kumusi River 105, Upper Aroa River 108 mm. (*montanus*), and specimens from Kumusi and Milne Bay have small, though not very stumpy, bills, those from Kumusi having wings of 96 (♀) to 106 mm. (♂), the bills being also somewhat variable. The mountain form (*montanus*) is common in S.E. New Guinea, on the Hydrographer, Owen Stanley Mountains, Upper Aroa, Upper Mambare River, etc.

The full juvenile garb is not yet known. The white patch on the back is absent, while probably all the head and neck are white, and there are white tips to the greater wing-coverts.

143. **Chenorhamphus grayi** (Wall.).

Todopsis grayi Wallace, *Proc. Zool. Soc. London*, 1862, p. 166 (Sorong, Arfak Peninsula).

1 ♀ Siwi, 1 ♀ Cyclops Mountains, 700 m., 20.viii.1928.

"Iris brown. Bill black. Feet brownish earth-colour."

In the male the crown is dull greyish blue, the middle of the abdomen like the rest of the underside pale blue, brightest towards the belly.——In the female the crown is dull black, between the crown and the black ear-coverts and stripe behind the eye a pale blue line. Middle of abdomen white, under tail-coverts cream-colour. Wings ♂ 63, ♀ 58, 59, 62 mm.

Weight ♀ 13 and 16 g.

144. **Clytomyias insignis insignis** Sharpe.

Clytomyias insignis Sharpe, *Notes Leyden Mus.* i, no. 10, p. 30 (1878—Tjobonda, Arfak Mts.).

♂♀ Mount Mundi near Ninei, Arfak Mountains, 1,800 m., 27.v.1928.

Weight not stated.

The differences between *C. i. insignis* and *C. i. oorti* (S.E. New Guinea) are correctly described Nov. Zool. xiv, p. 460, 1907. There is no difference in colour between the sexes if the two specimens from Mount Mundi are correctly sexed: ♂ wing 55, ♀ 58·5 mm.

145. **Todopsis cyanocephalus cyanocephalus** (Quoy et Gaimard).

Todus cyanocephalus Quoy et Gaimard, *Voy. Astrolabe*, i, p. 227, pl. 5, fig. 4 (1830—Dorey).

♂♀ Siwi, ♀ Momi, ♀ Siwi (No. 769), 21.v. 1928.

♂ ad. weight 14 g.

146. **Todopsis cyanocephalus dohertyi** R. & H.

Todopsis cyanocephalus dohertyi Rothschild & Hartert, *Nov. Zool.* x, p. 477 (1903—Takar on the north coast).

3 ♂ Hol, 2 ♂, 1 ♀, Wasior, Wandammen Peninsula, 3 ♂, 2 ♀, Ifaar, near Lake Sentani.

Weight ♂ 13, 14, ♀ 10·5, 12 g.

We described this subspecies on account of the deeper, more chestnut, upperside. In NOV. ZOOL. xx, p. 499, we said: "Possibly *T. c. dohertyi* from Takar will not be tenable, the dark colour of the back perhaps being due to dampness of the skins while drying." We find now, however, that the Wasior and Ifaar birds, which were not exposed to dampness, are as dark as the Takar ones, being darker than the Arfak females. I must therefore, for the time being, recognize *dohertyi*, though it is closely allied and only discernible in the female. See also NOV. ZOOL. xxvii, 1920, p. 457.

147. **Todopsis wallacii** Gray.

Todopsis wallacii G. R. Gray, *Proc. Zool. Soc. London*, 1861, pp. 429, 434, pl. 43, fig. 2 (Mysol).

5 ♂♀ Siwi, Arfak Mountains.

Weight 8 and 8·5 g.

148. **Monarcha frater frater** Sel.

Monarcha frater Sclater, *Proc. Zool. Soc. London*, 1873, p. 691 (Hatam, Arfak Mts.).

12 ♂♀ Siwi, 1 ♀ Ditsehi.

Weight 18 (♀) to 23 g.

149. **Monarcha guttula** (Garnot).

Muscicapa guttula Garnot, *Voy. Coqu., Zool.* i, 2, p. 591, pl. xvi, fig. 2 (1828—Dorey, Arfak).

5 ♂ Hol and Hollandia, 1 ♀ Cyclops Mountains.

Weight 16–17·5 g.

150. **Monarcha alecto chalybeocephalus** (Garnot).

Muscicapa chalybeocephalus Garnot, *Voy. Coquille, Zool. Atlas*, pl. 15, fig. 1 (♀) (1828—New Ireland).

♂♀ series from Ifaar, Hol, Momi, Wasior (Wandammen) and (1) Manokwari.

We have not dared to separate the New Guinea birds from New Ireland ones. As it happens, our New Ireland female specimens are rather light. It is possible, but not probable, that the New Guinea females are generally a little darker on the upperside, but females from Feni Island appear to be darker again.

Mathews, *Bull. B.O. Club*, xlviii, p. 93 (1928), named three supposed new subspecies of *Monarcha alecto*:

"*Piezorhynchus alecto woodlarkensis*," which is the same as *lucida* (but was compared with *alecto* only!);

"*Piezorhynchus alecto longirostris*" from Timorlaut, which is a tenable subspecies, and

"*Piezorhynchus alecto novae-guineensis*," Mimika River ♀!

The diagnosis of the latter is perfectly useless, as it is only compared with the different *alecto* ♀, but not with *chalybeocephalus*!! If the New Guinea form should be separated, the name of Mathews must be accepted, though he did not grasp its nearest relationship!

151. **Monarcha axillaris axillaris** Salvad.

Monarcha axillaris Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 921 (1875—Arfak).

7 ♂♀ Siwi, 5 ♂♀ Ditschi, Arfak Mountains.

♂♀ Wondiwoi, Wandammen Peninsula, July 1928.

"Iris brown. Bill whitish blue-grey. Feet blackish or blackish grey."

The two Wondiwoi specimens may belong to another form: the male has white spots on the sides of the breast and on the abdomen, the female about as much white as the males from Arfak.

Specimens from the Lordberg (Sepik) are like Arfak ones.

Adult females are very much like the males, but less glossy black on head and throat, the white patches on the sides of the breast more restricted. Wings ♂ 79–83 mm. Young birds are greyish.

[*Monarcha axillaris fallax* (Rams.).

Rhipidura fallax Ramsay, *Proc. Zool. Soc. London*, 1884, p. 580 (Astrolabe Range, S.E. New Guinea.
Piezorhynchus reichenowi Madarász, *Orn. Monatsber.* viii, 1900, p. 2 (Sattelberg).

There is no doubt, as pointed out long ago by Grant, that *Rhipidura fallax* of Ramsay is not a *Rhipidura*, but a form of *Monarcha axillaris*. It is the form which Madaráz described as *Piezorhynchus reichenowi* from the Sattelberg. This form is much smaller (cf. Stresemann, *Archiv f. Naturg.* 89, 8tes Heft, p. 2, 1923) and the white patch on the sides of the breast is reduced in size, in the females still more. Young birds are slaty, there are only some small dull white tips to the slaty grey axillaries. The bill is apparently darker, it is described on labels as dark chalky blue with black tip. Wings ♂ 74–78 mm.

Specimens from the Aroa River, head of Mambare, Hydrographer Range, and Sattelberg (Mayr coll.) are alike.]

152. **Monarcha chrysomela melanonotus** Scl.

Monarcha melanonotus Sclater, *Proc. Zool. Soc. London*, 1877, p. 100 ("New Guinea"—Sclater had only Arfak specimens from New Guinea, therefore Arfak is the terra typica!).

2 ♂ Momi, 15.iv. and 25.vi.

Weight 16·5 and 18 g.

The April specimen is typical of the Arfak form, but the June one is deeper, more orange, on the underside, and thus resembles *M. chrysomela aurantiacus*!

153. **Monarcha chrysomela aurantiacus** Mey.

Monarcha melanonotus aurantiacus A. B. Meyer, *Abh. & Ber. Mus. Dresden* "1890–91," Art. 4, p. 9 (1892—Kafu and Stephansort).

5 ♂ Hol, 1 ♂ Cyclops Mountains.

Weight ♂ 15–17 g.

This form is very closely allied to *melanonotus*, only the orange colour is deeper—one of the Momi specimens is not really distinguishable.

154. **Monarcha rubiensis** (Mey.).

Tchitrea rubiensis A. B. Meyer, *Sitzungsber. Akad. Wissensch. Wien*, lxix, p. 494 (1874—Rubi).

♂ Momi, 25.vi.1928.

This specimen, evidently a young male, has the lores and forehead much paler than it is in adult females. In females the colour of the abdomen varies to some extent.

155. **Arses telescophthalmus telescophthalmus** (Garn.).

Muscicapa telescophthalmus Garnot, *Voy. Coquille, Zool.* i, p. 593, pl. 18 (1828—Dorey).

3 ♂, 1 ♀ Siwi, 3 ♂, 2 ♀ Momi, 2 ♂ Wasior, Wandammen Peninsula.

"♂" iris deep brown. Bare skin around eye whitish blue. Bill whitish blue-grey, lead-grey. Feet dark grey. "♀" iris dark brown. Bill greenish grey, bluish grey—in a young ♂ in female's garb tip dark brown.

156. **Arses (telescophthalmus) insularis** Mey.

Monarcha insularis A. B. Meyer, *Sitzungsber. Akad. Wien*, lxix, p. 395 (1874—Jobi).

3 ♂, 2 ♀ Hol and Hollandia, 2 ♂, 1 ♀ Cyclops Mountains.

Synonym is evidently *Arses fenicheli* Madarász, *Aquila*, i, p. 93 (1894—Bongu on Astrolabe Bay), described from one female!

It may be doubtful if it is not premature to decide if *insularis* should be considered to be a subspecies of *telescophthalmus*. The distribution of *insularis* is from Jobi along the north coast and its hinterland to the Astrolabe Bay, this interrupting that of two obvious subspecies of *telescophthalmus*.

The form from the S.E. of New Guinea with a white-bellied female and golden orange throat and chest in the male is *A. (t.) henkei* Meyer, *Zeitschr. ges. Orn.* iii, p. 16 (1886—Astrolabe Mountains!).

Later on Salvadori (*Ann. Mus. Civ. Genova*, xxix, p. 566, 1890—Rigo, on the coast, S.E. of Port Moresby) described *A. orientalis* with a light rufescent abdomen. In 1903 Lord Rothschild and I thought this must be variety of *henkei*, but it may be a geographically separable form? We have the white-bellied form (typical *henkei*) from Nieura, Aroa River, Brown River, the Kotoi and Oriori district of the Owen Stanley Mountains, the rufescent-bellied one (typical *orientalis*) from Collingwood Bay, 7 from the Hydrographer Mountains, 5 Kumusi River. Further observations must show, if these forms occur together, or if they are (as it seems) geographically represented.

In very worn plumage the back in *henkei* gets browner (less rufous) and a cream-coloured collar becomes conspicuous.

157. **Rhipidura leucophrys** subsp.

2 "♀" Manokwari, but one has a wing of 111 mm. which is a large measurement for a female.

♂ juv. Ifaar. The young bird is glossless black with red-brown tips to the feathers, the superciliary white line is wider, cream-coloured and reaching to the nape.

It is difficult to decide about the subspecies. It was not so stupid of us and Ogilvie-Grant to unite all the birds from East and North Australia with those of New Guinea and Papuan Islands. The various forms seem to differ

only by size ; as they vary a good deal, no form can be separated except when a good series is available.

Mathews showed that the name *leucophrys* Latham is older than *tricolor* ! This was important for the nomenclature, but in 1928 the same author made a difficulty for his brother ornithologists by giving a name (*amboynensis*) to the birds from the Moluccas, but he compared them only with the birds from Aru, leaving one in ignorance about those from New Guinea, New Ireland (terra typica of *melaleuca* !), etc., etc.

158. **Rhipidura threnothorax** S. Müll.

Rhipidura threnothorax S. Müller, *Verh. Land- en Volkenk.* p. 185 (1844—Lobo, which is at Triton Bay).

Setosura threnothorax novae-guineensis Mathews, *Bull. B.O. Club*, xlviii, p. 92 (1928—Mimika River).

4 ♂, 3 ♀ Siwi, Arfak Mountains, May 1928.

The males are darker, more blackish, on the abdomen, wings ♂ 85, 82·5, 83, 84, ♀ 77, 79, 80 mm.

Weight 18·5–21 g.

Mathews described the Mimika River bird as having the under surface distinctly darker and the white spots on the chest smaller. The darker underside is characteristic of males, the white spots vary considerably in the same localities !

From the Kumusi River we have four skins and one from Boboli, China Straits, in the utmost east of New Guinea, which all have the underside pale like females from Western New Guinea ; though three are sexed " male," it looks as if they were females, judging by the colour of the abdomen, but their wings are all three over 80 mm. A greater series might show that there is a race with lighter abdomen in S.E. New Guinea ? In both sexes the upper mandible is black, but the lower whitish !

159. **Rhipidura rufiventris gularis** Müll.

Rhipidura gularis S. Müller, *Verh. Land- en Volkenkunde*, p. 185 (1844—Lobo, Utanata).

Siwi, Wasior (Wandammen), Hol, Hollandia and Ifaar.

Weight 13–15 g.

160. **Rhipidura hyperythra mülleri** Mey.

Rhipidura Mülleri A. B. Meyer, *Sitzungsber. k. Akad. Wien*, lxix, p. 502 (1874—New name for *Rhip. rufiventris* Müller, nec Vieillot ! Terra typica therefore Lobo).

4 ♂ Siwi, 1 ♂ Ninei, 6 ♂ Cyclops Mountains.

Weight 10·5–13·75 g.

This form, the continental representative of the Aru Islands *Rhip. hyperythra hyperythra* Gray, is hardly separable from the latter. The accepted difference is that the Aru form is to have a smaller, the New Guinea bird a larger, white chin-spot. This seems to be the case, but many of our Aru birds, as well as of the Siwi and Cyclops Mountain one, have the throat badly prepared. I prefer to keep the two forms separate, but it is not a crime to unite them. On the other hand, Ogilvie-Grant is quite wrong, when (*Ibis*, 1915, *Suppl.* p. 154) he says that the variability in the size of the white ends to the rectrices is so great, that they may obscure the difference. The fact is, that the white ends to the rectrices are considerably larger in the S.E. birds, which must be called *Rhip.*

hyper. castaneothorax Ramsay, *Rhip. manayoensis* De Vis, *Report New Guinea*, 1894, p. 2 (evidently from Mount Manaeao), being a synonym.

A young bird of the latter form, from the Hydrographer Range (where the species is common), has the whole throat dirty white, rest of underside paler and duller than in the adults, and rufous tips to smaller and larger upper wing-coverts.

In all these subspecies the upper bill is black, the lower whitish.

161. **Rhipidura rufidorsa** Mey.

Rhipidura rufidorsa A. B. Meyer, *Sitzungsber. k. Akad. Wiss. Wien*, lxx, p. 200 (1874—Rubi, Passim, Jobi).

2 ♂, 1 ♀ Siwi, Arfak Mountains.

Weight ♂ 10 and 11, ♀ 8·5 g.

(Mathews has separated two supposed new subspecies in 1928. In April (*Bull. B.O. Club*, xlviii, p. 92) he named *Rhipidura rufidorsa nova* from a Mimika River specimen in the British Museum. He says the head is darker grey and the under surface more suffused with buff than in *R. r. rufidorsa*.

I cannot find these differences at all constant.

In July he named (Nov. Zool. xxxiv, p. 373) *Rhipidura rufidorsa kumusi* from specimens in the Tring Museum from the Kumusi River in S.E. New Guinea, saying that they had a lighter, more greyish head and a lighter brick-red back and rump. This does not seem to be separable either, but the beautifully prepared Kumusi River specimens do look somewhat light. The question must remain in abeyance until we have a series of equally well-prepared examples from the typical localities.)

162. **Rhipidura brachyrhyncha** Schleg.

Rhipidura brachyrhyncha Schlegel, *Ned. Tijdschr. Dierkunde*, iv, p. 42 (1873—Arfak Peninsula).
Rhipidura rufa Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 923 (1875—Arfak Mts.).
Rhipidura montana Mathews, *Bull. B.O. Club*, xlviii, p. 92 (1928—"Mt. Albert Edward, S.E. New Guinea").

For about half a century this species, except for the single types of *Rh. brachyrhyncha* and *rufa*, remained unknown, and now it seems to turn up everywhere. In 1894 De Vis recorded both *Rh. brachyrhyncha* Schleg. and *Rh. rufa* Salvadori from Mount Manaeao in S.E. Papua—but Salvadori mistook Schlegel's *brachyrhyncha* for the female of *Rh. atra*, and redescribed *brachyrhyncha* under the name of *Rh. rufa*. Let us hope that one of De Vis's two species is the true *brachyrhyncha*. Stresemann quoted the true *brachyrhyncha* from the Upper Sepik River in 1923.

Mathews described a specimen in the British Museum from Mount Albert Edward as *Rh. montana*, mentioning as a probable ally *Rh. lepida* from the Pelew Islands, having no knowledge of *Rh. brachyrhyncha* and *rufa*, and their history. Of course it is possible that the S.E. form differs slightly, the type looking somewhat brighter in colour, but it is the same species.

Dr. Ernst Mayr sent one ♂ from the mountains near Ditschi, 9.vi.1928, another ♂ from Kofo (Anggi gidji), 15.vi.1928, on the label of which is marked: "Iris dark brown. Bill 'schwarzrötlich.' Feet 'graurosa.'" Weight 8·5 g. Wings 68·5 and 70 mm.

Literature: Finsch, *Notes Leyden Museum*, xv, 1893, p. 81.

A specimen of the same date (15.vi.1928) from Kofo, and a ♀ from Lahuma agree with the two males of *Rh. brachyrhyncha*, except in the tail! The latter is deep brown from above, outer edges rufescent, the tips much paler, greyish. The shafts of the two middle rectrices are black, those of the others white or whitish, thus reminding one of some New Zealand and other species. One is, as I have said, a female; the sex of the other, though the importance was known, could not be determined. Both are smaller, wings of both 63·5 mm.

What are these birds? I am inclined to think they must be the females of *Rh. brachyrhyncha*. Against this theory, however, speaks the fact that this kind of sexual dimorphism is not known in the genus *Rhipidura*, and that Mayr collected in N.E. Papua a specimen of apparently a closely allied but different subspecies with the tale of the latter two specimens, but sexed it ♂, and the wing is over 70 mm.

163. **Rhipidura atra** Salvad.

Rhipidura atra Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 922 (1875—Hatam and Mori). Descr. of ♂.
Rhipidura cinnamomea Meyer, *Zeitschr. f. ges. Orn.* iii, p. 17 (1886—Owen Stanley Mts., S.E. slopes).
Rhipidura brachyrhyncha (nec Schlegel!) Salvadori, *Orn. Pap.* ii, p. 72.

(The history of the type of *brachyrhyncha* Schlegel and Salvadori's error in considering a female of *atra* to be Schlegel's type, is clearly explained by Büttikofer, *Notes Leyden Mus.* xv, p. 81.)

2 ♂, 3 ♀ Mountains near Ditschi (Arfak Mountains).

1 ♀ Ninei, Arfak Peninsula.

2 ♂, 2 ♀ Mountains Wondiwoi, Wandammen Peninsula.

7 ♂, 6 ♀ Cyclops Mountains.

Some of the females from the Cyclops Mountains shot 5.ix.1928 had very large eggs, one was shot by the side of an empty nest.

The differences suggested by Ogilvie-Grant, and quoted by Stresemann for specimens from S.E. and N.W. New Guinea, are individual. The amount of white on the under wing-coverts and axillaries is most variable in the same localities, and so is the intensity of the rufous of the females, both in N.W. females and in those from S.E. Papua. Only the Cyclops Mountains females are all six rather dark, which must be accidental.

164. **Rhipidura albolimbata albolimbata** Salvad.

Rhipidura albo-limbata Salvadori, *Ann. Mus. Civ. Genova*, vi, p. 312 (1874—Hatam, Arfak).
Rhipidura albo-limbata lorentzi van Oort, *Nova Guinea*, ix, i, p. 85 (1909—Hellwig Mts.).

2 ♂ mountains near Ditschi, 7 ♂♀ Cyclops Mountains.

The closely allied *Rh. (albolimbata) auricularis* De Vis, described in ignorance of the existence of *albolimbata*, differs only in the paler upperside and somewhat paler, greyish portions of the underside. Nevertheless, it must be separated as a subspecies, and our remark that the Mount Goliath specimens agree "perfectly" with those from the Aroa, Angabunga and Mambare Rivers is incorrect.

De Vis seems to have redescribed his *auricularis* as *Rhip. concinna* in another "Report," about a year afterwards.

Young birds have rufous tips to the secondaries, rump-feathers and scapulars, also on the underside, but we have only moulting specimens, none in full juvenile plumage.

165. **Rhipidura leucothorax** Salvad.

Rhipidura leucothorax Salvadori, *Ann. Mus. Civ. Genova*, vi, p. 311 (1874—Hatam, Arfak Mts.).

Cf. NOV. ZOOL. 1903, p. 463.

1 ♂, 2 ♀ Wasior (Wandammen), 3 ♂ Ifaar.

The upper bill is black, the lower mandible whitish (pale horn-colour, teste Doherty).

A small series from S.E. New Guinea has the back paler than in specimens from Arfak, Wandammen, the north coast and Setekwa River. If this difference is constant, they must be separated as

Rhipidura leucothorax episcopalis Ramsay.

(*Rh. episcopalis* Ramsay, *Proc. Linn. Soc. N.S. Wales*, ii, p. 371, 1878, from an example with uncertain locality, but probably from the south coast of New Guinea. Ramsay of course stated no differences from *leucothorax* of which he was in ignorance.)

166. **Malurus alboscapulatus alboscapulatus** Mey.

Malurus alboscapulatus A. B. Meyer, *Sitzungsber. k. Akad. Wissensch. Wien*, lxix, p. 496 (1874—Arfak Mts. about 3,500 feet).

4 ♂ ad. in black plumage, 5 apparently adult females with white underside (black sides to chest and some black feathers across the breast), 1 ♂ in moult and white underside, 2 ♀ juv., like females, but plumage fluffier, above brown, underside creamy white, flanks buffy. All Arfak Mountains.

Weight ♂ 10·5–12 g.

This is doubtless the true *alboscapulatus*, in which the female remains white underneath, through life.

167. **Malurus alboscapulatus aida** subsp. nov.

2 ♂ ad. Hollandia, 12 ♂, 10 ♀ Ifaar, on the Sentani Lakes.

Weight ♂ 9–11, ♀ 8–10 g.

In this form neither the young nor the adult females are white underneath, but black. These black females are like the males, but smaller and less glossy, the glossy blue-black edges to the feathers being entirely or almost entirely absent. The young is sooty brown all over. Cf. R. & H., NOV. ZOOL. x, 1903, p. 478. Wings ♂ 49–51, ♀ 45·5–47 mm. Weights ♂♀ 8–10·5 g. Iris brown. Many specimens in moult in September.

Type: ♀ Ifaar, 26.ix.1928. No. 2622 Ernst Mayr coll.

[Further subspecies are:

Malurus alboscapulatus naimii Salvad. & Alb.

In colour like *M. alboscapulatus alboscapulatus* from the Arfak Peninsula, but smaller!

Cf. NOV. ZOOL. 1903, p. 478, Stresemann, *Sepik-Vögel*, p. 9.

S.E. and N.E. New Guinea!

Malurus alboscapulatus lorentzi van Oort.

Males like those of *M. alboscapulatus alboscapulatus*, but females and young males above not so black as in the other forms, being quite brown, on the rump fawn, underside white without any black markings, flanks and under tail-coverts buff or pale fawn colour.

Southern slopes of Snow Mountains from the Noord River (Lorentz) to the Weyland Mountains.

The different coloration of females and a number of males (which we now look upon as non-adults) has puzzled authors considerably. There have been suggestions of a non-breeding (eclipse) plumage, of dimorphism in juveniles and in females, etc. But my friend Stresemann and I have compared the wonderful series collected by Ernst Mayr, Meek and Eichhorn, and other collectors, and we have now come to the above conclusions.

Cf. Rothschild & Hartert, Nov. Zool. 1903, p. 478, 1913, p. 502 ; Van Oort, *Nova Guinea*, ix, i, p. 91, 1909 ; Stresemann, *Sepik-Vögel in Archiv f. Naturg.* 89, 1923, Heft 7 & 8, pp. 8–10 ; Ogilvie-Grant, *Ibis Suppl.* 1915, pp. 107–110.]

168. **Cisticola exilis diminuta** Math.

Cisticola exilis diminuta Mathews, *B. Australia*, ix, p. 373 (May 1922—Cape York, North Queensland.

It seems that the above is the correct name—if, as it seems, *mixta* Math., which has priority, is somewhat different ?—for all the New Guinea specimens of *C. exilis* ; we hope soon to learn all about this in Lynes's forthcoming monograph of the genus.

5 ♂ ad. with unstriped heads, September, 2 ♂ with striped heads of the same date, one of the latter with fairly large testes, and three with more or less yellowish underside, which must all three be more or less juvenile, one ♀, the other two doubtful, but the ♀ is said to have had a large ovary—all from Ifaar.

Weight of adults 8–8·5 g.

169. **Megalurus timoriensis stresemanni** subsp. nov.

6 Kofo (Anggi gidji), 11. and 12.vi.1928, 5 ♂ (1 testes large), 1 ♀, but according to size also a male.

Weight ♂ 29–32 g.

These specimens are puzzlingly near *M. t. macrurus* from S.E. New Guinea, but flanks richer buff (except one from S.E. which has equally rich sides), and the under tail-coverts with black shaft-lines, or at least the shafts black. The heads are rather dark chestnut, the tails deep chestnut-brown, the backs dark and boldly striped, the wings outside rather dark. In all these characters, however, except the striped under tail-coverts, we find single specimens from the S.E. that equal these birds from the Arfak Peninsula. Wings 72, 73, 73, 72, 75 (" ♀ "), 77 [1] mm.

Type : ♂ Kofo, 12.vi.1928. Ernst Mayr coll. No. 1107.

From *Meg. tim. mayri* these birds differ in the much darker upperside, like *Meg. tim. macrurus*.

170. **Megalurus timoriensis mayri** subsp. nov.

9 ♂, 7 ♀, 6 ♂ juv. Ifaar, September and October.

Weight ♂ ad. 27–30, ♀ ad. 23–26 g.

These specimens differ from 19 ♂♀ from S.E. New Guinea and one from the Rawlinson Mountains (Keysser coll.), 1,450 m. above the sea, in being much lighter above, the ground colour not so deep rufous, more yellowish and with a

[1] This specimen moults the first primaries and it may be that the longest ones, which form the tip of the wing, are already pushed forward, previously to falling out.

faint greyish tinge, and the edges to the secondaries equally much lighter, less rufous. Also the tail is less rufous. The females are much smaller than the males. What must be more or less juvenile birds have the crown not rufous (more or less sharply striped with dusky) but pale brown with wider and more distinct blackish stripes, the back and tail still less rufous. Quite young birds have yellow on the underside. Wings ♂ 70–74·5, ♀ 67–68 mm.

The dimensions of *M. t. macrurus*, the S.E. Papuan subspecies, are similar ; in worn plumage the upperside of the latter fades and resembles more that of *mayri*.

The specimen from the Rawlinson Mountains belongs undoubtedly to the darker, more rufous S.E. race.

The oldest name of the species is *M. timoriensis* Wall., and not *alisteri*. The Amboina bird was described by Salvadori in 1875, evidently from females only, as the small measurements show.

It would seem that the Amboina birds are nothing but migrants from Australia ; but it is not likely that such a short-winged and long-tailed bird is much of a migrant ; against this stands further the fact that we have five skins that were collected in Amboina in January and March, but these January and March specimens do not differ from a number of Australian birds.

Mathews pointed out correctly that Temminck's name *Malurus galactotes* was inapplicable, and that it certainly was never meant for an Australian bird, but for an African *Cisticola* ! He therefore named the common Australian form *alisteri*, but the names *timoriensis* and *amboinensis* are much older—whether *amboinensis* is absolutely the same as the Australian form or a slightly different subspecies nesting on Amboina. The name *amboinensis* is also a year older than *macrurus* !

Type of *Megalurus timoriensis mayri* :

♂ Ifaar, 26.ix.1928. Ernst Mayr coll. No. 2625.

We may therefore distinguish :

1. *Megalurus timoriensis macrurus* (Salvad.).

Sphenoeacus marurus Salvadori, *Ann. Mus. Civ. Genova*, ix, p. 35 (1876—S.E. New Guinea).

S.E. New Guinea to Rawlinson Mountains. (The Konstantinhafen specimen—Astrolabe Bay—may belong to this form, or possibly to *mayri*.)

2. *Megalurus timoriensis interscapularis* Scl.

Megalurus interscapularis Sclater, *Proc. Zool. Soc. London*, 1880, p. 65, pl. vi.

Very similar to *macrurus*, but less rufescent.

New Britain and New Ireland.

3. *Megalurus timoriensis amboinensis* (Salvad.).

Sphenocacus amboinensis Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 988 (1875—Amboina).

Synonyms probably *alisteri* Mathews, *dulciei* Math., *oweni* Math., *mayi* Ashby, but further investigations desirable.——Amboina and apparently Northern Australia to New South Wales. If characters should be found to separate the Australian form, that must be called *alisteri*.

Like *M. t. mayri* but smaller !

4. *Megalurus timoriensis melvillensis* Math.

Megalurus alisteri melvillensis Mathews, *Austral Avian Rec.* i, p. 92 (Melville Island).

More rufous, almost exactly like *macrurus*, but flanks more rufescent and smaller!

Two specimens from Melville Island in the Mathews collection.

5. *Megalurus timoriensis stresemanni* Hart.

Antea p. 79.

Differs from its nearest ally *Meg. amb. macrurus* from S.E. New Guinea in its striped under tail-coverts.

Arfak Peninsula, where it was discovered by Dr. Ernst Mayr.

6. *Megalurus timoriensis mayri* Hart.

See antea p. 79.

Only known, so far, from Ifaar, Sentani Lakes.

7. *Megalurus timoriensis timoriensis* Wall.

Megalurus timoriensis Wallace, *Proc. Zool. Soc. London*, 1863, p. 489 (1864—Timor).

Seems to be larger than *amboinensis*!

Timor only?

8. *Megalurus timoriensis inquirendus* Siebers.

Megalurus macrurus inquirendus Siebers, *Treubia*, x, p. 403 (1928—One specimen from East Sumba!).

Has been separated by Siebers, because it is somewhat reddish on the upperside and the head very strongly spotted. But it is a juvenile!

Sumba.

171. **Crateroscelis sanfordi** spec. nov.

The whole underside dull rufous brown (somewhat like raw umber of Ridgway), sometimes a little darker. Upperside blackish chocolate-colour. Sides of the head generally darker than the underside. Iris marked variously as dark brown, rust-brown, red-brown, pale red-brown, ochre. "Bill black," but the under mandible is more or less light-coloured, probably pale horn-brown. Feet reddish grey. Wings ♂ 64, 62, 63, 64, ♀ 59; tail ♂ 37–39; tarsus ♂ 29, ♀ 26; bill ♂♀ 16–17 (from base) mm.

Weight ♂ 19–19·5, ♀ 17·5 g.

Type: ♂ Wondiwoi, 14.vii.1928. No. 1521 Ernst Mayr coll.

3 ♂, 1 ♀, 2 ?, all from Wondiwoi, Wandammen Peninsula, mid July 1928.

172. **Crateroscelis robusta deficiens** subsp. nov.

This form is a little deeper brown on the upperside than *C. r. robusta*, more blackish, less rufous on the upper tail-coverts and rectrices and wanting entirely the dark ashy brown pectoral band which is so well marked in males of *C. r. robusta*. Iris brown or chestnut brown.

Wings ♂ 65–67, once 68, ♀ 61–64, once 65 mm.

Weight 19–22·5, once 24 g.

13 ♂♀ Cyclops Mountains. Testes mostly swollen first half of September.
Type: ♂ ad. Cyclops Mountains, 10.ix.1928. No. 2266 Ernst Mayr coll.

173. **Crateroscelis robusta peninsularis** subsp. nov.

In colour like *C. r. deficiens*, the throat being white, the rest of the underside whitish, sides, belly and under tail-coverts dark brown, the belly about chocolate-brown. Iris males "whitish, light yellowish red, dark red," females "grey-brown, brownish grey." Wings ♂ 60–64, ♀ 55–60 or 61 mm.

Weight 12–16 g. Bill shorter than in *deficiens*.

A quite young bird, has the whole underside brown, the feathers being lighter, more whitish, towards the base.

Type: ♂ Lehuma, Arfak Mountains, 8.vi.1928. No. 1065 Ernst Mayr coll.

Nine more or less adult ♂♀ Lehuma and mountains above Ditschi, Arfak Mountains.

The following forms of *Crateroscelis robusta*, the first described by Rothschild and Hartert as *C. pectoralis* in 1900, are established.

1. *Crateroscelis robusta robusta* De Vis 1898. S.E. New Guinea: Upper Aroa River, Mount Cameron, 7,000 feet; Mount Knutsford, 11,000 feet; Mount Scratchley. Anthony, Meek, and Weiske coll.

2. *Crateroscelis robusta albigula* Rchw. 1915. Schraderberg and Huon or Kay Peninsula.

3. *Crateroscelis robusta deficiens* Hart. 1930. Cyclops Mountains.

4. *Crateroscelis robusta peninsularis* Hart. 1930. Arfak Mountains.

174. **Crateroscelis murinus** (Sel.).

Myiothera murina Bonaparte, *Consp. Gen. Av.* p. 18 (Nomen nudum ex Müller MS. in Leyden Mus.).

Brachypteryx murina Selater, *Journ. Linn. Soc. London*, ii, p. 158 (1858—Lobo !).

6 ♂♀ Siwi, 1 Hollandia, 7 Cyclops Mountains.

Iris red-brown, in one cocoa-brown.

Weight 13–16, once 17 g.

175. **Sericornis magnirostris cantans** Mayr.

Sericornis arfakiana Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 962 (1875—Arfak Mts.).

Sericornis magnirostris cantans Mayr, Orn. Monatsb. 1930 (Nom. nov. pro *Sericornis arfakiana*, nec *Geryone arfakiana* which is a *Sericornis* !).

6 ♂, 10 ♀, 3 juv. from Siwi, Ditschi and Lehuma, Arfak.

Weight 11–14 g.

These birds are very puzzling. I was at first inclined to look upon them as two species, one was on head and neck more rufescent, underside darker, more rufous, and the edges of the greater upper wing-coverts dull olivaceous-rufous, another with less phaeomelanin in the plumage, the underside being more pale dirty yellowish, the throat hardly or not at all rufescent, the edges of the greater upper wing-coverts whitish or pure white and sharply defined. There are, however, intermediate specimens, in which the white edges to the wing-coverts are indicated, while the brownish colour is present underneath, and specimens with a yellowish underside lack the clear white edges to the wing-coverts. I

eannot, therefore, think otherwise than that all the above birds are one and the same subspecies, and they ean only be a subspecies of *S. magnirostris*.

This remarkable diehromatism—if my view is eorreet—is still more strikingly developed in the Cape York form, *Sericornis minima* of Gould. The males of that form have the forehead and lores blackish, the females rufous brown, and in both adults there is a wide white short streak above the lores and a white line above and below the eyes ; the young of this form look almost exaetly like the adults ! But there is at Cape York also a form with a rufous head all round, with the breast and abdomen suffused with rufous (while they are pale sulphur-yellow in the typical *minima*, there are no blackish lores), and the white stripes above the lores are only indicated. The greater upper wing-coverts have distinct white spots, but not the white edges of the sharply marked males with less phaeomelanin.

If this theory should not be eorreet, we would have two distinct species as well in Arfak as at Cape York, in Arfak with intermediates, at Cape York not—at least we have not seen them ; in eaeh ease the brownish birds without black and white markings on the head would undoubtedly be subspecies of *S. magnirostris*, the other two would require new names, and would be subspeeies of *S. minima*.

I have been greatly assisted in the study of these birds by Dr. Stresemann and Mr. Arthur Goodson, to whom my thanks are due.

176. **Sericornis magnirostris cyclopum** subsp. nov.

4 ♂♀ Cyelops Mountains, 4 ♂♀ Wondiwoi (Wandammen).

The lores of adult males are sometimes very deep brown, almost black, there is a white line above the lores, but not so wide as in adult males of *minima*, and there are a few white feathers above and below the eye ; there are white edges to the great upper wing-eoverts ; upperside a shade darker than in *minima*, almost exaetly as in *cantans*. Underside pale yellow, sides washed with olive, throat whitish, sometimes faintly spotted, chest elouded with greyish olivaceous, sometimes distinetly spotted. In other males and females the lores are dull rufous brown as in females and there is no white above and below the eyes, and the white above the lores is more or less brownish and only indieated. The iris is " red-brown." Wings ♂ 59–63, ♀ 55, 57 mm.

Type : ♂ ad. Cyelops Mountains, 22.viii.1928. No. 1938 Ernst Mayr eoll.

Weights ♂ 11·5, 12·5, 12·5, 13·5, ♀ 12·5 g.

We have also a speeimen taken by J. Dumas near Humboldt Bay. *Sericornis magnirostris cyclopum* is very mueh like *S. magnirostris beccarii* from the Aru Islands, but in the latter the black and white markings are always distinct in the males, the rufous brown and white ones distinct in the females ; wings ♂ 59, 59, 59, ♀ 52·5, 52, 58·5 mm.

Stresemann, in his Sepik article, was the last to attempt a list of the subspecies of this group.

The Papuan subspecies would be :

Sericornis magnirostris nouhuysi Oort, Snow Mountains. Underside uniform rufous, no blaek and white markings on head.

S. magnirostris oorti R. & H. Underside yellowish. S.E. New Guinea.

S. magnirostris rufescens Stres. Like *oorti* but larger. Schraderberg.

S. magnirostris pontifex Stres. Underside hardly yellowish at all, almost dirty greyish. Lordberg and Hunsteinspitze.

S. magnirostris virgata (Rehw.) does not seem to differ in colour from *pontifex* but seems smaller ; if not separable, *virgata* would have priority over *pontifex*.

S. magnirostris keysseri from the Rawlinson Mountains.

S. magnirostris cantans Mayr, Arfak Mts. (See p. 82.)

177. **Sericornis perspicillata goodsoni** subsp. nov.

Upperside as in *S. p. perspicillata*, underside often, but not always, less fulvescent, but the ear-coverts not reddish isabelline, but pale brown, the ring round the eyes (eyelids) not reddish isabelline or bright fulvous, but cream-colour with a brownish tinge. Iris dark brown, bill black, feet pale reddish grey.

Wings ♂ 53–55, ♀ 51–52 mm. Weight 8, 8·5, 9 g.

5 ♂, 2 juv., 3 ♀ Lehuma, Dohunsehik in Issim Valley, and mountains near Ditschi in the Arfak Mountains, May and June.

Type : ♂ Lehuma, 4.vi.1928. No. 975 Ernst Mayr coll.

Named after Arthur Goodson, Tring.

The discovery of this form in Arfak is of great interest, as *S. perspicillata* was hitherto not known from the Arfak Peninsula.

At Lehuma, Arfak Mountains, a young Cuculide, which seems to be *Cacomantis castaneiventris arfakianus* Salvad., was taken from the nest of this form, No. 968 being the foster-parent.

178. **Sericornis arfakiana arfakiana** Salvad.

Sericornis arfakiana Salvadori, Ann. Mus. Civ. Genova vii, p. 960 (1876—Arfak).

Though very closely allied to *S. arfakiana olivacea* from the mountains of S.E. New Guinea, all the specimens from the Cyclops Mountains have a less pigmented underside, the throat and chest, as well as the sides, being less greyish olivaceous, the throat and chest in *S. a. olivacea* having distinctly ashy central stripes to the feathers, which are absent in *S. a. arfakiana*.

Wings males 52–55, females 49–52, mostly 50 mm.

Weight females 7·5–8·5, males 8·5–9, once 10·5 g.

2 ♀ Siwi, 1 ♂, 3 ♀ Ditschi, ♂ Lehuma, 7 ♂♀ Wondiwoi (Wandammen), 8 ♂♀ Cyclops Mountains.

Iris dark brown, dark grey-brown. Bill black. Feet pale pinkish grey.

[*Sericornis rufescens* (Salvad.), described as *Gerygone*, has not been found by Dr. Mayr (cf. Orn. Monatsb. 1930).]

179. **Aethomyias spilodera spilodera** (Gray).

Entomophila ? spilodera G. R. Gray, *Proc. Zool. Soc. London*, 1859, p. 155 (Dorey, Arfak).

2 ♂, 6 ♀ Siwi, Arfak Mountains. " Iris brown-red, red-brown, red, bill pale reddish, pale flesh-colour, feet reddish grey."

Weight 9, 10, 10·5 g. Wings ♂ 60, ♀ 55·5–58, once 60 mm., but perhaps ♂ ?

Lord Rothschild and I have (Nov. Zool. xx, p. 501) quite correctly said

that Snow Mountains specimens are very near *Ae. spilodera guttata* Sharpe from S.E. New Guinea, but possibly a new subspecies. Ogilvie-Grant called them "*Ae. spilodera*."

The British Museum specimens from the south slopes of the Snow Mountains confirm this, and the Snow Mountains form must be nominally separated. I name them in memory of Ogilvie-Grant, who—though he tried to disagree with us wherever he thought he could—has done much to further the knowledge of those parts of New Guinea :

Aethomyias spilodera granti subsp. nov.

This subspecies differs from its nearest ally, *Ae. s. guttata*, in being smaller, the spots on the throat less blackish, the ear-coverts slightly more reddish. Wings in *A. s. guttata* up to 67·5, and in adult males always over 60, females smaller. In *A. s. granti* : Adult males not over 60·5 mm.

Type : ♂ Snow Mountains, 2,000 feet, 25.viii.1910. A. S. Meek coll. No. 4636. In Tring Museum.

180. **Amalocichla incerta incerta** (Salvad.).

Eupetes incertus Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 967 (1875—Arfak Mts.).

♂♀, ♀ juv. Kofo (Anggi gidji), 11., 12., 15.vi.1928.

♀ juv. mountains near Ditschi, 16.vi.1928.

These are the birds which Stresemann called *Pseudopitta incerta*, and which we used to call *Amalocichla brevicauda*. We had quite overlooked Salvadori's *Eupetes* ? *incertus*, while Reichenow (*Journ. f. Orn.* 1915, p. 129) was not acquainted with *Drymoedus brevicauda* de Vis 1894, which Rothschild and Hartert called *Amalocichla brevicauda*. In fact, the specimens from S.E. New Guinea, of which we now have 8 adults and 4 young from the Kotoi district, Upper Aroa River, Mambare and Angabunga Rivers, is so much like the Arfak *incerta*, that I cannot say for certain how it differs, unless the bill in *brevicauda* is generally longer. Dr. Mayr marked the iris as dark brown, bill black, feet greyish pink and pale grey-brown.

Weight 27 and 28 g. Wings of the two adults ♂ 80, ♀ 77 mm., in *A. incerta brevicauda* ♂ 81·5, 83·5, 84, ♀ 79, 80, 81 mm.

Young birds are spotted like young Thrushes.

181. **Amalocichla incerta olivascentior** subsp. nov.

Upperside deeper, less rufous brown throughout, sides of head more blackish, less rufous brown, throat white with fine sooty brown tips to the feathers, underside more olivaceous, middle of abdomen only dirty white. "Iris dark. Bill black. Feet greyish black."

♀. Weight 34 g. Wing 76, tarsus 31, bill from base 20 mm.

Type and unique specimen ♀ Wondiwoi Mountain, 1,900 m., 14.vii.1928. No. 1517 Ernst Mayr coll.

Another, probably distinct, form is in the Tring Museum from Mount Goliath, which is somewhat intermediate in appearance between *A. i. olivascentior* and *A. incerta brevicauda*. Cf. Nov. Zool. 1913 (xx), p. 504. Both this and the Wondiwoi specimen have pointed tail-feathers, but their plumage is not juvenile, because we have young specimens moulting into the plumage of adults.

182. **Drymoedus superciliaris beccarii** Salvad.

Drymoedus beccarii Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 965 (1875—Arfak Mts.).

8 ♂♀ Siwi, 2 ♂ Ditschi, ♀ Ninei, 1 ♂, 2 ♀ Cyclops Mountains. Seen but not shot on Mount Wondiwoi. "Iris very dark brown. Bill black. Feet pinkish grey, pale flesh-colour, pinkish grey." Weight ♂ 47–57, ♀ 35–42, once 47 g. On 24.viii.1928, Cyclops Mountains an egg almost ready for expulsion was found in a female. Wings ♂ 88–92, ♀ 79–82 mm. The young in fluffy plumage is above rufous-chestnut with indicated paler spots, underside paler, abdomen whitish, wing-spots buff.

This form is a very much darkened subspecies of *D. superciliaris* of Cape York. We have thus :

1. *D. superciliaris superciliaris* Gould. Cape York Peninsula, N. Queensland.
2. *D. superciliaris colcloughi* Math. Roper River, Northern Territory.
3. *D. superciliaris brevirostris* De Vis. S.E. New Guinea, and apparently Aru Islands. (*adjacens* Math.)
4. *D. superciliaris beccarii* Salvad. Arfak Peninsula to Cyclops Mts.

183. **Eupetes castanonotus castanonotus** Salvad.

Eupetes castanonotus Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 966 (1875—Mt. Morait, on the north-western coast of the Arfak Peninsula, 700–1000 m. high).

10 ♂♀ from near Siwi, ♀ and ♀ juv. mountains near Ditschi, ♀ Ninei. "Iris dark, bill black, feet brownish black."

Weight from 66, 67 in females to 83 in another female, but in males 69–77 g. Wings ♂ 94–100, ♀ 90–96 mm.

As known the rump and upper tail-coverts are blue in the male, but overspread with chestnut-red in the females.

The young female has the head and upper back dull dark chestnut-brown, lores and stripe behind eye dull black, above the latter an indicated paler streak, lower back and rump darker. Chin and throat white, rest of underside dull brownish black, wings and tail black, a metallic blue sheen on the rectrices and some of the inner remiges.

184. **Eupetes caerulescens caerulescens** Temm.

Eupetes caerulescens Temminck, *Pl. Col.* 574 (1835—New Guinea, type from Lolo).

3 ♂, 3 ♀ Cyclops Mountains and Hol, 1 ♂ above Wasior (Wandammen). Iris brown.

The females have the ear-coverts not so deep black or quite greyish blue and the black line which passes from the lores and the ear-coverts round the white throat is narrower and sometimes hardly visible.

Weight 44·5–62 g.

185. **Eupetes leucostictus leucostictus** Scl.

Eupetes leucostictus Sclater, *Proc. Zool. Soc. London*, 1873, p. 690, pl. 52 (Hatam, Arfak Mts.).

2 ♂, 3 ♀ Arfak Mountains, Lehuma and Ditschi Mountains.

The true Arfak *leucostictus* has always been rare in collections, and even now there is not a large series. The breast is bluish, not greenish.

Weight 41, 46 g.

186. **Eupetes leucostictus mayri** subsp. nov.

This very striking new subspecies differs from *E. leucostictus leucostictus* Sel. from Arfak, in having the forehead to the end of the upper tail-coverts rufous chestnut instead of greenish-olive. The chest below the triangular black patch on the throat is greenish olive like the sides of the body. The black triangular throat-patch has more or less white edges to the feathers, but they are only a few in some specimens and absent in one, while they are more numerous and regular in *E. l. leucostictus*. "Iris dark brown. Bill black. Feet reddish grey, dirty flesh-colour."

Type: ♂ ad. Wondiwoi, 9.vii.1928. No. 1411 Mayr coll. Wings ♂ 79–81, ♀ 76–77 mm.

Ernst Mayr sent 4 males, 1 unsexed, 2 ♀ from Wondiwoi, Wandammen Peninsula.

It is a pleasure to me to name this fine new subspecies in honour of the ardent collector, who was at once struck by its red back.

Nobody seems to have ever seen this bird, except in the Tring Museum. In fact we have had for many years a specimen without sex or indication of locality, once mounted and then dismounted. We then received a female from Mount Goliath from which we came to the conclusion that they were the females of *leucostictus* of which we had only one bad specimen! Our conclusion was, however, quite erroneous, as is now proved beyond doubt. We had also a specimen from the Mamberano River and two from Mount Kunupi, Weyland Mountains. We have thus a distribution from the Snow Mountains to the Mamberano and Wondiwoi Mountains.

Weight 41·5–54·5 g.

187. **Eupetes leucostictus loriae** Salvad.

Eupetes loriae Salvadori, *Ann. Mus. Civ. Genova*, xxxvi, p. 102 (1896—Moroka, S.E. New Guinea).

17 ♂♀ ad., 2 juv. Cyclops Mountains, September 1928.

This subspecies differs from *E. leucostictus leucostictus* only in the olive-greenish, not bluish, chest and unspotted black triangle on the jugulum.

Weight 48–54 g.

We have also a male collected on the Rawlinson Mountains by the Rev. Keysser.

Some of the Cyclops Mountains specimens have somewhat shorter bills than S.E. Papuan specimens, but this character is not constant enough for separation.

Description of young, Nov. Zool. 1903, p. 231.

188. **Pomareopsis bruijni** (Salvad.).

♂♀ mountains near Ditsehi, Arfak Mountains, 1,300 m.

189. **Motacilla cinerea caspica** (Gm.).

Parus caspicus (!) S. G. Gmelin, *Reise d. Russland*, iii, p. 104, Taf. 20, fig. 2 (1774—Enzeli, S. Caspian Sea).

Budytes Novae-Guineae Meyer, *Sitzungsber. Isis Dresden*, 1875, p. 74 (Arfak).

An unfortunate "Grey Wagtail" was met with at Siwi, 20.iv.1928. A specimen also from Arfak was received by A. B. Meyer, but this Wagtail is rare in New Guinea.

190. **Saxicola caprata aethiops** (Scl.).

Poecilodryas aethiops Sclater, *Proc. Zool. Soc. London*, 1880, p. 66, pl. vii, fig. 1 (New Britain).
Pratincola caprata aethiops Rothschild & Hartert, *Nov. Zool.* 1907, p. 467; Stresemann, *Nov. Zool.* xix, 1912, p. 322!

5 ♂, 5 ♀, the latter mostly terribly worn, Ifaar, September and October 1928. "Iris dark brown. Bill black, feet black, in both sexes."

Weight 19–20·5 g. Wings males 74–76, once (worn) only about 72 mm.

191. **Locustella fasciolata** (Gray).

Acrocephalus fasciolatus G. R. Gray, *Proc. Zool. Soc. London*, 1860, p. 349 (Batjan).

3 ♀, 1 unsexed Siwi, April and May.

This East Siberian migrant is rather uncommon in collections from New Guinea, but we had already received bad specimens from Dorey and Yamna on the north coast from Doherty.

192. **Acrocephalus arundinaceus** subsp.

In a swamp at Kofo (Anggi gidji) Reed-Warblers were observed 12.vi. and 14.vi.1928, and one good skin and a spoiled one were sent, both sexed as males. They were singing and the testes of one were large. This is probably a distinct subspecies, but as I cannot state differences from some Australian specimens (*Acroc. arundinaceus australis*) I cannot give a name to these Arfak birds. The wings measure 73 and (barely) 69 mm., so probably the second (bad) specimen is a female. "Iris bleich graubräunlich."

The wing of *A. arundinaceus cervinus* De Vis from S.E. New Guinea is said to be 80 mm. long, but as only one "female" (?) is known, and that was shot in July, when Australian migrants frequent New Guinea, our knowledge of this form is most insufficient.

(About the forms of these Reed-Warblers, see *Treubia*, vi, and *Festschrift E. Hartert, Suppl. Journ. f. Orn.* 1929.) In Salomonsen's article in the latter it must be mentioned that the bird which I had carefully refrained from naming after examination of one male only, and which he named *harterti* without further knowledge, came from the island of Luzon. Salomonsen says "Camarines," which probably is on Luzon, but who knows "Camarines," while Luzon is known to everybody.

193. **Orthonyx temminckii novaeguineae** Mey.

Orthonyx Novae Guineae A. B. Meyer, *Sitzungsber. k. Ak. Wien*, lxix, p. 74 (1874—Arfak Mts. 3,500 feet).

♂♀ Dohunsehik (no labels), ♂♀ Dohunsehik (Issim Valley), 17., 18.vi.1928. Weight ♂ 56, 57, ♀ 49 g. Iris dark brown. Wings ♂ 89, 92, ♀ 81, 81, 82 mm.

These birds differ from two females and a male from S.E. New Guinea (Mount Knutsford and Mount Seratehley), in having a little less white on the under side, the rump being slightly darker rufous-brown, and in having smaller dimensions. The S.E. form will therefore have to be called *O. temminckii victoriana* (van Oort, *Notes Leyden Mus.* xxx, p. 234, 1909, Mount Victoria, S.E. Papua), though the description does not quite agree, as it is said to be less white underneath, and the dimensions do not agree with our specimens. Wings

in ours ♂ 97, ♀ 91, also the bills are smaller in the Arfak form. We must therefore recognize 3 subspecies :

O. temminckii temminckii Ranzani : N.S. Wales to Queensland.

O. t. victoriana van Oort : S.E. New Guinea.

O. t. novaeguineae Mey. : Arfak Peninsula.

194. **Pomatorhinus isidori** Less.

Pomatorhinus isidori Lesson, *Voy. Coquille, Zool.* i, pl. 29 (1929), p. 680 (1930—Forest in neighbourhood of Dorey, Arfak Peninsula).

♂♀ Momi, east coast of Arfak Peninsula, ♀ Hol. "Iris light brown. Bill yellow and brown. Feet dark grey-brown."

195. **Neositta papuensis papuensis** (Schleg.).

Sitta papuensis Schlegel, *Ned. Tijdschr. Dierk.* iv, p. 47 (1871—Hatam, Arfak Mts.).

♂♀ Dohunsehik (Issim Valley), ♂ Lehuma, June 1928. "Ring round eye yellow, iris whitish yellow. Bill yellowish, tip black. Feet light yellow."

Weight 14–15 g. Wings ♂ 84, ♀ 84 mm.

The two males, one with enlarged testes, have black crowns, the female a greyish white head with dark grey shaft-lines. This is in opposition to Schlegel's and Salvadori's descriptions, who described the female as black-headed, but I have no doubt that the black-crowned specimens are the males, as in *N. p. albifrons* (Rams.) from S.E. Papua.

196. **Climacteris placens placens** Scl.

Climacteris placens Sclater, *Proc. Zool. Soc. London*, 1873, p. 693 (Hatam, Arfak Mts.).

♂ Dohunsehik 18. vi. 1928, No. 194.

197. **Coracina papuensis papuensis** (Gm.).

Corvus papuensis Gmelin, *Syst. Nat.* i, p. 371 (1788—Ex Daubenton and Latham "hab. in Nova Guinea," doubtless western New Guinea, probably Arfak Peninsula).

Only two males from Ifaar, September 1928.

Weight 66, 67 g. "Iris dark."

198. **Coracina caeruleogrisea strenua** (Schleg.).

Campephaga strenua Schlegel, *Ned. Tijdschr. Dierk.* iv, p. 44 (1871—Jobi and Arfak Peninsula I select as the terra typica of the name *strenua* : Arfak Peninsula !).

A series of both sexes from Siwi, ♀ Ditschi, series from the Cyclops Mountains.

I call these birds *strenua*, restricting the terra typica of that name to the Arfak Peninsula. I separate these birds from *C. caeruleogrisea caeruleogrisea* from the Aru Islands, because they are darker and more blue-grey than the distinctly paler Aru birds !

Specimens from S.E. New Guinea, as far as the Hydrographer Range, are somewhat intermediate, but more like the Aru form. Young birds have pointed and white-tipped rectrices. A young male from Siwi is partially albinistic, having the greater part of the downy head and neck and underside white ; growing feathers are blue-grey, but some greater wing-coverts white.

In the Cyclops Mountains the sexual organs were greatly enlarged.

199. **Coracina lineata axillaris** (Salvad.).

Graucalus axillaris Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 925 (1875—Arfak Peninsula).

1 ♂, 3 ♀ Siwi, April and May. "Iris bright light yellow, bill and feet black."

Weight 70–73·5 g.

The barring on the underside of the females reaches higher up in some specimens than in others.

200. **Coracina boyeri boyeri** (Gray).

Campephaga Boyeri G. R. Gray, *Gen. B.* i, p. 283 (1846—Ex Hombron & Jacq., west coast of New Guinea, by which no doubt the coast of the Berau Peninsula was meant).

♂ Siwi, 24.iv.1928.

201. **Edolisoma incertum incertum** (Mey.).

Campephaga incerta A. B. Meyer, *Sitzungsber. k. Akad. Wien*, lxix, p. 387 (1874—Jobi).

♂♀♀ Siwi, ♂ Cyclops Mountains.

Weight 54–57 g.

The female is much like the male, the slight differences are well described by Stresemann. *E. incertum sharpei* seems after all not to differ, but we are handicapped by the want of Jobi specimens!

202. **Edolisoma morio müllerii** Salvad.

Edoliisoma müllerii Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 927 (1875—New name for Müller's Utanata specimens).

1 ♂ juv., 5 ♀ Hol and Ifaar. No adult male was obtained.

Weight 61–71 g.

203. **Edolisoma montanum montanum** (Mey.).

Campephaga montana (errore "*montona*," but corrected in same volume and year) A. B. Meyer *Sitzungsber. k. Akad. Wien*, lxix, p. 386 (1874—Arfak Mts.).

♂♀ ad. Siwi, Ditschi and Cyclops Mountains. "Iris dark."

Weight 65–75 g.

Wings ♂ 136–142 mm. In *E. m. minus* from S.E. New Guinea the wings rarely surpass 130 in males, and are mostly 129–130 mm. Two females from Cyclops Mountains have more black on the throat, but this seems to vary somewhat.

204. **Edolisoma melan melan** (Less.).

Lanius melas Lesson, *Man. d'Orn.* i, p. 128 (1828—Dorey, Arfak).

♂ Manokwari, ♂ Wasior, ♂ Hollandia.

♀ Siwi, ♀ Momi, ♀ Hollandia, ♀ Cyclops Mountains. "Iris dark."

205. **Lalage atrovirens atrovirens** (Gray).

Campephaga (*Lalage*) *atrovirens* G. R. Gray, *Proc. Zool. Soc. London*, 1861, pp. 430, 435 (Mysol).

2 ♂ Ifaar (Sentani Lakes), 23.ix.1928.

Weight both 30 g.

206. **Pitta macklotii macklotii** Temm.

Pitta Macklotii Temminck, *Pl. Col.* 547 (1834—From a specimen collected at Lobo Bay, Triton Bay).

♂ ad. Siwi, Arfak Mountains, 1.v.1928.

2 ♂ ad. Momi, east coast of Arfak Peninsula, 30.vi.1928.

♂ juv. Momi, 29.vi.1928.

♀ ad. Manokwari, Arfak, 9.iv.1928.

These birds are typical *macklotii*, agreeing with others from Waigiu, Kapaur, the Lower Snow Mountains Range, the Fly River, S.E. New Guinea (except the utmost east, i.e. Milne Bay, Chad's Bay, Mullen's Harbour, to the Kumusi River, where *P. m. loriae* lives, and a mountain district on the Upper Aroa River, where *P. m. oblita* is found), and specimens from Simbang and Sattelberg, Huon Gulf.

While the island forms are very easy to understand (*gazellae* New Britain, Rooke Island, *novaehibernicae* New Ireland, *finschi* D'Entrecasteaux Islands, *meeki* Rossell Island, and the very closely allied *kuehni* and *aruensis*) we had not hitherto understood the forms from New Guinea itself. As it is the birds from the north coast: Humboldt Bay Region, Hollandia and Cyclops Mountains, and Potsdam Harbour, differ, as quite well described by Finsch in having a much brighter red nape, which reaches to the hind part of the eyes. The other points mentioned by Finsch are not characteristic for this form, but also found in *P. m. macklotii*.

A synonym of *P. m. macklotii* is also *Pitta mackloti yorki* Mathews, Nov. Zool. xviii, p. 299, 1912. *P. m. macklotii* is very rare in the northern Cape York Peninsula, and specimens from there do not differ from others from New Guinea. This form had already been named *Pitta digglesi* by Krefft, *Ibis*, 1869, p. 350. It is true that Krefft's specimen, though said to have been obtained at Cape York, might possibly have come from New Guinea, because the veracity of the collector was doubted by Krefft, but the name *digglesi* was given to the Cape York bird "if that should prove to be distinct from the New Guinea *Pitta mackloti*"; Mathews could therefore not say that it was from New Guinea, and that the name "is therefore a synonym of *P. m. macklotii*," though it is virtually a nomen nudum.

207. **Pitta macklotii habenichti** Finsch.

Pitta Habenichti Finsch, *Orn. Monatsber.* 1912, pp. 102, 127 (near Potsdamhafen on the north coast of Kaiser-Wilhelmsland).

16 ♂♀ ad., 1 juv., Hol, Hollandia and Cyclops Mountains.

"Iris dark brown, bill black, feet greyish."

Weight 72–89 g.

In one male, 8.viii.1928, the testes were enlarged. Wings ♂ 102–109, 110, 3 ♀ 101, 108, 108 mm.

All specimens are alike, no striking variation.

208. **Pitta atricapilla atricapilla** Quoy et Gaimard.

Pitta atricapilla Quoy et Gaimard, *Voy. Astrolabe, Zool.* i, p. 258, pl. 8, fig. 3 (1830—Dorey).
Pitta novae-guineae Müller & Schlegel.

♂ Momi, 29.vi., ♂ Wasior, 24.vii.1928.

"Iris dark brown. Bill black. Feet greyish pink, pale brownish flesh." A fine series ♂♀ Hollandia and Ifaar.

These birds are in fine, fresh plumage, but in a few the colours of the underside are less dark and less vivid, the blue less bright.

A series from Dampier Island on the north coast of the Mandated Territory, collected in March 1914 by A. Eichhorn for A. S. Meek, were recorded by us as *P. atricapilla atricapilla*, but comparing them again with our now considerable series we find that the Dampier birds are duller, darker, on the breast, and the back is also slightly darker green in the series. It is therefore desirable in our opinion to call attention to this fact by a name, and I propose to call the Dampier bird

Pitta atricapilla hebetior, subsp. nov.

Type: ♂ Dampier Island, 9.iii.1914. No. 6789 of the Meek collections, collected by Albert Eichhorn.

209. **Melampitta lugubris** Schleg.

Melampitta lugubris Schlegel, *Ned. Tijdschr. Dierk.* iv, p. 47 (1871—Arfak Peninsula).

8 ♂♀ ad. Lehuma, mountains near Ditschi, Dohunsehik in the Issim Valley. "Iris ♂ red, ♀ brown. Bill and feet black."

Weight 41·5, 43, 45, 49 g.

Wings "♂" 83–87, "♀" 79–83 mm.

Compared with specimens from S.E. New Guinea the bills of the Arfak birds are generally very short, but there is not enough constancy to separate them.

Mellopitta lugubris rostrata Ogilvie-Grant 1913 was described from a single stout-billed individual, and is apparently a synonym of the typical Arfak form.

210. **Melampitta gigantea** (Rothsch.).

Mellopitta gigantea Rothschild, *Orn. Monatsber.* 1899, p. 137 ("Mt. Moari," 3,000 feet. Mt. Moari is, however, not near Humboldt Bay, but on the east coast of the Arfak Peninsula near Oransbari, and it is Moari and not "Maori").

♂ ad. Siwi, 15.v.1928. "Iris dark brown. Bill and feet black."

Weight 205 g. Wing about 143, tail 140 mm.

This specimen is entirely black. Its tail is much longer than that of the other known specimens, i.e. the type from Mount Moari, a male and a female from the Snow Mountains, one in the British, one in the Tring, Museum. The tails of our other two specimens are, however, very much worn off at the tip. Even in the male collected by Mayr, the webs of the rectrices, except towards the base, are disintegrated and the feathers wide. This might be looked upon as a generic character, but otherwise this rare bird is just a gigantic *M. lugubris* even the young being brown as in the latter.

Nothing is known about the habits and eggs of *Melampitta*!

211. **Caprimulgus macrurus yorki** Math.

Caprimulgus macrurus yorki Mathews, *Nov. Zool.* xviii, p. 291 (1912—Cape York).

♀ Momi, ♂♀ Wasior, ♀ Hollandia, 4 ♂ Ifaar.

I do not see how these birds can be separated from the Cape York form, which Mathews called *yorki*.

C. m. albolaxatus Rothsch. & Hart., Nov. Zool. xxv, 1918, pp. 323, 324, was described from the " chain of islands from New Britain to Vulcan (Manumudar, Volcano) Islands," and the type from Volcan island has the white on the outer rectrices much longer, i.e. 64 mm. long, and the white patch on the outer primary touches the shaft.

In our large series there is no other specimen with so much white on the outer rectrices, and the white on the outer primary is also usually less extended.

Stresemann mentions specimens from New Britain, one from Ramu, and one from Stephansort with as much and more white (64, 65, 73 mm.), but it is accidental that his single specimens from Queensland and Arfak have only 40 mm. long white ! As it is, I fear that *albolaxatus* is based on specimens with abnormally much white, otherwise it must be restricted to the islands from New Britain to Vulcan Islands, and perhaps the adjoining coast of Papua, but it is not found at Hollandia, Ifaar and Arfak, where *C. m. yorki* occurs.

212. **Collocalia fuciphaga mayri** subsp. nov.

This apparently new form is nearest to *C. fuciphaga hirundinacea* Stres., but the tarsus is more thickly covered with dark brown feathers, all over, by which it differs also from all other known forms of *fuciphaga*. The wing measures about 110 mm.

Type a unique male specimen from Siwi, Arfak Mountains, shot 25.v. 1928.

It is perfectly true that none of our *C. fuciphaga hirundinacea* from the Setekwa River (terra typical of *hirundinacea*) has such thickly covered tarsi. I am obliged to Dr. Stresemann for his comparing our single specimen with his *hirundinacea*. Unfortunately the wings and tail are slightly damaged.

213. **Collocalia esculenta esculenta** (L.).

Hirundo esculenta Linnaeus, *Syst. Nat.* ed. x, i, p. 191 (1758—China, errore. Terra typica Amboina- ex Rumphius).

3 ♀ only from Siwi, 14.v. and 29.iv.1928.
Weight 6·5 and 7 g.

214. **Hemiprocne mystacea mystacea** (Less.).

3 ♀ ad. Ifaar. Wings 231–234·5 mm. Eggs in ovary very large.
♂ Ninei, ♂ Wasior, 25.vii.1928.
Weight 71 g.

215. **Lyncornis papuensis** (Schleg.).

Caprimulgus papuensis Schlegel, *Nederl. Tijdschr. Dierkunde*, iii, p. 340 (1866—Salwatti and neighbouring coast of New Guinea).

One bad specimen knocked over by natives at Wasior (Wandammen), 19.vii.1928. Wing about 190 mm.

(Mathews in " *Syst. Av. Australasianarum*," i, p. 395, gave quite a misleading and fanciful account of the status of this species. He says that *L. papuensis* (Schleg.) was described from Salwatti and that the form from the Papuan " mainland " is a different subspecies. There is, however, no reason whatever for this construction. Schlegel described *papuensis* from Salwatti and the

western B rau Peninsula, not from Salwatti alone ! From that one must infer that Salwatti and New Guinea specimens are alike, and Mathews, who has not compared the specimens from various localities, had no right whatever to assume that *papuensis* was restricted to Salwatti, and that New Guinea itself held another subspecies.)

216. **Aegotheles cristata affinis** Salvad.

Aegotheles affinis Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 917 (1875—Arfak Mts.).

5 ♂, 1 ♀ Siwi, mountains near Siwi, May 1928. "Iris dark brown. Bill blackish brown and black. Feet greyish pink, whitish brown."

Weight 41·5–48·5, 53, 60 g. Wings ♂ 130–136, ♀ 139 mm.

It is with great satisfaction that I register this fine little series of a most rare bird, of which hitherto only the single type seems to have been known. Cf. Hartert, *Ibis*, 1896, p. 375, pl. vii ; *Tierreich*, Lief. i, p. 11, 1897.

This form is nearest to *Ae. c. bennetti* from S.E. New Guinea, but the markings on the upperside are coarser, those on the crown generally larger, the light nape-band generally wide, but sometimes only indicated, the ear-coverts throughout less blackish, more or less rufous, bars on tail generally sharp and somewhat wider. Larger, wings of *Ae. c. bennetti* 121–129 mm.

Ae. c. wiedenfeldi Laubm. is closely allied to *bennetti*, but larger, tail longer, wings about 1 cm. longer, markings fine as in *bennetti* (not coarse as in *affinis*), generally darker, nape-band often wider, white or brown. We have it from Simbang, the Sattelberg, Holnicote Bay and the Kumusi River !

It is unavoidable to treat these forms as subspecies of the Australian *novaehollandiae*, or rather *cristata* as it is now called, because of a few months priority !

In *Ae. c. affinis* the underside is whitish, throat to breast barred with brownish black, but in some specimens the throat down to the breast is rusty-buff, and along the middle a more or less unbarred brownish buff line. This is not dependent on sex or age. Abdomen and under tail-coverts are white.

217. **Aegotheles albertisi albertisi** Scl.

Aegotheles albertisi Sclater, *Proc. Zool. Soc. London*, 1873, p. 696 (Arfak Mts.).
Aegotheles dubius A. B. Meyer, *Sitzungsber. k. Akad. Wien*, xlix, p. 75 (1874—Arfak Mts., 3,550 feet).

1 ♀ mountains near Siwi, 1 ♂ Lehuma, 1 ♀ mountains near Ditschi, 1 ♂ Kofo (Anggi gidji), Ernst Mayr coll., 1 ♂ Arfak Mountains, 2,000 m. Shaw Mayer coll. "Iris brown. Bill blackish. Feet flesh-colour, whitish, pale pink."

Weight 25, 30, 30·5 g. Wings 119, 120, 123 mm.

The colour of the upperside varies from foxy rufous to rufous brown, dark chestnut to almost black. Most specimens have a white collar, but sometimes it is obsolete, in one female quite absent.

Ae. albertisi salvadorii Hart. 1892 (synonym *Ae. rufescens* Salvad. 1896, both described from the Moroka district in S.E. New Guinea !) is a very closely allied form, differing only in the somewhat less dark and less bright colour of the upperside from true *albertisi* ! The upperside varies from cinnamon-red

to brownish chestnut and blackish brown, the white collar is mostly very distinct, but sometimes quite obsolete. Wings 113–122, once 126 mm. We have a wonderful series of 34 specimens.

218. **Aegotheles** (?).

1 ♂ Wondiwoi (Wandammen), 10.vii.1928.

Weight 44·5 g.

"Iris brownish. Bill dark horn-colour. Feet pale pink."

I do not venture to say what this bird is. It has the markings of *Ae. albertisi salvadorii*, but the wings are 138 mm. long! It is a young bird, as the six rectrices that are left and the tips of the wings show. The ear-coverts are rather pale cinnamon rufous.

If more material were to hand it would probably become clear whether this bird belongs to a very large subspecies of *Ae. albertisi*, or whether it is a giant (or another species ?).

219. **Aegotheles insignis insignis** Salvad.

Aegotheles insignis Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 916 (1875—Hatam, Arfak Mts.); Hartert, *Ibis*, 1896, p. 375, pl. vi.

♀ Lehuma, ♀ above Ditschi, ♂ Dohunsehik, ♂ Wondiwoi.

Of this form as far as I know, only the type had hitherto been recorded, though a ♀ from Mount Kunupi, Weyland Mountains, 6,000 feet, collected by Pratt Bros. and recorded by Lord Rothschild as *Ae. pulcher*, belongs, in my opinion, to *Ae. insignis insignis*, but this requires confirmation from more specimens. The iris is described as ochre, light ochre, dark ochre, and dark brown, bill brownish horn, feet pale pink. Wings ♂ 164, 170, ♀ 160, 162 mm. The Weyland Mountains bird "♀" 165 mm.

In 1898, *Bull. B.O. Club*, viii, p. viii, I described from a single specimen from the "mountains of British New Guinea" *Aegotheles pulcher*. This was bought in London, but was collected by Emil Weiske, the preparation being unmistakable, and almost certain came from the Upper Aroa River, where Meek found this bird later on quite common. When describing it nothing was known of *Ae. insignis* except the type, which I had, a few years before, examined, through the kindness of Dr. Gestro. I then stated the smaller size and certain colour differences. In 1907, Nov. Zool. xiv, pp. 456, 457, Lord Rothschild and I said clearly that *pulcher* is "doubtless a subspecies of *Ae. insignis* from Arfak, which is very similar."

We there described the stupendous variations in the colour and markings, and in fact they are the same in the two subspecies, though among the few specimens from Western New Guinea there are not any so light and bright as some of the *pulcher* are.

In fact there is no difference between the two races, except the larger size of *pulcher*, which have wings ranging from 166 to 180 mm., against 155 (type), 160, 162, 164, 165, 170 mm. in *insignis insignis*. From the Aroa River I have examined 34 specimens.

The *insignis* from the Weyland Mountains is the darkest specimen seen, but one from Avera on the Upper Aroa River is almost quite as dark.

220. **Podargus papuensis papuensis** Quoy et Gaim.

Podargus papuensis Quoy et Gaimard, *Voy. Astrolabe, Zool.* i. p. 207, Atlas pl. 13 (1830—Dorey, Arfak).

♂♀ Ditschi, 28.v.1928. The male is greyish, the female more or less rufous-brownish. ♂ Wasior, 23.vii.1928.

Weight 325, 445 g.

Mathews described the Waigiu form as *P. p. conigravi*, saying that the specimens were "distinctly darker," but he had no material justifying this statement. On the other hand, it seems that the Cape York form (Nov. Zool. xviii, p. 281), *P. p. baileyi* and *P. p. rogersi* Mathews, is in the series a lighter form, and probably the Merauke form *P. p. pumilus* Stres. (*Orn. Monatsber.* 1927, p. 87) is also different, and possibly the Aru and Mysol birds may belong to it or to other small forms.

The iris is described as yellow, in one red (probably blood ?).

221. **Podargus ocellatus ocellatus** Quoy et Gaimard.

Podargus ocellatus Quoy et Gaimard, *Voy. Astrolabe, Zool.* i. p. 208, Atlas pl. xiv (1830—Dorey, Arfak).

1 ♂ Cyclops Mountains, 29.viii.1928. "Iris dark brown."

Weight 156 g.

222. **Merops ornatus** Lath.

♂ Siwi, 27.iv.1928. In beautiful fresh plumage.

"♀?" Manokwari, 9.iv.1928. (Is evidently a female.)

♀ Wasior (Wandammen), 19.vii.1928. In moult.

A migrant from Australia.

223. **Merops philippinus salvadorii** Mey.

Merops salvadorii A. B. Meyer, *Ibis*, 1891, p. 294 (New Britain).

♀ ad. Ifaar, 16.ix.1928. Weight 43 g. Ovary small. "Iris red."

This specimen is very little more yellowish on the upperside than *M. ph. philippinus*, but the underside is much less green, rather golden brownish ; only the middle of the abdomen is pale green. The stripe under the black band along the sides of the head is very pale blue, but there are specimens of *M. ph. philippinus* in which it is equally pale. Not known so far west.

224. **Eurystomus orientalis crassirostris** Scl.

Eurystomus crassirostris Sclater, *Proc. Zool. Soc. London*, 1869, p. 121 ("Solomon Is." errore, terra typica New Britain).

♂♀ Siwi, ♂ Wasior.

Weight 180, 185, 195 g.

("*E. o. waigiouensis*" is erroneously kept as a separate subspecies by Mathews.)

225. **Eurystomus orientalis pacificus** (Lath.).

A specimen from Manokwari, 9.iv.1928. Further specimens were wisely not collected.

226. **Rhyticeros plicatus ruficollis** (Vieill.).

♀ Momi, ♂ Hol.

227. **Alcyone azurea ochrogaster** Rchw.

Alycone ochrogaster Reichenow, *Journ. f. Orn.* 1903, p. 149 (Kaiser-Wilhelmsland, type from Ramu). *Alcyone azurea distincta*, Mathews *B. Austr.* vii, p. 94 (1918—Humboldt Bay, North New Guinea).

2 ♂, 1 ♀ Ifaar, September and October.

Weight 33, 35, 36 g.

The form from the Mandated Territory and the north coast as far as Ifaar and Humboldt Bay is very much lighter on the underside and distinguishable at first glance.

228. **Ceyx lepidus solitarius** Temm.

Ceyx solitaria Temminck, *Pl. Col.* 595 (1836—Lobo Bay).

♀ Siwi, ♀ Wasior (Wandammen).

Weight 14·5, 15·5 g.

It seems a bit daring to call these smaller, slender-billed birds subspecies of *lepidus*, but *C. l. sacerdotis* R. & H. connects the two supposed species wonderfully. I therefore follow Stresemann in treating this form and a number of allies as subspecies of *lepidus*. *Ceyx* is of course of masculine gender, though we have mechanically followed the *Catalogue of Birds*, Salvadori and others, in treating it as feminine.

229. **Alcyone pusilla pusilla** (Temm.).

Ceyx pusilla Temminck, *Pl. Col.* 595 (1836—Lobo Bay).

♂♀ Ifaar, ♀ Hollandia.

Weight 13 and 14 g.

(Mathews admits a subspecies *assimilis* Diggles, *Trans. Phil. Soc. Queensland*, ii, p. 6, 1873, described from Cape York, but according to Mathews from the Aru Islands. I fail to see how he can make this out from the description, as the Cape York bird is very much like the Aru bird, which seems not to differ from typical *pusilla*.)

230. **Syma torotoro torotoro** Less.

Syma torotoro Lesson, *Bull. Sci. Nat. Férussac*, xi, p. 443 (1827—Dorey, Arfak).

2 ♀ Siwi, 2 ♂ Wasior (Wandammen), 2 ♀ and 1 ♂ juv. (bill quite black) Hollandia, ♂ Ifaar, Sentani Lakes.

Weight 44, 45, 49·5, 52 g.

Wings ♂ 81, 81, ♀ 79, 80, 81, 82, 84 mm.

These are the only *Syma* that have come to hand. The treatment of this genus and its forms has so far been varied and sometimes peculiar. The form named *megarhyncha* has been treated as a different species by Rothschild & Hartert, Stresemann, Mathews and others.

In my opinion, however, *megarhyncha* is just a mountain form, representing the smaller ones on the hills; thus we have on the mountains of S.E. New Guinea and on the Snow Mountains the big *megarhyncha*, on the Sattelberg (and probably other hills of N.E. Papua) the *sellamontis*. The latter is hardly distinguishable from *S. t. torotoro*, but a little larger, wing ♂ 84, according to Stresemann (once) 88, ♀ 86, 87, 89 mm., bill slightly larger. In some adult

males the bill is entirely yellow, but even old females have the top of the culmen, at least near the tip, black, but one female has an entirely yellow bill.

Mathews named specimens from the Lower Snow Mountains *Syma torotoro pseustes* (*B. Austr.* vii, p. 113, 1918), because they were named differently by various authors. He also said they differed from *meeki* by having bluer tails and darker upperside, but this seems not to be the case.

Therefore, as far as I could judge at present, the following subspecies can be distinguished :

Syma torotoro torotoro Less. Arfak to Sepik River, and apparently Western Papuan Islands.

Syma torotoro tentelare Hart. Aru Islands.

Syma torotoro meeki R. & H. S.E. New Guinea, west to Lower Snow Mountains, north to Kai Peninsula (Simbang, Heldsbach).

Syma torotoro ochracea R. & H. D'Entrecasteaux Islands.

Syma torotoro flavirostris Gould. North Queensland.

Syma torotoro megarhyncha Salvad. Mountains of S.E. New Guinea and Snow Mountains. (Synonym *S. torotoro wellsi* Math. 1918.)

Syma torotoro sellamontis Rchw. Mountains of N.E. New Guinea.

(Mathews named also a specimen from Humboldt Bay in the British Museum of the true *S. t. torotoro*, calling it *Syma torotoro connectens*. In his *Syst. Av. Australas.* p. 371, he places this name as a synonym of *S. megarhyncha sellamontis*. The only specimen I found in the Brit. Mus. is, however, as I have said, *S. t. torotoro* and not *sellamontis* ! It must be mentioned that the subspecies of *Syma* described by Mathews in the Brit. Mus. are not named on the labels, nor are the type specimens marked !)

231. **Melidora macrorhina macrorhina** (Less.).

Dacelo macrorhinus Lesson, *Bull. Sci. Nat. Férussac*, xii, p. 131, 1827, and *Voy. Coquille, Zool.* Atlas pl. 31 *bis*, 1829 (both the same birds, collected by Lesson at Dorey).

1 "♀" Siwi, 24.v.1928. This specimen is not adult, as shown by the partially brown underside. The spots on the tips of the black feathers of the crown are not brownish green, but greenish blue, a good many feathers on the crown are wanting. It seems to me that this specimen must be an immature male.

Unfortunately the only specimen from Arfak sent.

In a large series from Arfak, Snow Mountains and S.E. New Guinea the wings measure 114–122 mm.

232. **Melidora macrorhina jobiensis** Salvad.

Melidora jobiensis Salvadori, *Orn. Pap. e Molucc.* i, p. 502 (1880—Jobi Island).

♀ Hol, 4.viii.1928.

2 ♂ ad., 1 ♂ juv., 4 ♀ Ifaar, September and October. Wings 117–124 mm. Weight 90–125 g ! On 19.ix.1928 a ♀ with very large eggs was shot.

The form from Jobi and along the north coast to the Astrolabe Bay. It has been recognized that the males are practically indistinguishable, while the females have no greenish tips or fringes to the feathers of the crown, but in a female from Ifaar (No. 2599) they are present, though very narrow. This subspecies is therefore not absolutely constant, but must be recognized. The

S.E. New Guinea has twice been named: *M. goldiei* Ramsay 1876, *M. collaris* Sharpe, 1877, the latter because it had a white nuchal collar, which is usually very prominent in S.E. New Guinea, but sometimes obsolete. On the other hand, the white nuchal band is often obsolete or quite absent in Arfak and in *jobiensis*, along the north coast, but if the skins are made with too short a neck, it is difficult to make out.

With regard to the remarks in Nov. Zool. 1901, p. 149, it must be said, that "Mount Maori" (rectius Mount Moari) is not near Humboldt Bay, but on the east coast of the Arfak Peninsula!

[**Melidora macrorhina waigiuensis** subsp. nov.

Specimens from Waigiu are evidently larger: Wing ♂ 128, 126, ♀ 132 in a juvenile ♂ 124 mm. I therefore think I am justified in naming the Waigiu form as above. The female has only very faintly indicated greenish glossy edges to the feathers of the crown.

Type: ♀ not quite adult Waigiu, 26.xii.1902. John Waterstradt coll.]

233. **Sauromarptis gaudichaud** (Quoy et Gaim.).

Dacelo Gaudichaud Quoy et Gaimard, *Voy. Uranie, Zool.* p. 112, pl. 25 (1825—New Guinea).

♀ Manokwari, ♀ Siwi, ♂ Wasior, 2 ♂, 1 ♀ (ovary medium) Ifaar, 2 ♂, 3 ♀ Hol.

234. **Halcyon sancta sancta** Vig. & Horsf.

Halcyon sanctus Vigors & Horsfield, *Trans. Linn. Soc. London*, xv, p. 206 (1827—Australia).

(It seems to me that there is only one form all over Australia, the names *ramsayi* Mathews, *westralasianus* Campbell and *confusus* Math. being synonyms.)

2 ♂ Manokwari, ♂♀ Siwi, 2 ♀ Hollandia. Sexual organs small.

Two specimens from Siwi and Manokwari, April 1928, are extremely bluish. Such blue birds have been named *westralasianus* and *ramsayi*, but I cannot see that they are geographical forms, nor anything else than invididual variations, and most of them are in abraded condition; the type of *ramsayi* from N.W. Australia, August, however, is in beautifully fresh plumage. Similarly blue specimens we have, for example, from Bathurst in N.S. Wales, Sudest Island, March, and Talasea, New Britain, May 5th.

(Mathews applies the name *Alcyone ruficollaris* Bankier to *Halcyon sancta*, but this is quite impossible, as a glance at the description shows. Obviously Bankier's bird was an *Alcyone*, the legs being described as reddish-yellow, while *Halcyon sancta* has brown feet; in fact *ruficollaris* is a synonym of *Alcyone azurea pulchra*, and the first words "plumage glossy green" are a misprint for glossy blue, all the rest of the diagnosis referring to *A. a. pulchra*.)

235. **Tanysiptera hydrocharis galatea** Gray.

Tanysiptera galatea Gray, *Proc. Zool. Soc. London*, 1859, p. 154 (Dorey).

2 ♂, 3 ♀ Momi. "Iris deep brown. Bill red. Feet dirty yellowish green."
Weight 60–67 g.
♂ Wasior, 19.vii.1928,
Weight 64 g.

236. **Tanysiptera hydrocharis meyeri** Salvad.

Tanysiptera meyeri Salvadori, *Ornit. Pap. e Mol.*, Agg. p. 54 (1889—Kafu).

♀ ad. Ifaar, 2.x.1928.
Weight 63 g.
Ovary much enlarged.
♂ juv. Hollandia, 12.viii.1928.

237. **Tanysiptera sylvia mira** subsp. nov.

Differs from *T. s. salvadoriana* in having the blue outer webs to the elongated middle rectrices and outer upper tail-coverts of a deeper, somewhat purplish blue, instead of a dull, paler, almost greenish blue. Also the underside is slightly richer rufous cinnamon.

Weight ♂ 55, ♀ 54 g. Wings ♀ about 100 mm., but all three moulting.

Type: ♂ Ifaar, 30.ix.1928. No. 2715 Mayr coll.

2 ♀ Hollandia, 1 ♂ Ifaar.

T. s. salvadoriana has hitherto only been known from S.E. New Guinea, and very few specimens are in collections. It is therefore quite surprising to find the form on the north coast near Humboldt Bay!

It is of course not surprising that the specimens differ slightly from *salvadoriana*. Unfortunately all three are moulting and no more were collected.

238. **Cacomantis castaneiventris arfakianus** Salvad.

Cacomantis arfakianus Salvadori, *Orn. Pap. e Mol.*, Aggiunte, i, p. 49 (1889—Arfak Mts. and Western Papuan Islands).

7 ♂ Siwi, 1 ♂ Kofo, Anggi gidji, ♀ mountains near Ditschi, ♀ Wondiwoi, ♂ pull. from nest of *Sericornis arfakiana*, 1 ♀ juv. Siwi.

The old birds do not differ in colour from our series of *C. c. weiskei* Rchw. = *C. c. bihagi* Math.[1]), but their wings are 109–115, mostly 110–112, the Wondiwoi ♀ only 103·5 mm., while in the S.E. subspecies (*weiskei*) the wings range from 111 to 118 and even 119 mm. In the young birds from Arfak the underside is greyish brown, middle of abdomen white or whitish, while in the south-eastern form it is uniformly cinnamon-brown all over the underside.

The iris of the adults is reddish grey or brown, the eyelid has a yellow edge.

All these birds hardly differ from *C. castaneiventris castaneiventris*, except that the four specimens I have seen of the latter are underneath paler—but some Arfak ones are just as pale!

239. **Cacomantis variolosus infaustus** Cab. & Heine.

Cuculus assimilis Gray 1858, nec Brehm, 1831.
Cacomantis infaustus Cabanis & Heine, *Mus. Hein.* iv, p. 23 (1862—Misol!).
Cacomantis variolosus infaustus Hartert, *Nov. Zool.* xxxii, p. 167 (1925).

Two quite young birds (pulli) taken from nest of *Malurus alb. alboscapulatus* 30.iv. and 16.v.1928.

4 ♂ ad., ♂♀ juv. Siwi, May 1928.

Weight 26·5–38 g.

"Iris of adults dark brown or brownish, edge of eyelid yellowish grey,

[1] Cf. Nov. Zool. xxxii, 1925, pp. 170, 171.

yellow, grey. Iris of young whitish grey or pale light brown." Wings of adult males 115–124 mm.

One of the adults is underneath almost pure grey, vent and under tail-coverts rufous, the other three (perhaps not quite so old) have the whole underside from the jugulum downwards suffused with rufous.

240. **Cacomantis pyrrhophanus excitus** R. & H.

Cacomantis excitus Rothschild & Hartert, *Nov. Zool.* xiv, p. 436 (1907—"In montibus Novae Guineae meridionalis orientalis").
Cacomantis cineraceus excitus Hartert, *Nov. Zool.* xxxii, 1925, p. 173.
Cacomantis pyrrhophanus excitus Hartert, *Nov. Zool.* xxxiii, 1926, p. 56!

1 ♂ ad. above Ditschi, Arfak Peninsula Mountains, 30.v.1928. "Iris dark brown, bill black, feet brownish yellow."

Weight 42 g. Wings 140 mm.

Hitherto only known from the mountains of S.E. New Guinea, and rare in collections!

241. **Chalcites ruficollis** (Salvad.).

Lamprococcyx ruficollis Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 913 (1875—Arfak Mts.).

1 ♀ Wondiwoi, Wandammen Peninsula, 1,300 m., 13.vii.1928.

Weight 23·5 g. Ovary very large!

242. **Chalcites meyerii** (Salvad.).

Chrysococcyx splendidus Meyer, nec Gray!
Chrysococcyx meyerii Salvadori, *Ann. Mus. Civ. Genova*, vi, p. 82 (1874—Hatam, Arfak Mts.).

4 ♂, 3 ♀ Siwi and Lehuma, Arfak, I Cyclops Mountains with enlarged testes.

Weight 17–21·5 g.

As is well known, the female has the forehead to beyond the eyes chestnut-rufous, the male dark metallic green.

243. **Caliechthrus leucolophus** (Müll.).

Cuculus leucolophus S. Müller, *Verh. Nat. Gesch. Ned. Indie, Land- en Volkenkunde*, p. 22 (1840—Lobo Bay).

1 adult, 1 juv. (in moult, plumage partially still softer and fluffier and brownish black, instead of glossy blue-black) Hollandia and Cyclops Mountains.

244. **Cuculus pallidus** (Lath.).

Columba pallida Latham, *Index Orn., Suppl.* p. lx (1801—New South Wales, descr. from one of Watling's drawings).

1 ♂ juv. Momi, 25.vi.1928.

245. **Microdynamis parva** (Salvad.).

Eudynamis parva Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 486 (1875—Said to be from Tidore, but apparently come from Arfak!).

1 ♂ ad. Ifaar, 1.x.1928. "Iris red. Bill and feet black."

This specimen is darker on the underside, and a little darker above, than our specimens from S.E. New Guinea, which, however, vary. As a quite young bird from Mount Moari (Arfak Peninsula) and one from the island of Ron in

the Geelvink Bay are also more or less darker, I think it is quite possible that the south-eastern may be separable, but from the scanty material so far available this cannot be done.

246. **Centropus menbeki menbeki** Less. & Garnot.

Centropus menbeki Lesson et Garnot, *Voy. Coquille, Zool.* Atlas, pl. xxxiii, p. 600 (1828—N.W. New Guinea, meaning Arfak).

2 ♂ ad. Ifaar.
Weight 430, 460 g.
♂♀ Wasior, ♂ juv. Momi. "Iris in adults red, young yellowish brown."

247. **Centropus nigricans** (Salvad.).

Polophilus nigricans Salvadori, *Ann. Mus. Civ. Genova*, ix, p. 17 (1876—Naiabui and Yule Island).

3 ♂, 1 ♀ Ifaar, September and October 1st, 1928. "Iris red, bill black, feet dark grey. Testes large, ovary very large."

Weight ♂ 180, 210, 225, ♀ 300 g. Wings ♂ 197–200, ♀ 220 mm.

It is known that in these Papuan *Centropus* the females are generally larger than the males.

(Mathews treats *nigricans* as a subspecies of *spilopterus*, but this cannot be accepted. In fact it is much nearer to *Centropus phasianinus*, having the light brown markings on wings and tail throughout life, and it may be looked upon as a subspecies of the latter, though it appears in Mathews' list in a different genus.)

248. **Centropus bernsteini** Schleg.

Centropus bernsteini Schlegel, *Ned. Tijdschr. Dierk.* iii, p. 257 (1866—Either Salwatti or opposite coast region of Papua, but in vol. iv, p. 11, it is said that the type came from Salwatti; it has, however, never again been found on that island, but in many localities in northern and southern Papua, as far east as Simbang and Sattelberg. It was therefore indefensible for Mathews to restrict its habitat to Salwatti).

5 ♂ ad., 2 ♀ ad., Ifaar, 1 ♀ juv. Momi. "Iris dark brown! Bill and feet black or blackish."

Weight ♂ 130–150, ♀ 160 and 200 g. Wings ♂ 168–179, ♀ 179–182 mm.

(Mathews' experiment to consider both *C. nigricans* and *C. bernsteini* to be subspecies of *spilopterus* is a bad error, as both occur in the same areas and have fundamental differences.)

249. **Lorius lory lory** (L.).

Psittacus lory Linnaeus, *Syst. Nat.* Ed. x, i, p. 100 (1758—"Habitat in India orientali," ex Edwards pl. 170. Substituted terra typica Berau Peninsula).

♀ Ditschi, 8 ♂♀ Siwi. "Iris yellow."
Weight 165–200 g.

250. **Lorius lory rubiensis** Mey.

Lorius erythrothorax rubiensis A. B. Meyer, *Abh. Mus. Dresden*, No. 3, 1892–93, p. 10 (1893—Rubi, S. Geelvink Bay).

♂ Wasior, coast Wandammen Peninsula, 19.vii.1928. "Iris yellow."
Weight 200 g.

Differs at a glance from *L. lory lory* by the blue-black colour on the underside being much more restricted, not covering the breast, is, however, very

closely allied to *erythrothorax*, but is much smaller—shorter wing. To *rubiensis* belong also our specimens from the Southern Snow Mountains, and the bird already mentioned by Lord Rothschild from the Wanggar River, 20 miles from the coast, south of Geelvink Bay, thus almost terra typica ; the Snow Mountains specimens were erroneously called *erythrothorax* in Nov. Zool. 1913, p. 484.

251. Lorius lory viridicrissalis Beaufort.

Lorius cyanauchen viridicrissalis Beaufort, *Nova Guinea*, vol. v, p. 403 (1905[1]—Lake Sentani, Humboldt Bay and Tami. Terra typica Sentani lake !).

♂♀ Hollandia, 3 ♂, 3 ♀ Ifaar, ♂ juv., ♀ ad. Cyclops Mountains. Iris pink or red.

Weight 160–200, once 152 g.

These birds are of the form which Rothschild and I described from Takar, further west on the north coast. The under wing-coverts are black with hardly any blue in the males, while females show usually more and well pronounced blue on the under wing-coverts. Also the under tail-coverts are deeper and more purplish blue in adult males, in the females, however, lighter, almost approaching sky-blue, or verditer blue, but not green ! Therefore the name is unfortunate, being based on exaggeration, and actually quite unfit for adult males.

Young birds have a yellow bar across the under wing-coverts. Wings ♂ 162, 162, 163, 163, ♀ 159, 160, 163 mm.

252. Chalcopsitta duivenbodei duivenbodei Dub.

Chalcopsittacus duivenbodei Dubois, *Bull. Mus. Roy. d'Hist. Nat. Belg.* iii, p. 113, pl. v (1884—New Guinea. I substitute as terra typica Tana Mera, because the specimens of North Coast species received by van Renesse van Duivenbode mostly came from Tana Mera).

One unsexed Hollandia, 1 ♀ Ifaar.

Weight 200 g. "Iris red, bill and feet black."

253. Eos fuscata incondita Mey.

Eos incondita A. B. Meyer, *Zeitschr. ges. Orn.* iii, p. 6, pl. i (1886—S.E. New Guinea and Jobi).

Five red and 1 yellow ♂♀ Ifaar, 1 ♂, 2 ♀ Cyclops Mountains.

Weight 160, once 150 g.

While the colour differences pointed out by Meyer do not hold good, it is true that all specimens are larger than those from the Berau (Arfak) Peninsula and Salwatti.

254. Trichoglossus haematodus haematodus (L.).

Psittacus haematod. (abbreviation for *haematodus*, in order to save a line ; the same was done with *leucoryn.* for *leucorhynchus*, *mascorin.* for *mascarinus*, *dichotom.* for *dichotomus* and others) Linnaeus, *Mantissa Plantarum*, p. 524 (1771—Ex Brisson and Edwards, "Habitat in Amboina"!).

1 ♂, 2 ♀ Manokwari, 3 ♂, 3 ♀ mountains near Siwi, 2 ♂, 1 ♀ Wasior, on coast of western Wandammen Peninsula.

It is interesting to find the Wasior form to be the same as the Arfak one. The fauna of Wandammen is curious, the birds of the plains being Arfak forms, mountain birds mostly more eastern ones (as along the north coast), with a few locally specialized peculiar forms.

Weight 100, 110, 115 (several), 120, 125, 135, 140 g., the latter three Wasior. Wings 138–142 mm.

[1] The reprints are not dated !

255. Trichoglossus haematodus intermedius R. & H.

Trichoglossus haematodus intermedius Rothschild & Hartert, *Nov. Zool.* viii, p. 70 (1901—Astrolabe Bay, type Stephansort).

♂ Ifaar, 1 Hollandia.

Weight 155, 160 g.

This form is larger than *haematodus* from Arfak and Wasior. Wings 150, 156 mm. The less bluish stripes on cheeks and ear-coverts are not always well pronounced, though generally recognizable.

256. Oreopsittacus arfaki arfaki (Mey.).

Trichoglossus (*Charmosyna*) *Arfaki* A. B. Meyer, *Verh. zool. bot. Ges. Wien*, 1874, p. 37 (Arfak Mts.).

♀ Lehuma, Arfak Peninsula, 7.vi.1928. "Iris greyish green. Bill black. Feet dark greyish green."

Weight 17 g. Wing 76·5 mm.

257. Charmosyna papou papou (Scop.).

Psittacus Papou Scopoli, *Del. Florae et Faunae Insubr.* p. 86 (1786—Ex Sonnerat, *Voy. Nouv. Guinée*, p. 175, pl. iii, New Guinea. As terra typica I fix Arfak).

Charmosyna papuensis (Gmelin) 1788, et auctorum.

(I have with great reluctance adopted the name *papou*, instead of the usual *papuensis*, but if we accept priority we must do it to the bitter end, and the sooner alterations are introduced, the better.)

2 ♀ mountains near Siwi, 1 ♂, 2 ♀ Lehuma, 6 ♂ mountains near Ditschi. "Iris yellowish red or reddish yellow, bill red, feet orange." The sexes are almost alike in colour.

Weight 74–91 g.

258. Charmosyna josephinae josephinae (Finsch).

Trichoglossus josephinae Finsch, *Atti Soc. Ital. Sc. Nat.* xv, p. 427, pl. 7 ♀ (1873—The type is a female without locality in the Turati collection, Milan, but A. B. Meyer collected specimens near Passim, east coast of Berau Peninsula, and on the Arfak Mts. As terra typica the Arfak Mts. should be regarded).

9 ♂♀ ad., 2 juv. mountains at Siwi, ♀ mountains near Ditschi, ♀ Ninei, ♂ Lehuma. "Iris yellow."

Weight 58–74 g.

259. Charmosyna josephinae cyclopum subsp. nov.

Both sexes differ from *Ch. josephinae josephinae* in the absence of the large dull black patch on the abdomen and of the greyish blue patch on the head, in front of the black nape; the feathers of the abdomen are blackish at the base, but red on at least the distal half, so that one can say that the black patch is indicated, but it is not developed. Instead of the bluish sincipital patch there are only a few partially greyish blue feathers. Wings ♂ 120–121, once 124, once 125, ♀ 120 mm.

Type: ♂ ad. Cyclops Mountains, 5.ix.1928. No. 2163 Ernst Mayr coll.

5 ♂, 2 ♀ Cyclops Mountains. "Iris reddish, yellowish, yellow-red. Bill orange-red. Feet orange.

Weight 68–75 g."

I am not acquainted from sight with Neumann's *Ch. josephinae sepikiana*

(*Verh. Orn. Ges. Bayern*, xv. 2, p. 235, 1922), but Stresemann tells me that it has an extended blackish patch on the abdomen. Neumann says it differs from *Ch. jos. josephinae* in having the feathers on the crown dirty grey instead of lilac ; they must therefore be still duller than in *cyclopum*, though they are not really " lilac " in the Arfak *josephinae*. *Ch. josephinae sepikiana* must therefore look more like *Ch. j. josephinae* than like *Ch. j. cyclopum*.

[**Charmosynopsis pulchella pulchella** (Gray).

Mr. Shaw Mayer sent an adult female from about 2,000 m. altitude on the Arfak Mountains, shot August 1928. Papuan name " pomiki." Wing 95 mm.

The distribution of this form is very interesting. We find it in Arfak, in the southern Snow Mountains, Mount Goliath, in S.E. New Guinea, and in the Huon or Kai Peninsula in N.E. New Guinea, while in the Cyclops Mountains another form is found. It seems thus, that the plains of the Rouffaer, van Daalen and Idenburg Rivers, which form the Ambernoh or Mamberano River, are a great dividing zone. *Ch. pulchella* has not been recorded from the Sepik River, nor so far from the Astrolabe Bay country.]

260. **Charmosynopsis pulchella rothschildi** subsp. nov.

7 ♂, 4 ♀, 1 ♀ juv. Cyclops Mountains, September 1928. " Iris brown, reddish brown, yellowish. Bill orange. Feet orange."

Weight 36–40 g. The males are brighter in colour, especially the yellow short streaks on the breast, and in the females there is a greenish yellow patch at the side of the rump, which in the male is red.

The young has the breast green with dull yellow tips, but without any yellow streaks.

This excellent new subspecies differs from *C. pulchella pulchella* from Arfak and S.E. New Guinea and N.E. New Guinea, which seem to be all the same, in having a wide green band across the upper breast in which are the yellow streaklets. In the females it reaches right across, in the adult males it is more or less restricted to a green patch, the sides of the latter being red with green or greenish bases to the feathers. In the young this green band is very wide. The black nuchal patch begins at the posterior edge of the eye, while in *C. p. pulchella* it does not touch the eye. On the rump is in the centre only an indication or no blue-grey patch, which in *C. p. pulchella* it is very distinct. Wings ♂ 97–101, ♀ 95–97 mm., thus a little larger than *C. p. pulchella*.

This form is named in honour of Lord Rothschild, who first called my attention to the presence of the green band.

Type : ♀ Cyclops Mountains, 12.ix.1928. No. 2300 Ernst Mayr coll.

261. **Neopsittacus musschenbroekii musschenbroekii** (Schleg.).

Nanodes Musschenbroekii Schlegel (ex Rosenberg), *Ned. Tijdschr. Dierk.* iv, p. 34 (1873—Arfak Peninsula).

♂ mountains near Ditschi, 2 ♂, 1 ♀ Kofo (Anggi gidji), 11.vi.1928, ♀ Lehuma. " Iris red, in one adult male yellowish brown, in a juvenile bird yellow. Bill yellow, feet grey."

Weight 39·5–51 g."

Mr. Shaw Mayer sent a ♀ from 2,000 m., Arfak Mountains, iris yellow, Papuan name " borida."

N. m. major Neum. from S.E. New Guinea is indeed larger. (*N. pullicauda* Hart. 1896 ("*N. muschenbrocki alpinus*" Grant 1914) is not known to occur in the Arfak Peninsula.)

262. Opopsitta desmarestii desmarestii (Desm.).

Psittacus Desmarestii Desmarest, *Dict. Sci. Nat.* (ed. Levrault), xxxix, p. 89 (1826—Dorey Harbour, Arfak Peninsula).

(It was Desmarest who first fully described this bird under his own name, saying that Lesson and Garnot dedicated it to him, but Garnot's first description did not appear till 1828.)

(It seems to me that not a single one of the characters given by Dr. van Oort for his *O. desmarestii intermedius* from Fak Fak is constant. We have specimens from Arfak which absolutely agree with others from Kapaur, which is practically the same as Skru and Fak-fak; I therefore think that *intermedius* cannot be accepted as anything but a synonym.)

♂♀ Siwi, 11.v.1928.

Weight 96, 97 g. Iris brown.

263. Probosciger aterrimus goliath (Kuhl).

Psittacus Goliath Kuhl, *Consp. Psittacorum*, p. 92 (1820—"In India orientali," terra typica restricta Onin, Stresemann 1923. This must of course be accepted, though it would have been better to say Berau Peninsula, from where Kuhl's type more likely had come [1]).

2 ♂ Momi.

264. Probosciger aterrimus stenolophus (van Oort).

Microglossus aterrimus stenolophus van Oort, *Notes Leyden Mus.* xxxiii, p. 240 (1911—Humboldt Bay).

♂ ad. Hollandia.

This subspecies differs from *P. a. goliath* in the narrower and more blackish crest feathers.

P. aterrimus aterrimus (Gm.) inhabits the Cape York Peninsula.

P. aterrimus alecto (Temm.), Waigiu, Gemien, Salwatty and Misol.

P. aterrimus goliath (Kuhl), Berau and Onin Peninsulas, Snow Mountains and S.E. New Guinea.

P. aterrimus intermedius (Schleg.), the Aru Islands.

P. aterrimus stenolophus (van Oort), Ambernoh River to N.E. New Guinea.

265. Kakatoe galerita triton (Temm.).

Psittacus triton Temminck, *Coup d'œil gén. possessions néerland. dans l'Inde archipel.* iii, p. 405 (1849—Aiduma Island, Triton Bay).

♀ near Manokwari, ♀ Momi.

266. Micropsitta pusio beccarii (Salvad.).

Nasiterna beccarii Salvadori, *Ann. Mus. Civ. Genova*, viii, p. 396 (1876—Wairoro or Wairor on the east coast of the Berau Peninsula).

♂ Momi, ♂♀ Wasior, 2 ♂, 1 ♀ Ifaar, 9 ♂♀ Hol and Hollandia. "Iris brown or grey-brown."

These birds seem to me to be all indistinguishable, and I do not believe now that *salvadorii* (Rothschild & Hartert), NOV. ZOOL. 1901, Ambernoh River, is

different from *beccarii*! We had not seen proper *beccarii* when we described *salvadorii*. The yellow band above the eyes is an individual character, not always distinct.

267. **Micropsitta bruijnii bruijnii** (Salvad.).

Nasiterna bruijnii Salvadori, *Ann. Mus. Civ. Genova*, vii, pp. 715, 753, 907 (1875—Arfak Mts.).

♂♀ Wondiwoi, July 1928.
Weight ♂ 14·5, ♀ 12·5 g.

268. **Loriculus aurantiifrons batavorum** Stres.

Loriculus aurantiifrons batavorum Stresemann, *Journ. f. Orn.* 1913, p. 602 (Snow Mts., etc.).

1 ♀ Hollandia, 10.viii.1928.
Weight 14 g. Wing 68 mm.

Loriculus aurantiifrons aurantiifrons was described and is only known from Misol.

269. **Psittacella modesta modesta** Schleg.

Psitacella[1] *modesta* Schlegel, *Nederl. Tijdschr. Dierk.* iv, p. 36 (1873—Arfak Peninsula).

1 ♂ Lehuma, Arfak Peninsula, 4.vi.1928. "Iris light red. Bill whitish grey. Feet grey."
Weight 39 g.

Psittacella modesta collaris Ogilvie-Grant 1914, from the Snow Mountains (Utakwa River) and Mount Goliath is distinguishable, but the yellow collar on the nape is more or less irregular and not always well defined in the males as well as the females. The sides of the head and the throat in *collaris* are more rufous brownish than in *P. m. modesta*, which is a very rare bird in collections.

270. **Psittacella brehmii brehmii** Schleg.

Psittacella Brehmii Schlegel, *Ned. Tijdschr. Dierk.* iv, p. 35 (1873—Arfak Peninsula).

♂♀ mountains near Ditschi, ♂ Kofo (Anggi gidji), 4 ♀ ad., 1 ♂ ad., 2 juv., 1 marked ♂, 1 ♀ Lehuma. "Iris yellow-brown, in one ♂ 'pink.'"
Weight 102 to 116 g.

The young have the breast green with narrow dull yellow cross-bars, but without black cross-markings. In the ♂ the yellow patch on the sides of the neck is beginning, a few yellow feathers making their appearance. Shaw Meyer sent specimens from Anggi Gita, 2,000 m.

[The following forms of *Psittacella brehmii* are known:

Psittacella brehmii brehmii Schleg. Arfak Peninsula.

Psittacella brehmii bürgersi Rchw. Mandated Territory N.E. New Guinea.

Psittacella brehmii pallida Mey. S.E. New Guinea.

Psittacella brehmii intermixta subsp. nov.

This form was called by us *P. brehmii brehmii*, but the differences were stated. Ogilvie-Grant called them *pallida*. Now that we have a sufficient series from the Arfak Peninsula one can unhesitatingly say that the series from the Snow Mountains and Mount Goliath are neither. The males are underneath more yellowish green, upper throat and sides of head are paler, the light bars on the upperside are more yellowish, less grass-green. The female has the

[1] Quoted "*Psittacus*" by Rothschild & Hartert, and later on by Mathews! Under the description no locality is given, but on p. 35 it is clearly stated that the two new forms of *Psittacella* were obtained in the Arfak (Berau) Peninsula.

abdomen more yellowish green, sides of head and upper throat paler, bars on back much yellower.

They differ strikingly from *P. b. pallida* by the much darker and browner head and throat and larger size. *P. b. bürgersi* has the back much more green, less yellowish, a different brown on the head, and is smaller! The bill much smaller!

Type of *P. b. intermixta* ♂ ad. Mount Goliath, 30.i.1911.

No. 5249 A. S. Meek coll. In Tring Museum.

Psittacella lorentzi Oort from the Wichmann and Orange Mountains seems to be related to *P. picta*, and may be a subspecies of the latter; perhaps the type was not adult ?]

271. Geoffroyus geoffroyi jobiensis Salvad.

Geoffroyus jobiensis Salvadori, *Ann. Mus. Civ. Genova*, x, p. 30 (1877—Jobi Island).

? Geoffroyus personatus minor Neumann, *Verh. Orn. Ges. Bayern*, xv, 2, p. 235 (1922—"Deutsch Neuguinea, westlich des Sattelberges und das nördliche Holländisch—Neuguinea bis zum Mamberano." Type Jagei, tributary of Ramu River).

3 ♂, 2 ♀ Hol and Hollandia, July, August and October. October specimens in very worn plumage, female with greatly enlarged ovary.

Weight 150 and 180 g. Wings ♂ 162, 169, 165, ♀ 165, 166 mm.

Our series do not bear out Neumann's contention that specimens from North New Guinea are constantly smaller. Wings of Jobi specimens ♂ 166, 168, 174, of specimens from the Mandated Territory 156–170 mm.

272. Geoffroyus geoffroyi[1] pucherani Souancé.

Geoffroyus Pucherani Souancé, *Rev. et Mag. Zool.* 1856, p. 218 (Ex Hombron et Jacquinot et Pucheran, from specimens collected at Triton Bay !).

♂♀ Momi, east coast of Berau (Arfak) Peninsula, end of June.

273. Geoffroyus simplex simplex (Mey.).

Pionias simplex A. B. Meyer, *Verh. k. zool.-bot. Ges. Wien*, lxx, p. 29 (1874—Arfak Mts. 3,500 feet).

♀ ad. mountains near Ditschi, 5.vi.1928.

Weight 165 g. Wing 159 mm.

Unfortunately no males were sent. It seems that Neumann's *G. simplex bürgersi* (1922) is separable, but I should like to examine a series of males from Arfak to confirm the distinctness.

274. Eclectus roratus pectoralis (Müll.).

(*Larius* (sic) Boddaert, *Tabl. Pl. Enl.* 1783).

Psittacus pectoralis P. L. S. Müller, *Naturs yst. Suppl.* p. 78 (1776—"China," errore, New Guinea terra typica subst. Ex Buffon—rectius Montbeillard—*Hist. Nat. Ois.* vii, p. 93, and Daubenton's *Pl. Enl.* 514, ♂).

1 ♂, 3 ♀ Siwi, Arfak Peninsula, 3 ♂ Ifaar, near Sentani Lakes, 3 ♂, 2 ♀ Hol.

The iris (in the various subspecies) seems to vary! *As a rule* it is no doubt whitish yellow or yellowish white in the females, and brown or dark red in the

[1] In "*Austral Avian Record*," ii, pp. 105, 106, Mathews somewhat violently accuses a brother ornithologist of having accepted *personatus* Shaw as the name of the Timor form, saying that it was published in 1812, while *Psittacus geoffroyi* Bechstein appeared in 1811. In the *Systema Avium Australasianarum* (sic), p. 324, however, he says that *P. personatus* Shaw was also published in 1811! Is it therefore necessary to accept *geoffroyi* instead of *personatus* ?

males. We have, however, in the collection specimens of females, in which the iris is also, sometimes, though rarely, marked as brown by reliable collectors.

A ♀ shot Siwi 17.v. has the whole underside in full moult, breast partially naked. A ♂ from Ifaar shows partial "albinism," some of the upper wing-coverts and one of the inner secondaries being yellow, while some of the rectrices are varied with yellow and red.

275. **Psittrichas fulgidus** (Less.).

(*Dasyptilus pesqueti* auct. !)

Psittacus pesqueti Lesson, *Illustr.* pl. i (1831—No locality).

1 ♂ mountains near Siwi, 1 ♂, 2 ♀ Wondiwoi.

The males have a small red patch behind the eye, besides being larger than the females.

Weights ♂ 800 and 840, ♀ 650 and 800 g.

It is one of the horrors of modern strict priority nomenclature that our old friend *Dasyptilus pesqueti* must be called *Psittrichas fulgidus* !

276. **Alisterus amboinensis dorsalis** (Quoy et Gaim.).

Psittacus (*Platycercus*) *dorsalis* Quoy et Gaimard, *Voy. Astrolabe, Zool.* i, p. 234, Oiseaux, pl. xxi. fig. 3 (1830—Dorey, Arfak Peninsula).

4 ♂, 5 ♀ Siwi, Arfak Mountains, 1 ♂ Ninei, 1 ♀ Momi, 1 ♀ above Wasior, east coast of Arfak Peninsula, 25.viii., primaries moulting.

There is no appreciable difference of the sexes !

The iris of adults is red, of younger birds apparently yellowish red.

277. **Alisterus amboinensis moszkowskii** (Rchw.).

Aprosmictus mozkowskii [1] Reichenow, *Orn. Monatsber.* 1911, p. 82 (Taua).

16 ♂♀ Hol and Hollandia, 1 ♂ Cyclops Mountains. The interscapular region is blue in the males, dark green in the females and younger birds, both sexes have the light green streak on the inner upper wing-coverts. Iris red in both sexes. The females also have green, not blue, feathers in the sides of the chest.

I agree with Neumann's views in *Verh.* vi. *Intern. Orn. Kongress.* pp. 436–453, viz. that it is advisable to treat all forms of *Alisterus* from Peling (east of Celebes) and Sula Island to Australia (cf. Neumann, p. 438) as subspecies of one species. Within this assemblage a number of groups can of course be formed, as in most cases where a species is composed of numerous subspecies. Neumann's clear explanations are of the greatest use for the understanding of this genus.

278. **Ninox theomacha** (Bp.).

♂ juv. Siwi, Arfak, 15.v.1928. "Iris golden yellow."

The upperside is darker, more slaty than in adults, the still downy (mesoptile) underside earthy brown.

[1] Not "*mosskowensis*" as Mathews spells it ! It is not unimportant to mention such slips, as they are copied by people not having access to literature.

279. **Ninox dimorpha** (Salvad.).

♀ Siwi, Arfak, 4.v.1928. "Iris yellow with black," bill "dark grey," feet "yellow."

This long-tailed species looks "hawk-like" and should probably be placed in another genus. Perhaps a generic name is already available for it.

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

Haliaetus Girrenera Vieillot & Oudart, *Gal. Oils* i, pl. 10 and p. 31 (partim) (1825—India and Australia. Restricted typical locality Australia! Cf. *Nov. Zool.* xxi, 1914, p. 210!!).

♂ ad. Siwi, ♀ ad. Ifaar, ♂ ad. ♀ juv. Hollandia. The old birds have of course no trace of black shafts on the white underside!

281. **Henicopernis longicauda** (Garnot).

Falco longicaudus Garnot, *Voy. Coquille*, Zool. pl. 10 (1828), p. 588 (1829—Woods of New Guinea, type from Dorey).

♀ ad. Siwi, Arfak, 15.v.1928. "Iris golden yellow. Bill black, base and cere pale flesh-colour. Feet whitish green."

Weight 730 g. Outer primaries moulting.

282. **Accipiter novaehollandiae leucosomus** (Sharpe).

Astur novae-hollandiae Subsp. a. leucosomus Sharpe, *Cat. B. Brit. Mus.* i, p. 119 (1874—New Guinea).

Common garb (*etorques*), above brownish slate-colour, clearer slate in the male, underside rufous-cinnamon: ♂ jun. Siwi, ♂♀ ad. Ifaar. White garb (*leucosomus*): ♀ Hollandia, 4.viii.1928. Iris yellow in both colorations. ♀ Weight 320, 375 g. 19.ix. female with greatly enlarged eggs.

283. **Accipiter poliocephalus** Gray.

Accipiter poliocephalus Gray, *Proc. Zool. Soc. London*, 1858, p. 170 (Aru Islands).
Urospizias spilothorax Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 900 (1876—Arfak Mts., New Guinea).

2 ♂ Siwi, 1 ♂ Ifaar. "Iris dark brown. Cere orange." Dragon-flies in stomach.

Spilothorax was described, because of its striped breast and browner upperside, but Salvadori soon corrected his mistake. It has been erroneously cited as a subspecies by Mathews.

Acc. haplochrous of New Caledonia has been quoted as a subspecies of *poliocephalus* by Stresemann, but I do not agree, for, apart from the colour-differences, the lores are covered with black feathers, while they are almost naked in *poliocephalus*, and the bill of *haplochrous* is more elongated. Moreover, the young are very different, being patched and cross-barried in *haplochrous*, white with narrow shaft-stripes in *poliocephalus*.

284. **Ieracidea berigora novaeguineae** Mey.

Hieracidea novaeguineae A. B. Meyer, *Journ. f. Orn.* 1894, p. 89 ("Nova Guinea orientali." Specimens from Astrolabebay, Finschhafen, Stephansort, Constantinhafen were examined).

♀ Hollandia, 9.x.1928. Ovary small.

Weight 500 g.

"Iris brown. Bill bluish white. Feet dirty pale grey." Wing 345, but moulting.

The distinctive characters of the subspecies *novaeguineae* are still somewhat doubtful, as the colour is so variable, but it seems that the Papuan race is smaller! While the Hollandia specimen and those from the Sattelberg, Vulean and Dampier Islands belong to the dark form, those from the Angabunga and Aroa Rivers belong to the light rufous form; a female (Nyman coll.) from Simbang (near Sattelberg, on the coast) in worn plumage, 8.viii.1899, is somewhat intermediate, but clearly also of the rufous form. We have thus dark blackish and rufous ones from the same area.

In Australia the rufous and light birds are common in Western Australia and seem to be predominating and almost exclusive in the interior of Australia, very rare in Eastern and Southern Australia. They are therefore generally looked upon as subspecies, though their status as geographical representatives requires further investigation.

285. **Egretta intermedia plumifera** (Gould).

Herodias plumiferus Gould, *Proc. Zool. Soc. London*, 1847 ("New South Wales").

♂♀ ad. Ifaar, 21.ix.1928.

Weight 460, 480 g.

This Heron, though known from Australia, the Torres Straits, Aru Islands, Salwatti, Mafor, and some of the Moluccan Islands, has only once been recorded from New Guinea: Bangs and Peters, *Bull. Mus. Comp. Zool.* 67, p. 424, two unsexed from the Merauke swamps.

286. **Egretta garzetta nigripes** (Temm.).

Ardea nigripes Temminck, *Man. d'Orn.*, second ed., iv, p. 376 (1840—Sunda Islands).

♂ ad. Ifaar, 29.ix.1928.

Weight 425 g.

287. **Nycticorax caledonicus hilli** Math.

Nycticorax caledonicus hilli Mathews, *Nov. Zool.* xviii, p. 233 (1912—N.W. Australia. This is virtually a nomen nudum, being compared with another Australian bird. Full description *B. Austr.* iii, p. 459).

♀ Momi, ♂ Ifaar, ♀ juv. Ifaar.

N. c. hilli is much paler on the upperside and has pure white ornamental head-plumes.

288. **Dupetor flavicollis gouldi** (Bp.).

Ardetta gouldi Bonaparte, *Consp. Gen. Av.* ii, p. 132 (1855—Australia).

2 ♂, 2 ♀ Ifaar. Large testes in September. Iris yellow.

Weight 350, 355, 355, 360 g.

289. **Phalacrocorax sulcirostris** (Brandt).

♂♀ Ifaar, 18.ix.1928.

Weight ♂ 960, ♀ 700 g.

"Iris bottle-green, bill and feet blackish." The female has a smaller bill and smaller dimensions generally.

290. **Phalacrocorax melanoleucus melanoleucus** (Vieill.).

Hydrocorax melanoleucus Vieillot, *Nouv. Dict. d'Hist. Nat.*, nouv. éd., viii, p. 88 (1817—).

♂ ad. Ifaar, 21.ix.1928.

Weight 700 g.

(*Phal. melanoleucus brevirostris* Gould from New Zealand is a subspecies with black breast and abdomen in adults.)

291. **Anas superciliosa pelewensis** Hartl. & Finsch.

[*Anas superciliosa* Gmelin, *Syst. Nat.* i. 2, p. 537 (1789—New Zealand !).]

Anas superciliosa var. *pelewensis* Hartlaub & Finsch, *Proc. Zool. Soc. London*, 1872, p. 108 (Pelew Islands).

2 ♂ ad. Ifaar, September 1928.

Cf. Rothschild & Hartert, NOV. ZOOL. 1905, p. 248, and NOV. ZOOL. 1914, p. 283.

The wings measure 227 and 230 mm.

These birds agree with Pacific Islands specimens, having a buff throat, dark upperside with brown edges to the feathers, and short wings. I can therefore only call them *A. s. pelewensis*.

292. (?) **Anas superciliosa rogersi** Math.

Anas superciliosa rogersi Mathews, *Austral Avian Record*, i, 2, p. 33 (1912—Augusta, S.W. Australia).

♂ ad. Kofo (Anggi gidji, Arfak Peninsula), 11.vi.1928. "Testes large."

This bird has wings of 260 mm. It is therefore too large for *pelewensis* and agrees with *Australian* specimens. Australian birds are *not* larger than New Zealand ones, as Mathews suggested, but one can say that their throats are buff, less white, in fresh specimens, and that, as a rule, the edges to the underside are less whitish, and often the upper surface, too, a little darker.

I cannot follow Mathews, who makes *rogersi* inhabit "Western and Northern Australia and New Guinea," and lets *A. s. superciliosa* inhabit "New Zealand and East Australia, Tonga and Fiji Islands." If *A. s. rogersi* is separable it inhabits the whole of Australia, *A. s. superciliosa* New Zealand. *Anas superciliosa pelewensis* is of course not found on the Pelew Islands only !

The Kofo specimen might be an exceptionally large example, but not only are the wings longer, but the bill also—in fact the whole bird. Weight 950, the two Ifaar birds each 700 g. [According to native information this Duck breeds on the Anggi Lakes.—Mayr.]

Anas superciliosa oustaleti Salvad. from Guam and Saipan is a very well marked subspecies of *A. superciliosa*.

293. **Tadorna radjah radjah** (Garnot).

Anas Radjah Garnot, *Voy. Coquille, Zool.* livr. 8, pl. 49, p. 602 (1828—Buru !).

♂ jun. Momi, 29.vi.1928.

Weight 800 g.

294. **Podiceps ruficollis tricolor** Gray.

Podiceps (*Sylbeocyclus*) *tricolor*, J. R. Gray, *Proc. Zool. Soc. London*, 1860, p 366 (1861—Ternate).

♂ ad. Ifaar, 28.ix.1928.

Weight 165 g.

295. **Podiceps ruficollis novaehollandiae** Stephens.

Podiceps novaehollandiae Stephens, in Shaw's *Gen. Zool.* xiii, p. 18 (1826—Australia, ex Latham).

♀ Ifaar, 21.ix.1928.

Weight 165 g.

This form is evidently a migrant from Australia.

296. **Ptilinopus superbus superbus** (Temm.).

Columba superba Temminck in Temminck & Knip's *Pigeons*, p. 75, pl. 33 (1810—"Otaheiti," errore, substituted terra typica: Halmaheira).

5 ♂, 1 ♀ juv. Siwi, 2 ♂ above Wasior, 1 ♀ Ditschi, 1 ♀ Cyclops Mountains, 25.vii.1928. Testes large, 31.viii.1928. Ovary enlarged. "Iris yellow."

Weight ♂ 114–150 g.

297. **Ptilinopus coronulatus quadrigeminus** (Mey.).

Ptilopus quadrigeminus A. B. Meyer, *Ibis*, 1890, p. 421 ("Constantine Harbour or its neighbourhood").

6 ♂, 3 ♀ Ifaar. "Iris ochre yellow. Feet red."

Weight 65–73 g. (Female laying 18.ix.1928.)

These birds are *quadrigeminus*, agreeing with specimens from Constantin Harbour, Stephansort and Vulcan Island. They differ from *geminus* of Jobi and Takar by their slightly more bluish grey (not greenish) sides of the head, and the throat has a less defined and paler yellow middle line. The purple line between the crown and the yellow semi-circular line on the occiput is sometimes quite as distinct as in *geminus* and not a reliable character.

It is, therefore, this form which ranges to Humboldt Bay, not *geminus*.

298. **Ptilinopus iozonus jobiensis** (Schleg.).

Ptilopus humeralis jobiensis Schlegel, *Mus. Pays-Bas*, iv, Columbae, p. 16 (1873—Jobi).

3 ♂, 2 ♀ Ifaar, September. Weight 75–100·5 g., the latter with large eggs (25.ix.1928). "Iris yellowish, ochre, red." The iris by other collectors has been described as orange-yellow, cadmium yellow, dull brownish yellow. On the other hand, the iris of *P. iozonus iozonus* from S.E. New Guinea is described as milk white, creamy white, light yellow, white! The most striking difference is of course the presence of a wide whitish apical bar on the rectrices in *iozonus*, which in *jobiensis* is not visible from above.

299. **Ptilinopus ornatus gestroi** Salvad. & d'Alb.

Ptilinopus gestroi Salvadori & d'Albertis, *Ann. Mus. Civ. Genova*, p. 834 (1875—Yule Island).

♂ ad. with large testes Cyclops Mountains, 28.viii.1928.

Weight 200 g. "Iris light reddish, feet dark red."

(The rare *P. ornatus ornatus* from Arfak was not obtained.)

300. **Ptilinopus aurantiifrons** Gray.

Ptilonopus aurantiifrons G. R. Gray, *Proc. Zool. Soc. London*, 1858, p. 185, pl. 137 (Aru Islands).

Ptilopus aurantiifrons var. *Novae-Guineae* A. B. Meyer, *Sitzungsber. k. Akad. Wien*, xlix, p. 508 (1874—Passim, east coast of Berau Peninsula).

The differences seen in one female from Passim are purely individual, as shown by our series.

7 ♂♀ ad. Ifaar.

Weight 120–150 g.

301. Ptilinopus pulchellus decorus Mad.

Ptilopus decorus Madarász, *Ann. Mus. Nat. Hungar.* viii, p. 173 (1910—Near Erima and Friedrich Wilhelm Hafen, Astrolabebay).

♀, ovary with large yellowish eggs, Hollandia, 13.x.1928.
Weight 73 g.

Though the whole breast is in bad condition, there can be, I think, no doubt that this specimen belongs to *decorus*, the male of which has distinct whitish tips to the more forked feathers of the breast, and paler abdomen and under tail-coverts. Madarász's statement that *decorus* has a larger bill is not correct. His plate, though not a careful drawing, but an impressionistic rough sketch, shows the differences well, except that the breast has not whitish tips to the feathers, but dark grey patches.

We had *P. p. decorus* from Takar and Konstantinhafen.

302. Ptilinopus pulchellus pulchellus (Temm.).

Columba pulchella Temminck, *Pl. Col.* 564 (1835—Lobo Bay, Sal. Müller coll.).

♂ Manokwari, 11.iv.1928. ♂ Momi, 25.vi.1928.
Weight 66·5 g.

303. Ptilinopus rivolii bellus Scl.

Ptilonopus bellus Sclater, *Proc. Zool. Soc. London*, 1873, p. 696, pl. lvii (Hatam, Arfak Mts.).

Nobody can doubt that *bellus* is a subspecies of the *rivolii* group, as we now accept subspecies. This common bird was met with in the mountains in all regions.

2 ♂ ad., 1 ♀ mountains near Siwi, ♂ juv. above Ditschi, 2 ♂ Lehuma, 1 ♂ Wasior, 4 ♂, 1 ♀ Wondiwoi, 1 ♂ Wasior, 4 ♂ Cyclops Mountains. On 8.ix.1928 a male flew off a nest containing one egg.

304. Ptilinopus pectoralis pectoralis (Wagl.).

Columba pectoralis Wagler, *Iris*, 1829, p. 740 ("Habitat in sylvis densis Novae-Guineae"—as he says "Habitat cum praecedente").

2 ♂ Cyclops Mountains. "Iris yellow, outer pink ring. Bill yellow. Feet red."
Weight 111 g.

305. Megaloprepia magnifica puella (Less.).

Columba puella Lesson, *Bull. Univ. Sc. Nat.* x, p. 400 (1827—"Port Praslin and Dorey." Port Praslin being on New Ireland is of course a mistake, the typical locality is therefore Dorey in the Arfak Peninsula).

2 ♀ ad. Momi, east coast of Arfak Peninsula.
Wings 155, 161·5 mm.

306. Megaloprepia magnifica interposita subsp. nov.

1 ♂ ad. Wasior, Wandammen Peninsula, 21.vii.1928. "Iris pink. Bill yellowish. Feet yellowish green."
Weight 200 g. No. 1615 Mayr coll. Type of *interposita*!

This form has the underside of the tail as black as in *M. m. puella* from Arfak, but the vent is brighter yellow, the under tail-coverts as a rule more

yellowish, yellow spots on wing-coverts and scapulars larger, size larger. Wings ♂ 173, 171, 168, 170, 168, 165, ♀ 163, 157·5 mm.

Habitat: Wandammen (type), Etna Bay, Setekwa River, Mimika River, Lower Snow Mountains. This new subspecies stands between *puella* and *septentrionalis* and has an intermediate geographical position.

307. **Megaloprepia magnifica septentrionalis** Mey.

Megaloprepia poliura septentrionalis A. B. Meyer, *Abh. Ber. k. Zool. Mus. Dresden*, 1892–93, No. 3, p. 25 (1893—"Konstantinhafen (Astrolabe-Bay), Kafu and Jobi").

3 ♂, 1 ♀ Hollandia, 2.viii., 31.vii., 10.x.1928.

Weight "185–250 g." "Iris red, edge of eyelid yellowish green."

This form is very closely allied to *M. m. poliura* Salvad. from S.E. New Guinea, and the colour of the underside of the tail and of the under wing-coverts is the same, though variable, but the vent is more yellow, not so olivaceous-yellow; it differs from *M. m. puella* by the underside of the tail being more greyish, less black, and the anal region is generally somewhat between that of *puella* and *poliura*, but often as in *puella*. Wings ♂ 162–167, "♀" 164 mm.

308. **Ducula rufigaster** (Quoy et Gaim.).

Columba rufigaster Quoy et Gaimard, *Voy. Astrolabe, Zool.* i, p. 245, pl. xxvii (1830—Dorey, now Manokwari).

♂ ad. Momi, ♂ ad. Cyelops Mountains, 2.ix.1928. Testes large.

309. **Ducula chalconota** (Salvad.).

Carpophaga chalconota Salvadori, *Ann. Mus. Civ. Genova*, vi, p. 87 (1874—Hatam, Arfak Mts.).

2 ♂, 1 ♀ mountains near Ditschi, 11.vi.1928, ♂ Wondiwoi, 10.vii.1928.

310. **Ducula zoeae** (Desm.).

Columba zoeae Desmarest, *Dict. Sci. Nat.*, ed. Levrault, xl, p. 314 (1826), and Lesson, *Voy. Coquille Zool.*, Atlas, pl. 39 (1826—Dorey, Arfak Peninsula).

♂ ad. Siwi and Ifaar.

Weight 555 and 600 g.

311. **Columba vitiensis halmaheira** (Bp.).

Janthoenas halmaheira Bonaparte, *Consp. Gen. Av.* ii, p. 44 (1855—ex ins. Gilolo, Ceram).
Janthoenas albigularis, id. loc. cit., nec *Compt. Rend. Acad. Paris*, xxxix, p. 1077, 1854!

♂ ad. mountains near Siwi, 20.v.1928. "Weight 450 g. Iris ochre-yellow. Bill base dark red, tip whitish. Feet red."

♀ juv. mountains near Ditschi.

312. **Columba (Gymnophaps) albertisii albertisii** Salvad.

Gymnophaps albertisii Slavadori, *Ann. Mus. Civ. Genova*, vi, p. 86 (1874—Andai, Arfak Peninsula).

3 ♂ ad., 3 ♀ ad., 1 ♀ juv. Siwi, ♀ ad. Lehuma, ♂ ad. Wondiwoi, ♀ Hollandia, ♂ Cyelops Mountains. "Iris red, coral-red. Feet dark red."

"Weight 220–280 g."

313. **Macropygia amboinensis doreya** Bp.

Macropygia doreya Bonaparte, *Consp. Gen. Av.* ii, p. 57 (1855—New Guinea. Type undoubtedly from Dorey Harbour, from the Astrolabe Expedition).

2 ♂ ad., 2 ♂ juv., 3 ♀ Siwi, Ditschi and Manokwari, 1 ♀ Wondiwoi.
Weight 130, 150 g.

314. **Macropygia amboinensis cinereiceps** Tristr.

Macropygia cinereiceps Tristram, *Ibis*, 1889, p. 558 (Fergusson I., d'Entrecasteaux group).

2 ♂ ad. Cyclops Mountains, August 1928. Testes large.
Weight 115, 138 g.

315. **Macropygia nigrirostris** Salvad.

Macropygia nigrirostris Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 972 (1876—Arfak).

♀ Siwi, ♂♂ Wasior and Ifaar.

(*M. n. major* Oort, *Notes Leyden Mus.* xxix, p. 174 (1908), from New Britain does not seem to differ at all! The characters described by van Oort seem to be individual.)

316. **Reinwardtoena reinwardtsi griseotincta** Hart.

Reinwardtoenas reinwardtsi griseotincta Hartert, *Nov. Zool.* iii, p. 18 (1896—Papua, type Mailu district, British New Guinea).

♀ ad. mountains near Siwi, ♂ ad. Cyclops Mountains, ♂ ad. Ifaar. Testes, 12.ix.1928, large.

Weights 300, 300, 310 g. "Bill base and cere red, tip dark grey."

317. **Chalcophaps stephani stephani** Jacq. & Pueh.

Chalcophaps stephani Jacquinot et Pucheran, *Voy. Pôle Sud, Zool.* iii, p. 119 (also pl. 28, fig. 2, under the name of "Chalcophaps d'Etienne") (1853—"Nouvelle-Guinée, côte occidentale").

♂ Wasior, ♀ Hollandia, 17.ix.1928, with large eggs, ♀ Ifaar, 2.ix.1928, with fairly large eggs.

Weight 95, 103, 115 g.

318. **Henicophaps albifrons albifrons** Gray.

Henicophaps albifrons G. R. Gray, *Proc. Zool. Soc. London*, 1861, p. 432 (Waigiu).

♀ Momi, ♂ juv. Wasior, ♀ Wondiwoi, 1 ♂, 2 ♀ Hollandia.

Young birds have the forehead brownish, sides of head, neck and nape blackish, not deep chestnut brown, and the metallic patches on the wings smaller. Of apparently adult birds some have the forehead brownish rufous, others pure white, others again white with rufous tinge above the eyes or behind. According to the sexing of Dr. Mayr and other collectors the difference is not sexual.

[Rosenberg, *Nat. Tijdschr. Ned. Indie*, xxix, p. 143 (1866—Aru Is.) described "*Rynchaenas Schlegeli*." This name has always, if at all, been quoted as a synonym of *Henicophaps albifrons*. Mathews says that no locality was given and "restricts" the name to Waigiu. But he evidently did not look the quotation up; the whole article of Rosenberg is only on birds from the Aru and Key Islands, and on p. 145 he says clearly which species were from Aru and which from the Key Islands. The name *schlegeli* must therefore be used for the Aru form, if that is different. To me it seems to differ, the underside in

our two specimens being grey or greyish, not vinous brown, and the beak is very long! Wings in a good series from New Guinea 182·5–202, in two from Aru Islands 202 and 211 mm. long!]

319. **Gallicolumba beccarii beccarii** (Salvad.).

(*Phlegoenas beccarii* auct.)

Chalcophaps beccarii Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 974 (1875—Arfak Mts.).

♀ Kofo (Anggi gidji), 12.vi.1928.

Weight 72 g.

320. **Gallicolumba jobiensis jobiensis** (Mey.).

(*Phlegoenas margarithae, Cat. B. Brit. Mus.* and auct.)

Phlegoenas jobiensis A. B. Meyer, *Mitth. Zool. Mus. Dresden*, i, p. 10 (1875—Jobi Island; description of young bird).

♂ juv., ♀ ad. Wasior (Wandammen), ♀ ad., ♂♀ juv. Ifaar, ♂ juv. Momi!

(Why is not *G. kubaryi* from the Carolines a subspecies of *G. jobiensis* (*margarithae*)?)

321. **Gallicolumba rufigula rufigula** (Jacq. & Puch.).

Peristera rufigula Jacquinot & Pucheran, *Voy. Pôle Sud* iii, p. 118 (1845—Name given to the Péristère a gorge rousse on plate xxvii, fig. 1, therefore not nomen nudum! No locality, but New Guinea and apparently from the Arfak Peninsula, which might therefore be taken as the terra typica).

1 ad. Momi, 1 ♀ juv. Momi, ♂♀ ad. Siwi, ♂ ad. Hol.

Ogilvie-Grant was apparently right in calling specimens from the Lower Snow Mountains (Setekwa River) *Gall. rufigula helviventris*—unless specimens from those are an intermediate form, but our Aru material is insufficient, and *helviventris* was described from Aru. Ogilvie-Grant was, however, wrong in saying that the presence of grey behind the eye is due to non-age, for some of our adult specimens have more grey there than young ones. Young birds have a vinous brown breast and the edges to the wing-coverts pale rufous instead of grey. The question is whether *helviventris* is really different from *rufigula*! Grant has already quoted both from the lower hills of the Snow Mountains, *rufigula* from the Mimika and Wataikwa Rivers, *helviventris* from the Setekwa River. Both forms seem to occur in S.E. New Guinea! From the Wanggar River, 15 miles from its mouth, south of Geelvink Bay, 600 feet high, Pratt Bros. sent typical *rufigula*. A specimen from the Sattelberg bought from Foerster, probably collected by Keysser, has hardly any grey behind the eyes and agrees better with *helriventris*. If the two forms are separable, their distribution requires elucidation!

322. **Trugon terrestris terrestris** Gray.

Trugon terrestris G. R. Gray, *Gen. Birds*, iii, Appendix, p. 24 (1849—Ex "Trugon terrestre," a French name, of Hombron et Jacquinot. If the name *terrestris* is adopted as of Gray, then the generic term must also be accepted!) (West coast of New Guinea, which means Arfak Peninsula).

♀ ad. Momi, Arfak Peninsula, ♂♀ Hollandia 18.x. and 4.viii.1928. Testes and ovary large! "Iris red. Bill grey, forepart white. Feet whitish or pale pink."

" Weight ♂ 370, ♀ 305, 340 g."

The female is like the male, only smaller. The *Trugon terrestris leucopareia* Meyer, from S.E. New Guinea, is a well-marked subspecies.

323. **Otidiphaps nobilis nobilis** Gould.

Otidiphaps nobilis Gould, *Ann. & Mag. Nat. Hist.* ser. 4, vol. v, p. 62 (1870—No locality, but probably came from New Guinea, and I select as terra typica Arfak).

♀ ad. above Wasior, Wandammen Peninsula, 26.vii.1928.

Males are much larger than females. The wing of this female measures only 193 mm.

324. **Goura victoria beccarii** Salvad.

Goura beccarii Salvadori, *Ann. Mus. Civ. Genova*, viii, p. 405 (1876—Humboldt Bay).

♂ ad. Ifaar, 20.ix.1928. " Iris reddish. Bill blackish grey. Feet dirty red." Testes large.

Weight 2,750 g. Wing 385 mm.

Unfortunately only this one specimen was collected. It has the upperside dark, in fact as dark as in typical Jobi specimens, but is very much larger. Our skins from Konstantinhafen (Astrolabe Bay), collected by Kubary, and those from Stephansort (close by, Astrolabe Bay), collected by Nyman, are much lighter, but not much larger, wings about 385–390 mm. They seem to belong to *G. v. huonensis*, which is said to be restricted to the " Kai Halbinsel " (Huon Gulf region), but may extend to Astrolabe Bay.

[The bird was in this vicinity extremely rare, and I could, in spite of all my effort, only get this *one* specimen.—*E. Mayr.*]

325. **Charadrius apricarius fulvus** Gm.

Charadrius fulvus Gmelin, *Syst. Nat.* i. 2, p. 687 (1789—Tahiti).

♀ Manokwari, 8.iv., ♀ Kaju pulu, 15.x., ♀ Hollandia, 15.x.1928.

It will be logical, according to present conception, to regard *Ch. dominicus* and *fulvus* as subspecies of *apricarius*. I suggested this in 1920 (*Vög. pal. Fauna*, ii, p. 1551), but did not take the plunge.

326. **Charadrius dubius jerdoni** (Legge).

Aegialitis jerdoni Legge, *Proc. Zool. Soc. London*, 1880, p. 39 (Ceylon and India).

♀ ad. Ifaar, 18.ix.1928 in moult. " Iris brown, eyelids golden yellow, bill black, base of lower mandible light, feet pale flesh-colour."

Weight 34 g.

327. **Tringa (Heteractitis) incana brevipes** (Vieill.).

Totanus brevipes Vieillot, *Nouv. Dict. d'Hist. Nat.* (nouv. éd.), vi, p. 410 (1816—No locality, but type from Timor, teste Pucheran).

♀ Kaju pulu near Hollandia, 15.x.1928.

328. **Tringa hypoleucos** L.

Tringa Hypoleucos Linnaeus, *Syst. Nat.* ed. x, 1, p. 149 (1758—" Europa." Terra typica restricta Sweden).

2 ♂ Ifaar, 19.ix.1928 ♂ Kaju pulu near Hollandia, 15.viii.1928.

329. **Numenius phaeopus variegatus** (Scop.).

Tantalus variegatus Scopoli, *Del. Flor. et Faun. Insubr.*, fasc. ii, p. 92 (1786—Luzon. Ex Sonnerat, *Voy. Nouv. Guinée*, pl. 48, p. 85).

1 ad. Ifaar, 18.ix.1928.

330. **Irediparra gallinacea novaeguineae** (Rams.).

Parra novae-guineae Ramsay, *Proc. Linn. Soc. N.S. Wales*, iii, p. 298 (1878—25 miles west of Port Moresby, in S.E. New Guinea).

10 ♀ ad., 7 ♂ ad., 2 juv. Ifaar, September 1928. Iris of the adult ♂ and ♀ "cream-colour, yellowish brown, pale brown. Distal half of bill black, basal half and 'comb' reddish or orange, in males paler, more yellowish. Feet greenish grey." Weight of males 76–92, of females 151–175 g.

It is well known that the females are considerably larger than the males. Wing ♂ 120–122, ♀ 138–147 mm. This great difference in size in all parts of the body is very striking and not generally known. All eastern forms of *Parridae* show a difference in size between the sexes, but though we have no explanation, there must be biological peculiarities which explain this.

There are three subspecies of this species :

Irediparra gallinacea gallinacea (Temminck) 1828.

First described from Menado, Celebes. Tail black with a steely gloss, upper surface a somewhat glossy olive-brown, nape metallic blue-black, extending to the interscapular region.

This form is not rare on Celebes, and seems to extend to Mindanao, South Borneo, certain Moluccas, and the Key Islands. A single male specimen from Buru (Heinrich Kühn coll.) seems to be of the Australian form, and other Moluccan birds I have not examined nor any from Timor. An Aru Islands female is very dark and seems to belong to the New Guinea form ! I have not been able to examine Mindanao examples, from where Mearns recorded it, nor Bornean ones, but Grabowski sent a skin and four clutches of eggs from S.E. Borneo.

Irediparra gallinacea novaehollandiae (Salvad.) 1882.

Described conditionally from two specimens collected in North Australia by D'Albertis !

This subspecies is strikingly paler, a sort of pale bronzy, almost greyish brown on the upper wing-coverts, secondaries, scapular and interscapulium. The rectrices are usually much less blackish, with a bronzy gloss, which is not present on the tail of the Celebes form. This was rather emphasized, but first pointed out by Mathews. That the black breast-band is less wide seems to be due to preparation, and is not a distinguishing character.

This form is, as far as I know, peculiar to Australia, where it occurs in N.W. Australia, the Northern Territory, Queensland and New South Wales, the names *rothschildi* and *melvillensis* of Mathews being synonyms of *novaehollandiae*.

Irediparra gallinacea novaeguineae (Rams.) 1878.

This form is the darkest. It is almost entirely black on the upperside. The deep blue-black of the nape extends over the interscapulium to the rump and upper tail-coverts. The tail is black with a slight bronzy gloss, and almost as deep in colour as in *I. g. gallinacea*. The scapulars and inner secondaries are

a very deep oil-green, the upper wing-coverts are sooty black, with little or no gloss, the breast deep black, in all subspecies the feathers of the upper breast white at base.

This subspecies is found in S.E. New Guinea, on the Setekwa River, on the Sepik River, near Ifaar, on Misol, and apparently on the Aru Islands.

On September 20th female with large eggs. The " comb " of the female is red-yellowish, of the males yellow-reddish, much less bright.

331. **Chlidonias leucopareia fluviatilis** (Gould).

Hydrochelidon fluviatilis Gould, *Proc. Zool. Soc.* for 1842, p. 140 (1843—" Interior of New South Wales ").

1 ♂, 2 ♀ ad. in breeding plumage, 2 ♀ in non-breeding garb, Ifaar, 18. and 28.ix.1928.

This is the form inhabiting Australia, New Guinea, Moluccas to Celebes, *C. l. rogersi* Math. not being separable.

332. **Sterna bergii pelecanoides** King.

Sterna pelecanoides King, *Survey Intertrop. coasts Austr.* ii, p. 422 (1826—Torres Straits).

♂ Kaju pulu near Hollandia, 15.x.1928.

333. **Sterna sumatrana sumatrana** Raffl.

Sterna Sumatrana Raffles, *Trans. Linn. Soc. London*, xiii, p. 329 (1822—Sumatra).

3 ♂, 2 ♀ ad. Hol September 1928, ♀ 12.viii.1928, eggs ready for laying.

Several eggs were taken end of September on small coral islands outside Hol which agree with a series of eggs from other localities.

334. **Anous minutus minutus** Boie.

(*Anous leucocapillus* auct.)

Anous minutus Boie, *Isis*, 1844, p. 188 (Australia, terra typica restricted by Mathews to " Raine Island " !).

10 ♂, 8 ♀ Kaju Pulu near Hollandia, 15.x.1928.

Probably after breeding, sexual organs being small and plumage much worn.

(As Boie's description is not very fixative it would have been better to leave matters unchanged, viz. to quote *Anous minutus* of Boie with a query, and to employ the name *leucocapillas*, as was done by Salvadori, Saunders and others. As, however, the specific term *minutus* has been employed recently elsewhere, I do not propose to change it again.)

[I heard there is a large breeding colony of this bird on Commerson Island (Sae), N.E. of Nimigo, and the birds probably came from there.—*E. Mayr.*]

335. **Hypotaenidia philippensis** subsp. nov. ? ?

3 ♂, 1 ♀ Ifaar, September 1928. " Iris red."

Weight 185, 210, 225, 240 g. Wings ♂ 147·5, 148, 152, ♀ 146·5 mm.

This interesting species is separable into quite a number of local subspecies, but I find it difficult to name the Ifaar birds. Their swollen testes and ovary seem to indicate that they are not astray nor winter visitors from Australia,

moreover they differ from numerous Australian specimens in their general darker colouration of the upperside and of the rufous parts, as well as heavier bills. When the Tring Museum received a fine series from Witu (French Islands) north of New Britain I called them *lesouefi*, but not without hesitation, and I explained at length the differences (Nov. Zool. xxxiii, p. 172, 1926). I find now that these birds cannot really be united with *lesouefi*! The latter was described from New Hanover, and Mathews said he "associated with it birds from New Britain." Though *lesouefi* is quite a good form, it is not correct to unite with it New Britain ones, the latter being like the Witu form!

The Witu form differs from *H. p. lesouefi* Math. in the more or less unspotted lower back, rump, upper tail-coverts and rectrices, all these parts being heavily spotted with white in *lesouefi*. Also the crown is more brown, not so chestnut-red as in *lesouefi*. Wings ♂ 143–147, ♀ 136, 138 mm. Type: ♂ ad. Witu Island (French group), 30.vi.1925. No. 10.354, Albert F. Eichhorn coll. I call this form

Hypotaenidia philippensis meyeri subsp. nov.

in honour of Father *Otto Meyer*, who has done so much for the knowledge of New Britain and the neighbouring small islands.

The specimens from Ifaar are so much like the *H. p. meyeri* that I refrain from separating them, though it must be said that the upperside is more frequently and heavier spotted. I wish to await more material before deciding if the Ifaar specimens can be separated from the Witu (and New Britain) form. I refrain from saying anything again about single specimens from other parts of New Guinea: one from the south coast of Geelvink Bay, July 1920, one from the Giriarin River, S.E. New Guinea, 5.x.1907, and one from the China Strait, Boboli, 19.viii.1922.

These three birds have the rufous portion of the remiges lighter than in *lesouefi* and *meyeri*, more as in *australis*, and differ from each other.

I have seen the type of *H. p. admiralitatis* Stres. 1929, but have no specimens to compare; this form is near to *lesouefi*.

336. **Rallus pectoralis mayri** subsp. nov.

3 ♂ ad., 3 ♀ ad., 2 ♂ juv., 1 ♀ juv. Kofo, Anggi Gidji, Arfak Mountains, June 1928. "Iris brown, yellowish-brown. Bill reddish, culmen and tip blackish or black. Feet dark grey."

Weight 91–102 g. Wings ♂ 104–107, ♀ 101–104 mm.

This new subspecies differs from *R. pectoralis pectoralis* Temm.[1] The top of the head looks much more uniform, not being vinous chestnut with black centres to the feathers, but dull chestnut with dull blackish brown centres; the whole back is less bright, the edges to the feathers being darker, the sides of the hind-neck are less bright chestnut.

The bill is longer! As females have a shorter bill than males, males must be compared with males, females with females. Bill ♂ 38, 38, 39, ♀ 34·5, 35, 36 mm.

Type: ♂ ad. Kofo (Anggi gidji), 13.vi.1928. No. 1124 Ernst Mayr coll.

[1] This is the oldest name of the species, not *brachypus*. Temminck (1831) described a specimen with unknown locality. Mathews says "New South Wales," meaning that he restricted the typical locality to N.S. Wales, not that it was described from there.

The young birds are darker, crown uniform blackish, flanks dark greyish brown with a few dull whitish spots, but no white bars!

The occurrence of this large form of *Rallus pectoralis* in North New Guinea is of particular interest. Except the very much smaller, red-headed and red-naped *Hypotaenidia pectoralis alberti* Rothsch. & Hart. from the Upper Angabunga River, in elevations of 6–8,000 feet (NOV. ZOOL. xiv, p. 451), no form of this species has been known in New Guinea so far. They are evidently mountain birds in Papua.

Rails are altogether difficult but most interesting birds. *Rallus pectoralis exsul* Hart. from Flores seems to be still unique in collections.

337. **Porzana (Poliolimnas) cinerea** subsp.

There is one ♂ ad. Ifaar, 30.ix.1928.

Weight 60 g. Wing 95 mm.

The review of subspecies given by Stresemann in NOV. ZOOL. xxi, 1914, pp. 53–55, is quite out of date, and mine in NOV. ZOOL. xxxi, 1924, p. 264, is now not quite complete. Mathews has discovered that Bonaparte's nude name *minima* was published by Schlegel, *Mus. Pays-Bas, Ralli*, p. 34, 1865, with locality, Outanata (where it was collected by S. Müller), and measurements: wing 3 pouces 3 lignes, which is 86 mm. The wing of our Ifaar bird, however, measures 95 mm. Also three specimens from Batjan, collected by John Waterstradt, have wings of 95–96 mm. In colour they are like the Ifaar bird, though the latter is clearer whitish on the underside, a difference, however, which requires confirmation by a series. The crown of the three Batjan birds is very black, in most others, all over the range, it is more greyish, but one from Ceram, collected by Stresemann, has also a black head. In fresh plumage there are greyish edges to the feathers of the crown, which wear off in time.

Birds from Buru are smaller, wings 84–93 mm. The terra typica is Buru, not Key Islands, as quoted by Mathews in the *Systema Avium*, 1927.

The Ifaar specimen cannot at present be separated, in fact any further subdivision would at the moment be hazardous.

338. **Porzana tabuensis** (Gm.) subsp.

Rallus tabuensis Gmelin, *Syst. Nat.* i, 2, p. 717 (1789—"Habitat in Tonga-tabu, Tahiti et insulis vicinis." ex Latham "Tabuan Rail").

10 ad., 3 juv. from Kofo (Anggi gidji), mid June. "Iris red. Bill black. Feet reddish or red." Weight 38·5–45 g. Several specimens are marked as having very large testes, so I suppose these birds were breeding about the Anggi Lakes, and they may be numerous on swamps in many places in New Guinea. So far as I know the species has only once been recorded from Papua, viz. 1 ♀ collected by Fenichel at Bongu, Astrolabe Bay, 29.viii.1892. Stresemann calls it an "Irrgast," but it may just as well be at home and sedentary near the Astrolabe Bay.

The collecting of swamp birds has hitherto been much neglected in New Guinea.

(Mathews' list of these Rails in his "*Systema Avium*," i, p. 92, is useless. It is unexplainable why he makes *Rallus tabuensis* Gmelin a subspecies of the totally black *Rallus nigra* of Miller! His various subspecies from Australia

are indistinguishable. I dare not at present to separate the New Guinea form. *Generally* specimens from the Pacific Islands are smaller, but not always, while Australian ones are much larger ! The wings of our Kofo (Arfak) specimens are : ♂ 82–84, ♀ 80–82 mm. Now Australian birds have wings of about 85–90 mm. Their name would be *Porzana tabuensis immaculata* (Swains.) 1837.

Examples from the Pacific Islands have wings of often 80, 82, or not rarely under 80 mm. ! They would be the typical *Porzana tabuensis tabuensis* (Gm.).

The Papuan race would seem to be another subspecies intermediate in size. As it seems to have no name there is here an opportunity for a young (or old) man " rerum novarum cupidus " to give a name to a form which he might not have seen !

339. **Gallinula tenebrosa neumanni** subsp. nov.

2 ♂, 4 ♀ Ifaar, near Sentani Lakes, 18. to 29.ix.1928. " Iris greyish brown, in one dark brown. Bill : tip yellowish green to olivaceous green, base brown-red, frontal shield olive-brown in all specimens ! Feet greyish green, front scutes of metatarsus tomato-red. Testes small, ovaries medium, in one female large !

Weight 290, 310, 310, 310, 370, 370, 370 g."

This new form has the upperside quite without or only with an indication (in one specimen) of an olivaceous tinge. It is nearest to *G. t. frontata* Wall. (type from Buru !), but differs in being smaller (bill, shield, feet, wings !) and in the colour of the bill and frontal shield, which in *frontata* is blood-red with a yellow tip, and a bright vermilion frontal shield. Length of bill from end of frontal shield to tip ♂ 42–44·7, once 41, ♀ 40–43 mm., wing ♂ 182, 182, ♀ 163, 172, 173, 174 mm.

Type : ♀ ad. Ifaar, 20.ix.1928. No. 2471 Mayr coll.

This most interesting new subspecies is named after Professor Oscar Neumann, who has for some time shown a special interest in *Rallidae* and has urged many collectors to pay special attention to this fascinating family.

There is no doubt that *G. t. frontata* and *G. t. neumanni* must be treated as subspecies of *G. tenebrosa*. These three forms agree in the absence of the white streaks on the sides of the body, which are present in all forms of *Gallinula chloropus* and they breed in Celebes and possibly in S. Borneo together with a form of *G. chloropus*.

I have not examined specimens from S.E. New Guinea, but from what Salvadori said in *Orn. Pap.* iii, pp. 279, 280, one most believe that the Moluccan form, or a very near ally, but not *neumanni*, is found in S.E. Papua. It is interesting to see that Salvadori ascribes to his *G. frontata* a " lievissima sfumatora olivastra " on the back and wings.

340. **Fulica atra australis** Gould (?).

♂ ad. Kofo (Anggi gidji), 12.vi.1928. " Iris brown-red, bill bluish white."

Weight 590 g. Testes very large, bird not fat.

There can be little doubt that this Coot is *Fulica atra australis* (or one of its forms if, which I don't think, several are separable), but without a series it is not advisable to be absolutely certain about this. It would seem that the species nests in New Guinea, from the notes on Dr. Mayr's label.

As far as I know this species has not been recorded from New Guinea !

341. **Megacrex inepta** D'Alb. & Salvad.

Megacrex inepta D'Albertis & Salvadori, *Ann. Mus. Civ. Genova*, xiv. p. 129 (1879—Fly River New Guinea); Bangs & Peters, *Mus. Comp. Zool.* 67, p. 424 (1926—Digul River, north of Merauke); Ogilvie-Grant, *Ibis Suppl.* 1915, p. 288 (Setakwa River).

2 ♀ Hol, 10.viii.1928.

Weight 800 and 900 g. Wings about 170 and 180 mm., but much worn.

This rare bird is only known from the Fly, Digul and Setakwa Rivers and now was for the first time obtained on the north coast of the island.

342. **Gallinula (Amaurornis) olivacea frankii** Schleg.

Gallinula Frankii Schlegel, *Notes Leyden Mus.* i, p. 163 (1879—Berau Peninsula, New Guinea).

Cf. NOV. ZOOL. xxxiii, p. 172, 1926.

One unsexed Momi, 3.vii.1928, ♂♀ Ifaar, 30.ix.1928.

Weight 200, 205 g.

It seems from our (not very large!) series from the Moluccas and New Guinea that the latter are darker grey on the underside, and a shade darker olive on the back. In fact the Papuan specimens are near *G. olivacea nigrifrons* Hart. from New Britain, Witu Island, Duke of York and New Hanover, also Bougainville, and stand between *G. olivacea moluccana* and *nigrifrons*. It is therefore desirable not to unite the Papuan examples with the typical Moluccan birds.

From my notes in NOV. ZOOL. 1926 it would appear that New Guinea specimens had "a small orange-coloured frontal shield," but it is only sometimes indicated, not distinctly developed as in the Australian *Gallinula (Amaurornis) olivacea ruficrissa* Gould.

343. **Eulabeornis tricolor tricolor** (Gray).

Rallina tricolor Gray, *Proc. Zool. Soc. London*, 1858, p. 188 (Aru Islands).
Eulabeornis tricolor grayi Mathews, *B. Australia*, i, p. 205 (1911—New Guinea).

Cf. NOV. ZOOL. xxii, 1915, p. 26!

♂ ad. Hollandia, 9.x.1928.

344. **Rallicula rubra mayri** subsp. nov.

This is another most interesting discovery! Though very different from *rubra rubra* and *rubra forbesi*, I cannot doubt that these representative forms should be considered to be subspecies of one and the same species. The male of *R. rubra rubra* has the whole upperside chestnut, that of *R. rubra mayri* has it of a darker chestnut, but the underside of both is almost alike, only a shade darker in *mayri*. The sides of the vent and under tail-coverts have black bars, sometimes (especially in *rubra rubra*) indistinct or wanting, on the sides of the belly generally accompanied by pale chestnut bars. The male of *R. rubra forbesi* has the whole upperside of the wings and a wide bar across the back black, upper and under tail-coverts barred with black, but rectrices without bars. Sides of vent with lighter and darker bars. The female of *R. rubra rubra* has the back, scapulars, inner secondaries, rump and upper tail-coverts black, covered with roundish buff to (on the back) almost whitish spots. In *R. rubra forbesi* these spots are less numerous and rump and upper tail-coverts are unspotted, while the upper tail-coverts have a few black bars. In the female

of *R. rubra mayri* these parts are not black, but dark chestnut, the little spots are more reddish buff and more or less surrounded by black ; rump and lower back unspotted, upper tail-coverts with black bars, rectrices, at least laterally, with blackish bars.

Type of *Rallicula rubra mayri* ♀ ad. Cyclops Mountains, 6.ix.1928, with two eggs almost ready for expulsion ! No. 2198 Ernst Mayr coll. " Iris grey-brown, bill and feet pure black."

4 ♂, 1 ♀ Cyclops Mountains about 1,200 m., August and September.

Weight ♀ 119, ♂ 123, 123, 129 g. Wings ♂ 114–117, ♀ 110 mm.

The inner webs of the primaries and under wing-coverts of all these forms have wide white bars on a black or blackish ground.

As the males from the Snow Mountains and from Arfak (terra typica of the name *rubra* !) do not differ, I have, like Lord Rothschild, no doubt that " *Rallicula klossi* " Ogilvie-Grant, *Bull. B.O.C.* xxxi, p. 104, and *Ibis Supplement*, 1915, p. 290, and plate vii (not very good, colour too red), is the same as *R. r. rubra*, though the female of the latter was, until 1913, undescribed.

345. **Rallicula leucospila** (Salvad.).

Corethrura ? leucospila Salvadori, *Ann. Mus. Civ. Genova*, vii, p. 975 (1875—Arfak Mts.).

♂ mountains near Siwi, 3.v.1928.

Weight 125 g.

♂ Wondiwoi, Wandammen Peninsula, 17.vii.1928.

Weight 114 g. " Iris chestnut. Bill and feet black."

This species, of which so far no subspecies are known, is rare in collections. The male has narrow white stripes, one on each web of the feathers of the back, the female roundish white spots ; in both sexes the back is black.

346. **Synoicus ypsilophorus saturatior** subsp. nov.

3 ♂, 8 ♀ ad., 1 ♂ pull. Ifaar, September 1928. Both sexes have the iris dark brown, bill black, feet greenish yellow and yellowish brown.

Weight ♂ 82–91, ♀ 92–128 g.

The females of this north coast form are much darker than females of *plumbeus* on the upperside, far less rufous brown, more olivaceous brown, the black spots larger, the creamy white shaft lines usually narrower, the underside generally not so yellowish, duller. The males are very much like the males of *S. ypsilophorus plumbeus*, but more saturated on the upperside, the grey on the feathers of the back being more blackish, the underside more and darker greyish. Wings ♂ 59–61, ♀ 60–64 mm.

Considering that we have for comparison with the fine series from Ifaar an equally good one from S.E. New Guinea and a large series from various parts of Australia, I had to name the Ifaar form, the species having never been known from the north coast region, but only from S.E. Papua and thence up to the Astrolabebay. It was, however, with some reluctance that I named the new form, for the following reasons : While the majority of specimens are distinguishable, a few specimens turn up in most places which are practically or quite indistinguishable from individuals of other subspecies. Examples : Two females shot by Mr. Fullerton Smith, jun. near Maslow, New Zealand, in 1919, where Australian birds have been introduced and are thriving well, are like females

of *S. ypisolophorus saturatior*, only being a faint shade more rufescent, but just as dark.——A female from the Upper Aroa River, collected by Meek, 12.xii.1904 (No. B. 105), is utterly different from typical *S. y. plumbeus* females, and is like light clay-brown females of the Australian *S. y. australis* !——Single females of the generally quite different *S. y. raalteni* from Letti, Timor and Alor are as dark as and partially darker than females of *S. y. plumbeus* and have the large black spots on the upperside like *S. y. saturatior* !——What do these variations mean ? Can they be just individual varieties, can they be throw-backs to ancestral forms, or can the specimens be migrants from the habitats of other races or influenced by immigration ? The latter seems to be the most unlikely explanation.

The following subspecies are obvious :

1. *Synoicus ypsilophorus ypsilophorus* Bosc. 1792.

Tasmania. Like *S. y. australis*, but longer wings. Apparently sometimes darker.

2. *Synoicus ypsilophorus australis* (Lath.) 1801.

Australia.

Possibly the Cape York form, *S. y. queenslandicus* Math. 1912, and the north and north-west form, *S. y. cervinus* Gould 1865, are separable, but I cannot now go into that question.

3. *Synoicus ypsilophorus plumbeus* Salvad. 1894.

While the females are somewhat similar to those of *australis*, but much darker, with finer markings above and below, the males are very different, being plumbeous grey, with brown edges to the feathers of the underside, and brown markings on the upper surface. An exceptionally dark male was shot at Kumusi.

For an exceptional female from the Upper Aroa River see above. Males very rare in collections !

4. *Synoicus ypsilophorus saturatior* Hart.

Ifaar near Sentani Lakes, Humboldt Bay region. Only three males known.

5. *Synoicus ypsilophorus raalteni* Müll. 1842.

Timor, Flores, Letti, Kisser, Alor, Moa, Wetter.

Typical males are quite different from the former subspecies, being rufous with grey centres to the feathers, and the breast is lighter or darker rufous, always variable. Some (few) females are like those of *S. y. plumbeus*.

6. *Synoicus ypsilophorus pallidior* Hart. 1897.

Savu and Sumba.——Very much paler than *raalteni*.

(Female No. 2423, Ifaar, 17.ix.1928, has the greater part of the breast snow white ; otherwise it is quite normal.)

Type of *S. y. saturatior* ♀ Ifaar, 17.ix.1928. Ernst Mayr coll. No. 2394. The eggs on the ovary very large.

Cf. Rothschild & Hartert, Nov. Zool. xiv, 1907, p. 447 ; Mathews, *Austral. Avian Record*, i, 5, p. 125 (about the name *ypsilophorus*) ! The generic name remains *Synoicus* according to the International Rules of Nomenclature, for *Synoicum* is not *Synoicus* !

An egg of *Synoicus ypsilophorus saturatior* was taken from the oviduct at Ifaar. It is spotless greenish white, seen through the hole against the light it is light sea-green. It measures 29·6 × 23·6 mm.

347. **Megapodius reinwardt reinwardt** Dumont.

Megapodius Reinwardt Dumont, *Dict. Sci. Nat.* (édition Levrault), xxix, p. 416 [1] (1823—" Amboina " errore ! Teste Schlegel Lombok !).

Megapodius Duperreyi Lesson et Garnier, *Bull. Soc. Nat.* viii, p. 113 (1826—Dorey).

♂♀ Momi, 25.vi.1928. " Iris yellow," error, the iris being brown. " Feet red-yellow."

Weight 810, 860 g.

348. **Megapodius reinwardt decollatus** Oust.

Megapodius decollatus Oustalet, *Bull. Assoc. Sc. France*, xxi, p. 248 (1878—d'Urville Island, now " Kairiru " (!) between Hollandia and Astrolabe Bay).

♂♀ and one sex doubtful, Hol, 4.viii., 14.x.1928. Feet marked " grey-green," black in the skins.

These skins agree in size with a series from Jobi Island. The two known examples of *affinis* Meyer from Rubi (south coast of Geelvink Bay) are very much smaller, wings 200 and 202 mm., while the Hollandia ones measure ♂ 220, ♀ 219, ? 227 mm.

Formerly Lord Rothschild and myself have recorded *Megapodius reinwardt reinwardt* (under the name of *M. duperreyi duperreyi*) from Dampier and Vulcan Islands, but this was erroneous. The form found on these islands is a black-legged bird and appears to be *decollatus*. Examples from S.E. New Guinea (Bihagi, head of Mambare River, Meek coll.) are also black-legged, and their wings, measuring 225–235 mm., seem to be a bigger race, *huonensis* Stres. 1922, described from the " Kai Peninsula," where Finschhafen and the Sattelberg are.

349. **Talegallus cuvieri** Less.

Talegallus cuvieri Lesson, *Voyage Coquille, Atlas*, Atlas, pl. 38 (1828—Dorey).

♀ ad. Momi, 25.vi.1928. " Iris yellow. Bill red. Feet yellowish red."

Weight 1,785 g.

350. **Talegallus jobiensis jobiensis** Mey.

Talegallus jobiensis A. B. Meyer, *Sitzungsber. Ak. Wiss. Wien*, lxix, p. 74 (1874—Jobi).

1 pull., 3 ♂ ad., 1 ♀ ad., 1 ? Hollandia, 3.–8.viii.1928. " Iris dark brown. Bill dirty red. Feet red. Weight 1,610 g. Hoden fast hühnereigross."

Cf. Nov. Zool. July 1901, p. 139. I can only repeat what Lord Rothschild and I said then, viz. that *T. jobiensis longicaudus* is a somewhat poor subspecies. The colour is the same in both, also the amount of chestnut on the neck is individually, not geographically, variable.

[1] Not 146 as quoted by others !

351. **Aepypodius arfakianus** (Salvad.).

Talegallus arfakianus Salvadori, *Ann. Mus. Civ.* ix, pp. 333, 334 (1877—Arfak Mts.).

♀ Siwi, 3 ♂, 1 ♀, 1 ♂ pull. Cyclops Mountains August and September. "Iris pale yellowish grey or greyish green. Bill blackish grey. Bare skin on neck whitish blue with darker blue markings. Feet greenish yellow-grey."

Weight 1,350, 1,530, 1,525 g.

There is, in adult birds, a fleshy comb-like crest, and a fold and short wattle in front of the bare neck. Four eggs were sent from Siwi 22.v. and Ditschi 1.vi.1928. The eggs have rather a thin shell and are of a glossless somewhat rough-grained white, measuring 91 × 60, 94·5 × 62·5, 88 × 58 mm. (one broken). They agree perfectly with specimens collected on the Hydrographer Mountains by Albert Eichhorn, 26.ii.1918, and measuring 95 × 61, 91 × 61·5, 89·5 × 61 and 95·8 × 59·5 mm.

In the *Catalogue of Eggs* in the British Museum these eggs are not described. Nehrkorn in the *Katalog der Eiersammlung*, ii Auflage, p. 7, describes eggs from the Aroa River as those of *Aepypodius* as dark brownish-yellow, but they were the eggs of a *Megapodius*, the measurements (81 × 52 mm.) also being too small. Unfortunately there are many other errors in that "Katalog."

352. **Casuarius unappendiculatus rufotinctus** Rothsch.

Casuarius unappendiculatus rufotinctus Rothschild, *Trans. Zool. Soc. London*, xv, part 5, p. 137 (1900—No locality).

Hol, August 1928, one adult male and one young, about two-thirds grown.

Lord Rothschild has no doubt whatever, and there is indeed no reason to doubt, though the colours are not recorded on the labels, that this is the *C. unapp. rufotinctus*, first described without exact locality, later on received from the "north coast," which, though vague, was apparently correct, this meaning the northern coast between the Humboldt Bay and Geelvink Bay.

ON SOME SOUTH AFRICAN FLEAS.

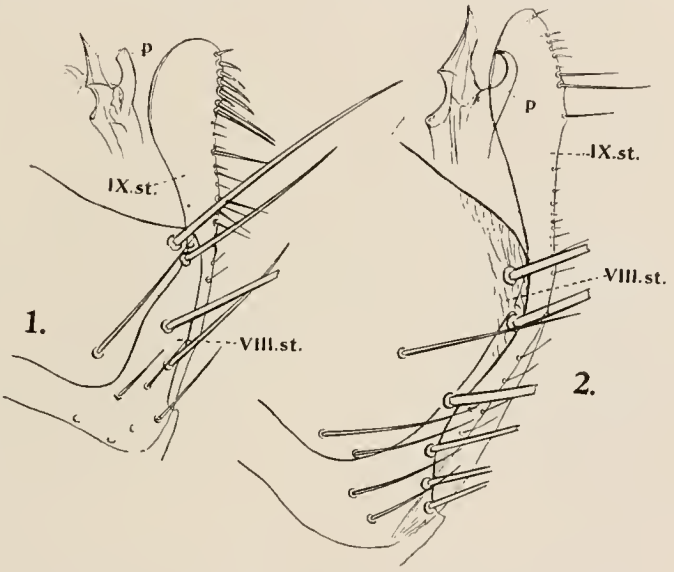
By DR. KARL JORDAN.

(With 7 text-figures.)

1. **Dinopsyllus ellobius abaris** subsp. nov. (text-fig. 1).

♂♀. Similar to small specimens of *D. e. ellobius* Roths. 1905 from Zululand, but the apical margin of VIII. st. of ♂ truncate-emarginate subventrally instead of being strongly rounded.

Tubercle of frons central or slightly below centre. Pronotal comb with 26 to 30 spines, these about two-thirds the length of the pronotum; two rows of bristles: 14 to 18, 13 or 14 (more rarely 12). On mesopleura from 16 to 30 bristles, on metepimerum from 13 to 20. Number of spines on abdominal tergites II to VI in the extreme specimens: ♂ $\frac{5}{6}$, $\frac{5}{5}$, $\frac{5}{7}$, $\frac{4}{7}$, $\frac{0}{0}$ and $\frac{4}{3}$, $\frac{4}{4}$, $\frac{1}{1}$, $\frac{0}{0}$, $\frac{0}{6}$; in ♀ $\frac{6}{5}$, $\frac{6}{7}$, $\frac{7}{7}$, $\frac{6}{2}$, $\frac{0}{0}$ and $\frac{3}{3}$, $\frac{2}{2}$, $\frac{2}{2}$, $\frac{0}{0}$, $\frac{0}{0}$; average on the two sides together in ♂ 4·50, 4·17, 4·67, 2·67, 0·00, in ♀ 4·00, 3·88, 4·88, 1·00, 0·00. Bristles on tergites III, IV and VII (on the two sides together) in ♂ III 38 to 48, 18, IV 36 to 48, 18 or 19, VII 18 to 31, 17 or 18; in ♀ III 49 to 78, 18 to 22, IV 50 to 76, 18 to 22, VII 18 to 39, 10 to 13.



♂. On abdominal sternite VII (the two sides together) from 27 to 35 bristles, on VIII. st. (one side) from 35 to 44. Apex of IX. st. (text-fig. 1) broad, strongly rounded dorsally, the ventral bristles placed at and below apex rather strongly spiniform; pseudojoint halfway between frontal side of elbow and apex. Ratio between basal portion of exopodite (measured from dorsal angle between clasper and exopodite to extreme proximal end of exopodite) and free projecting portion 3 : 8 (15 : 40 or 16 : 42). Ventral apical process (p) of armature of penis truncate. At ventral apical angle of VIII. st. two bristles close together, often the next bristle placed close to the pair (text-fig. 1).

♀. Apical margin of VII. st. as in *D. e. ellobius* more deeply incurved than in *D. lypusus* J. & R. 1913. Bristles on VI. st. 24 to 34 and on VII. st. 55 to 69

(the two sides together), on outer side of VIII. t. from below stigma 25 to 39 (one side).

Length of hindfemur : ♂ 0·38–0·45 mm. ; ♀ 0·44–0·52 mm.

Hab. Cape Province : Klaver, Doorn R., from *Arvicanthis*, May 1928 (C. V. Muller), and Breede R., August 1928, off *Arvicanthis* (C. V. Muller) ; 3♂♂, 7 ♀♀.

2. **Dinopsyllus tenax** sp. nov. (text-fig. 2).

♂♀. A large species, nearest to *D. longifrons* J. & R. 1913, but the frons as short as in *D. ellobius* Roths. 1905. On pronotum 3 rows of bristles, the anterior two rows (first usually incomplete) containing together 20 to 27 bristles, rarely 19. Apical spines of abdomen twice as numerous as in *D. ellobius*. Surface structure of setiferous areas of abdominal sternites not distinctly reticuliform. Tubercle of frons central or a little below centre. Pronotal comb with 31 or 32 spines in ♂, 33 in ♀, the spines shorter than in *D. ellobius* and *D. lypusus* J. & R. 1913, agreeing with those of *D. longifrons*. On mesopleura in ♂ from 24 to 27 bristles, in ♀ from 32 to 38, on metepimerum in ♀ from 17 to 26, in ♀ from 23 to 35. Number of spines on abdominal tergites II to VI in the extreme specimens : ♂ $\frac{11}{11}$, $\frac{10}{11}$, $\frac{12}{13}$, $\frac{11}{10}$, $\frac{1}{1}$ and $\frac{9}{7}$, $\frac{9}{8}$, $\frac{9}{11}$, $\frac{8}{9}$, $\frac{0}{0}$; average on the two sides together, in ♂ 9·50, 10·13, 11·63, 10·25, 0·38, in ♀ 8·88, 9·25, 11·00, 6·50, 0·00. Bristles on tergites III, IV and VII (on the two sides together) in ♂ III 43 to 50, 20 to 23, IV 38 to 45, 19 or 20, VII 20 to 24, 18 to 21 ; in ♀ III 71 to 92, 21 to 26, IV 62 to 98, 22 to 26, VII 21 to 38, 11 to 14.

♂. On abdominal sternite VII (the two sides together) 25 to 31 bristles, on VIII. st. (one side) from 36 to 44. Ventral apical angle of VIII. st. broadly rounded, the two distal ventral bristles of a row of 7 or 8 large ones rather close together, separated by a wider interspace from the next ventral bristle. Pseudojoint of IX. st. close to middle (text-fig. 2), apex of IX. st. dorsally not much more strongly convex than ventrally ; the ventral bristles below apex weak. Ratio between basal portion of exopodite and free projecting portion 3 : 10. Ventral apical process (p) of penis-armature acuminate, strongly curved.

♀. Apical margin of VII. st. as in *D. longifrons* less deeply incurved than in *D. ellobius*. Bristles (the two sides together) on VI. st. from 35 to 44, on VII. st. from 63 to 80, on outer surface of VIII. t. from below stigma 35 to 46 (one side).

Length of hindfemur : ♂ 0·60–0·62 mm. ; ♀ 0·67–0·78 mm.

Hab. Cape Province : Klaver, Doorn R., from nest of *Mystomys broomi* and *Parotomys luteolus*, May 1928 (C. V. Muller), and Breede R., August 1928, off Karroo rats (C. V. Muller) ; a series.

Listropsylla Roths. 1907, genotype : *L. agrippinae.*

Head short, evenly and not strongly rounded from oral corner to hindmargin. Above middle of frons a groove with a large leaf-like tubercle. Eye present ; behind it at margin of antennal groove a long bristle. Antennal groove open, not extending to vertex. Labial palpus with 4 segments, reaching to trochanter or nearly, end-segment pointed.

Pronotum with a comb of more than 24 spines and 2 or 3 rows of bristles (in exceptional specimens 1 row). Metanotum without apical comb.

Abdominal tergites I to IV, or I to VI, with apical spines, which are most numerous on tergite I (at least 20). 3 strong antepygidial bristles, sometimes 4. Pygidium large, not humped, subtriangular in side-view, with the apex of the triangle directed laterad ; on each side 16 (rarely 14) or more grooves.

In most dorsal notches of tibiae 3 heavy bristles. Tarsal segment V with a pair of ventral bristles in between second pair.

♂. VIII. st. large, with 8 or more bristles. Manubrium of clasper very broad at base ; clasper dorsally with large bristle near base, beyond bristle a bay, flanked distally by a dorsal apical projection. Exopodite long, with the apex curved down, at ventral margin a long bristle near base or beyond middle, dorsal margin somewhat elbowed and here studded with small hairs. Ventral arm of IX. st. long and narrow, with a lateral subdorsal pair of rather heavy bristles well beyond middle, and subapical ventral bristles.

♀. Between the two sets of antepygidial bristles a long projection. Apical margin of VII. st. simple, at the most slightly incurved. Stylet subcylindrical, at least four times as long as basally broad. Orifice of spermatheca ventral, with a collar.

A purely African genus ; not yet known from West Africa (Senegal to Angola).——7 species.

1. **Listropsylla agrippinae** Roths. 1904.

♂♀. *Ceratophyllus agrippinae* Rothschild, *Nov. Zool.* xi. p. 634. no. 25. tab. 12. figs. 56, 57 ; tab. 13. figs. 62, 64 (1904) (Deelfontein).

♂♀. The smallest known species. In both sexes, but more pronouncedly in ♀ than in ♂, the second segment of antenna apically so widened-rounded distad that the basal portion of the club is covered ; the bristles of this segment reach to or beyond apex of club. End-segment of proboscis at most one-half longer than penultimate one. On abdominal tergite I from 20 to 30-odd apical spines. First midtarsal segment at most 0·16 mm. long ; in hindtarsus segment V more than one-third the length of I. Stigma cavity of tergite VIII more or less far continued upward along margin of segment. On forecoxa 100 or more bristles (sometimes over 140).

Hindfemur with 2 (very rarely 3) ventral subapical bristles on outside.

Hindtibia with 7 dorsal notches (inclusive of apical one).

♂. Body of clasper little longer than broad, the dorsal bay quite small, lower apical process short, with two bristles, of which the upper one is somewhat the smaller. Manubrium at least as long as exopodite ; the latter about three times as long as broad ; its long ventral bristle placed near base, smaller than the largest ventral bristles of segment VIII. Ventral arm of IX. st. almost straight and of nearly even width, at apex ventrally rounded and slightly dilated, and gradually narrowed to a point at the end of the dorsal margin, which remains straight ; on each side below apex 3 or more bristles directed distad and thinner than the pair of dorso-lateral bristles.

♀. Margin of VII. st. distinctly incurved subventrally. 4 antepygidial bristles (38 specimens), very rarely three on one side (one specimen) or on both sides (one specimen). Pygidium with 30 or more grooves each side. In front of stylet below and behind pygidium about 9 bristles. Stylet longer than midtarsal segment V. On basal area of VIII. st. no bristles between trachea and ventral

setiferous area. Rod-like sclerification behind orifice of bursa copulatrix slightly arched, as long as hindtarsal segment IV or even longer. Tail of spermatheca longer than in any of the other species, longer than the head, which is flattened above.

Length of hindfemur: ♂ 0·45 to 0·59 mm.; ♀ 0·51 to 0·61 mm.

Hab. Cape Province: Deelfontein, off *Otomys brantsi* and *O. unisulcatus*, March 1902 (C. H. B. Grant); Breede R.; Calvinia, from nest of *Parotomys broomi*, August 1926 (T. Muller). Klaver, Doorn R., off *Arvicanthis* and from nests of *Mystomys broomi* and *Parotomys luteolus*, May 1928 (C. V. Muller); Steynsburg, from nests of *Parotomys luteolus*, October 1925; Cape Flats, off *Rhabdomys pumilio* and *Otomys irroratus*, February 1926 (T. Muller); Bellville, from nests of *Arvicanthis*, March 1926 (T. Muller)

The bristles vary considerably in number, for instance on VII. st. (two sides together) I have counted from 22 to 38.

2. **Listropsylla vicinus** Roths. 1905.

Ceratophyllus vicinus Rothschild, *Nov. Zool.* xii. p. 484. no. 5. tab. 13. fig. 7 (1905) (Wakkerstroom, "Namaqualand" laps. cal.).

♂♀. Very close to *L. agrippinae*, somewhat larger; only the original pair known to me. On tergites VI and VII in ♂ no bristles below stigma, in ♀ one on V, one on VI on left side, none on right, on VII none on both sides. Three antepygidial bristles in both sexes. Exopodite of ♂ one-third broader than in *L. agrippinae*; lower apical angle of elasper not produced distad. The other distinctions mentioned in the original description are not reliable in face of the great individual variability of *L. agrippinae* as revealed by the series of specimens of *L. agrippinae* now available. The end-segment of the proboscis was stated to be double the length of the penultimate one; on re-measuring we find it to be less than twice the length. In *L. agrippinae* the proportional lengths of the segments as well as the total length of the proboscis are variable to a very marked extent, the ratio between segments III and IV being sometimes 15 : 20, sometimes 9 : 21, with intergradations.

Length of hindfemur: ♂ 0·60 mm.; ♀ 0·69 mm.

Hab. South Transvaal: Wakkerstroom, off *Herpestes badius*, March 1904 (C. H. B. Grant), one pair.

3. **Listropsylla dorippae** Roths. 1904.

♀. *Ceratophyllus dorippae* Rothschild, *Nov. Zool.* xi. p. 636. no. 26 (1904) (Deelfontein).

♂♀. Antennal segment II not dilated distad; its bristles reaching about to middle of club. Spines of pronotal comb longer than half the pronotum. Mesopleura with 7 to 11 bristles, usually 7 to 9; metepimerum with 15 to 21, usually fewer than 20. On abdominal tergite I 13 to 20 apical spines, usually fewer than 20, on II 2 to 7, usually 7, on IV 0 to 4, mostly 1 or 2, on V 0. Pygidium with 18 to 21 grooves on each side. In midtarsus segment I twice the length of V, in hindtarsus I not quite thrice as long as V. Three antepygidial bristles (in one of the ♀♀ 4 on one side). No bristle of anterior row of abdominal tergites below stigma. Stigma-cavity of VIII. t. shortly continued upwards.

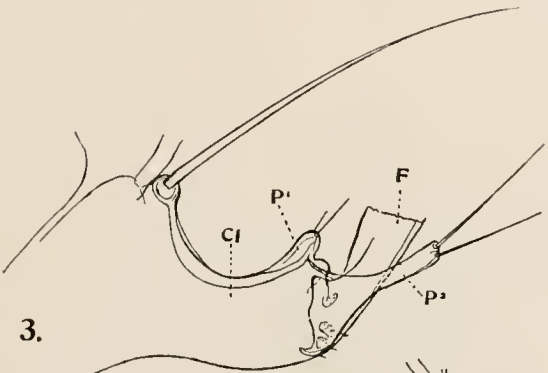
♂. On each side of VIII. st. 20 to 25 bristles, of which 4 to 6 along ventro-apical margin are long and strong. Dorsal bay of elasper, between large dorsal

basal bristle and dorsal apical projection, at most one-fourth broader than the clasper is wide at bottom of bay; ventral angle produced into a cylindrical process which is from two to three times as long as broad and bears two apical bristles, the upper being the longer and stronger one. Exopodite similar to that of *L. dolosus*, its apex somewhat more strongly curved downwards.

♀. Head of spermatheca irregularly elliptical, longer than in any other known species. Sclerite behind ring of bursa copulatrix long, nearly as long as midtarsal segment III. Stylet as long (or very nearly) as midtarsal segment V. On widened area of VIII. t. from 25 to 30 odd bristles on outer surface, on inside 5 to 7 marginal ones, of which 1 or 2 are ventral.

Length of hindfemur: ♂ 0·67–0·80 mm.; 0·74–0·86 mm.

Hab. Cape Province: Deelfontein, off *Otomys brantsi*, April 1902 (C. H. B. Grant); Bothaville, off *Tatera lobengulae*, August 1920.——Transvaal: Randfontein, from nest of *Tatera lobengulae*, August 1925; and Pyramid, from same host, June 1926 (Dr. A. Ingram).



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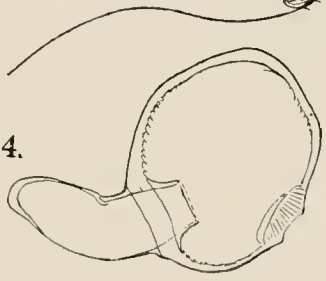

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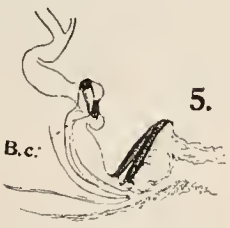


5.

4. **Listropsylla prominens** spec. nov. (text-figs. 3 4, 5).

Similar to *L. dorippae* Roths. 1904. Abdominal tergite I in ♂ with more than 23 to 25 spines, in ♀ with 20 to 24; midtarsal segment I less than twice the length of V; lower apical process of ♂-clasper long and narrow; head of spermatheca nearly globular.

♂♀. Antennal segment II not dilated distad, its bristles not or barely reaching middle of club. Dorsal spines of pronotal comb a little longer than half the pronotum. Mesopleura in ♂ with 8 to 11, in ♀ with 10 to 15 (usually 10) bristles. On metepimerum in ♂ 14 to 19, in ♀ 16 to 22 bristles. Spines at apices of abdominal tergites in ♂ I 23 to 25, II 13 to 19, III 9 to 17, IV 1 to 12, V 0 to 8, VI 0 to 3, in ♀ I 20 to 24, II 6 to 14, III 2 to 12, IV 0 to 7, V 0, VI 0. Pygidium with 16 or 17 grooves on each side. Stigma-cavity of VIII. t. in ♂ slightly continued upwards at margin, in ♀ practically symmetrical. Proportional lengths of mid- and hindtarsal segments in largest and smallest specimens:

♂ midtarsus 35, 21, 12, 8, 20, and 28, 19, 11, 7, 18; hindtarsus 62, 45, 21, 13, 22, and 47, 34, 18, 11, 19.

♀ midtarsus 36, 21, 11, 8, 20, and 32, 21, 11, 8, 19; hindtarsus 63, 45, 20, 12, 22, and 56, 40, 20, 12, 21.

Last bristle of posterior row of abdominal tergites II to VII more ventral than stigmata, often placed vertically below stigma.

♂. On VIII. st. from 8 to 13 bristles of which three near ventro-apical margin long, between the two long distal ones a wide interspace. Body of clasper (text-fig. 3) narrower and somewhat longer than in *L. dorippae*, its width at bottom of bay one-third less than that of exopodite at long bristle ; lower apical process (P^2) of clasper at least four times as long as broad, being a very little longer than hindtarsal segment IV ; the two bristles at apex of this process thinner than in *L. dorippae*, being thinner at base than the subapical spiniform bristles of IX. st. Upper apical projection of clasper slightly narrower than in *L. dorippae*, below it, on distal side, usually a very distinct notch. Apex of exopodite less curved than in *L. dorippae*, large bristle longer and more strongly curved. Apex of IX. st. less rounded, being dorsally more produced than ventrally.

♀. Spermatheca conspicuously different, its head being nearly globular (R.s., text-fig. 4). Double sclerite (text-fig. 5) behind bursa copulatrix (B.c.) much shorter and straighter than in *L. dorippae*, being less than twice the length of the diameter of the ring of the bursa. Stylet not quite half the length of midtarsal segment I. On VII. st. 33 to 39 bristles on the two sides together. On widened portion of VIII. t. 19 to 23 bristles on outer surface, and on inside 5 to 7 marginal ones, of which 1 or 2 are ventral.

Length of hindfemur : ♂ 0·66–0·78 mm. ; ♀ 0·78–0·82 mm.

Hab. Zululand : Mfongozi, from *Rattus coucha*, *Rattus chrysophilus*, *Leggada minutoides* (W. E. Jones), 5 ♂♂, 4 ♀♀.

L. dolosus, *L. prominens* and *L. dorippae* give one the impression of being geographical modifications of one species. But as we know as yet very little about the distribution of these fleas, it is advisable to treat them as distinct species.

5. **Listropsylla dolosus** Roths. 1907.

♀. *Ceratophyllus dolosus* Rothschild, *Ent. Mo. Mag.* (2), xviii. p. 175. no. 2 (1907) (Kikuyu Escarpment).

♂♀. Segment II of antenna not enlarged apicad, its bristles reaching at most to middle of club. End-segment of proboscis from one-fifth to one-half longer than penultimate segment. On abdominal tergite I from 20 to 26 spines, V at most with one spine. First midtarsal segment at least 0·27 mm. long ; V a little less than one-half of I ; in hindtarsus V less than one-third of I. Pygidium with 16 grooves each side (rarely 14). Orifice of stigma cavity of tergite VIII continued upwards. 3 antepygidial bristles.

♂. Dorsal margin of manubrium of clasper not much longer than one-half the exopodite ; body of clasper much longer than broad, the bay between the dorsal basal bristle and the apical angle broad and shallow ; ventral apical angle not, or very little, more produced than upper angle and bearing one bristle, which is long. Exopodite long, widest about middle, with the apex pointed and curved down ; long ventral bristle approximately at three-fifths, smaller than the lower antepygidial bristle. Apex of IX. st. rounded.

♀. Head of spermatheca somewhat longer than tail ; sclerite behind orifice of bursa copulatrix short, about equalling in length the diameter of the ring of the bursa. Stylet as long as, or a little shorter than, segment V of midtarsus.

Length of hindfemur ; ♂ 0·70–0·85 mm. ; ♀ 0·78–0·88 mm.

Two subspecies :

a. **L. dolosus stygius** Roths. 1908.

♂. *Ceratophyllus stygius* Rothschild, *Ent. Mo. Mag.* (2). xix. p. 77, no. 3. tab. 1. fig. 3 (1908) (Ruwenzori).

Only one ♂ known. The difference from the ♂♂ of *L. d. dolosus* is very slight and may turn out to be individual. Apical portion of exopodite measured from middle of groove of long ventral bristle somewhat shorter than the distance of tip of dorsal apical projection of clasper to middle of groove of dorsal basal long bristle ; in ♂ of *L. d. dolosus* the distances equal, or the apical portion of exopodite a little longer than width of bay. Two of the bristles of VIII. st. long (not one as stated in the original description, one of the two being broken away on the side figured, l.c.).

Length of hindfemur : ♂ 0·85 mm.

Hab. Ruwenzori, 13,000 ft., 1905, on *Rattus denniae* (A. F. R. Wollaston), 1 ♂.

b. **L. dolosus dolosus** Roths. 1907.

Cf. above.

Slightly smaller than *L. d. stygius*, the length of the hindfemur varying in ♂ from 0·70 to 0·78 mm., in ♀ from 0·77 to 0·84 mm.

Hab. Uganda : Bulage and Sipi, North Bugisbu, from *Rattus multimammata* and *Arvicanthis* spec., February 1922 (W. N. van Someren).——Kenya Colony : Mutarogwa, Aberdare Mts., from *Dendromys nigifrons* and *Graphiurus microtis saturatus*, March 1910 (R. Kemp) ; Nakura, from *Rattus rattus* (G. H. E. Hopkins).——Tanganyika Territory : Kilimandjaro, May 1910 (R. Kemp). ——Nyasaland : Mlanje Plateau, from *Arvicanthis* spec., November 1913 (Dr. S. A. Neave).

6. **Listropsylla chelura** Roths. 1913.

♂♀. *Listropsylla chelura* Rothschild, *Ent. Mo. Mag.* (2). xxiv. p. 207. tab. 5. figs. 1, 2 (1913) (Pirie Mt., King Williams Town).

♂♀. Comb of abdominal tergite I with more than 40 spines. Dorsal spines of pronotal comb at the most half as long as pronotum. Pygidium with 19 to 24 grooves each side.

♂. Body of clasper strongly and densely striated transversely on underside ; dorsal apical process of clasper triangular, much longer than the lower, with a row of bristles at posterior margin, which is slightly rounded. Exopodite ventrally with a very long and strong curved bristle proximally of middle. Apex of IX. st. rounded. VIII. st. on each side with 22 to 25 bristles, of which 6 or 7 are long and strong. Anal sternite with 3 or 4 strong bristles each side.

♀. At orifice of bursa copulatrix a sclerified ring, behind which there is no pair of longitudinal, rod-like, sclerites. On VIII. t. between the proximal bristles of the setiferous widened area and the stigma 3 to 6 strong bristles. Proximally of stylet on lateral sclerite below pygidium from 13 to 16 bristles. Stylet almost exactly as long as hindtarsal segment III.

Length of hindfemur : ♂ 0·66 to 0·80 mm. ; ♀ 0·77 to 0·80 mm.

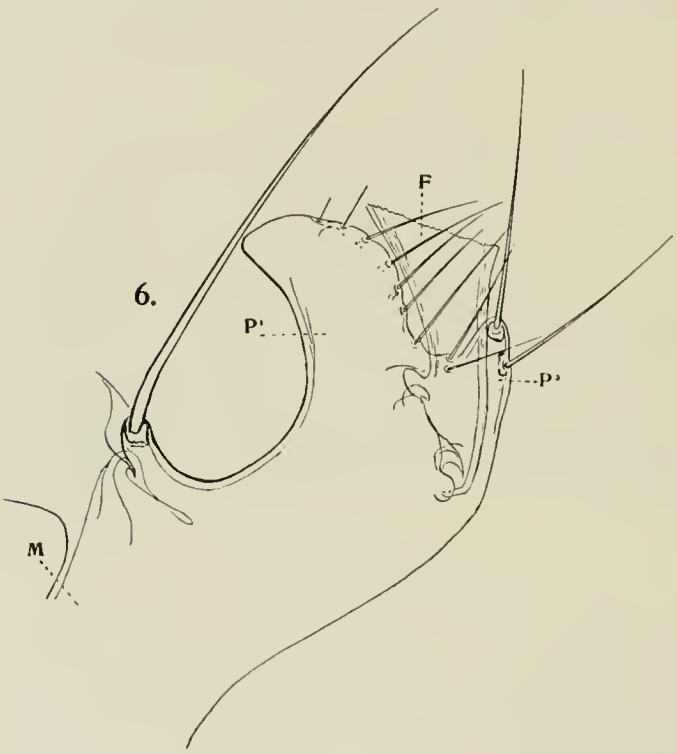
Hab. Cape Province : Kingwilliamstown, off *Arvicanthis pumilio* and

Myosorex tenuis (Miss F. Ross); Bellville, off *Arvicanthis* and *Tatera lobengulae* (T. Muller).

In the Bellville specimens the end-segment of the proboscis is twice as long as the penultimate one, whereas in the type-specimen from Kingwilliamstown the ratio is 14 : 10.

7. **Listropsylla cerrita** sp. nov. (text-figs. 6♂, 7♀).

♂♀. The largest known species of the genus. Close to *L. chelura*, with which it shares the main distinctions from the other species. It differs from *L. chelura* in the ♂-genitalia, particularly in the body of the clasper not being transversely striated, and in the ♀ bearing on the basal portion of VIII. t. from the trachea of the stigma downward (text-fig. 7) from 7 to 10 strong bristles instead of 4 to 6. Dorsal spines of pronotal comb somewhat shorter than in *L. chelura*. End-segment of proboscis from $2\frac{1}{3}$ to 3 times the length of the penultimate segment.



♂. Dorsal apical process of clasper more strongly curved dorsad-frontad (text-fig. 6), the bay between it and the large proximal bristle of clasper therefore more rounded than in *L. chelura*, usually almost semicircular. Exopodite F narrower and somewhat longer than in *L. chelura*; its large ventral bristle also longer. Ventral arm of IX. st. as in *L. chelura* with a pair of postmedian lateral bristles; these bristles a little shorter and thinner than in *L. chelura*; from these bristles to apex sternite IX narrower than in *L. chelura* and also longer, the apex itself less rounded, distinctly narrowing to tip, which is farther distant from subapical ventral spiniform bristles than in *L. chelura*. Sternite VIII with 20 to 34 bristles each side (type 34 on one side, 30 on the other), at least 10 of these bristles large (instead of 6 or 7 as in *L. chelura*).

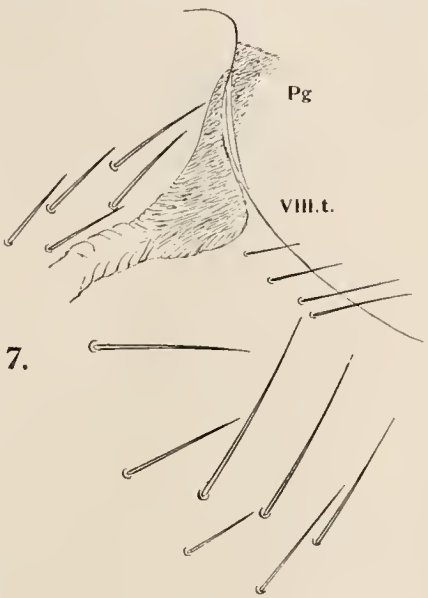
♀. Bursa copulatrix and spermatheca as in *L. chelura*. Proximally of stylet on lateral sclerite below pygidium from 10 to 14 bristles. Pygidium with 21

to 24 grooves on each side. Apical spines on abdominal tergites II and III slightly more numerous than in ♀ of *L. chelura*: II 22 to 26, III 18 to 21, the numbers in *L. chelura* being II 16 to 21, III 12 to 16.

Length of hindfemur: ♂ 0·73 to 0·81 mm.; ♀ 0·83 to 0·94 mm.

Hab. Cape Province: Klaver, Doorn R., from nests of Karroo rats on side of mountain (*Mystomys broomi* and *Parotomys luteolus*), 16.viii.1929 (C. V. Muller), 4 ♂♂, 5 ♀♀.

This is possibly a western subspecies of *L. chelura* a question, which can only be answered satisfactorily when sufficient material from other districts of the Cape Province is available for comparison.



7.

Key to the species of *Listropsylla*.

A. Segment II of antenna apically rounded-enlarged, some of its bristles reaching to apex of club or even beyond. Pygidium with 30 or more grooves on each side. ♂: body of clasper much shorter than long, its dorsal bay small, about as large as dorsal apical process; exopodite broad, of nearly even width, its long ventral bristle slender, subventral. ♀: tail of spermatheca longer than head.

1. Abdominal tergites II to VII with at least one, usually two, bristles more ventral than stigma. ♂: lower apical angle of clasper produced. ♀: nearly always with 4 antepygidial bristles . *L. agrippinae* Roths. 1904.
2. Abdominal tergites V and VI at most with one, VII with no bristle more ventral than stigma. ♂: lower apical angle of clasper not produced distad. ♀: 3 antepygidial bristles

L. vicinus Roths. 1905.

B. Segment II of antenna not enlarged, its bristles reaching at most to middle of club. Pygidium with 25 or fewer grooves each side. Abdominal tergite I with fewer than 30 apical spines. ♂: body of clasper longer than broad, the dorsal bay wide; exopodite strongly narrowing towards apex and towards base, its long ventral bristle at two-thirds (approximately). ♀: tail of spermatheca shorter than head.

3. Midtarsal segment I twice as long as V. Pygidium with 18 to 25 grooves each side. ♂: ventral apical process of clasper at most thrice as long as broad. ♀: head of spermatheca irregularly elliptical

L. dorippae Roths. 1904.

4. Midtarsal segment I less than twice as long as V. Pygidium with 16 or 17 grooves each side. ♂: ventral apical process of clasper at least four times as long as broad. ♀: head of spermatheca subglobular.

L. prominens sp. nov.

5. Midtarsal segment I at least twice as long as V. Pygidium with 16 grooves on each side (rarely 14). ♂: ventral apical angle of clasper not, or very little, farther produced distad than upper angle. ♀: double sclerite behind ring of bursa copulatrix about equal in length to diameter of ring . . . . . *L. dolosus* Roths. 1907.

C. Segment II of antenna not enlarged, its bristles reaching at most to middle of club. Pygidium with 19 to 24 more grooves on each side. Abdominal tergite I with 40 or more apical spines. ♂: dorsal apical process of clasper triangular, large, very much larger than ventral apical projection, a row of bristles along apical margin of clasper. ♀: head of spermatheca longer than tail, globular; no double sclerite behind ring of bursa copulatrix; stylet as long as hindtarsal segment III.

6. ♂: body of clasper below densely striated transversely. ♀: on basal area of VIII. t. below stigma 4 to 6 bristles *L. chelura* Roths. 1913.

7. ♂: body of clasper not striated. ♀: on basal area of VIII. t. below stigma 7 to 10 bristles (text-fig 7) . . . *L. cerrita* sp. nov.

A NEW XENOPSYLLA FROM SOUTH AFRICA.

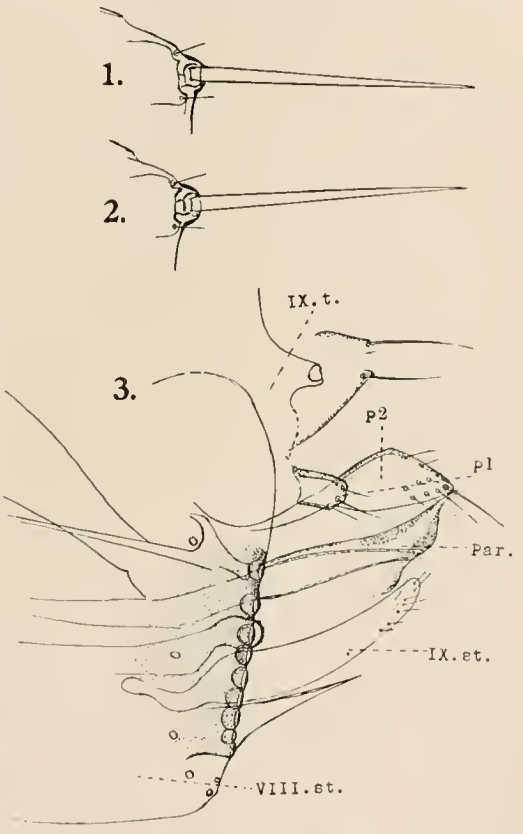
By BOTHA DE MEILLON, M.Sc., F.E.S.,

Entomological Department, South African Institute for Medical Research, Johannesburg.

Xenopsylla lobengulae sp. nov.

(Text-figures 1–10.)

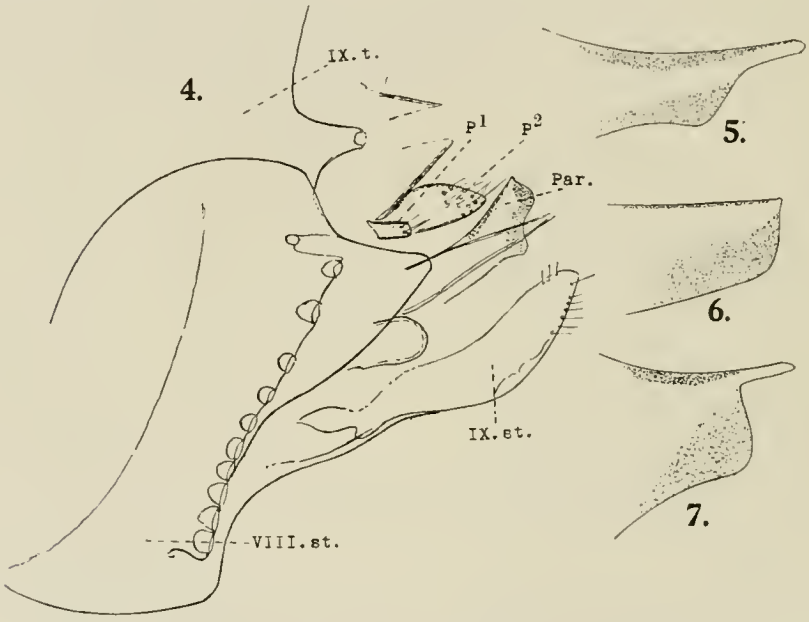
THIS flea belongs to the *Xenopsylla brasiliensis* subgroup of the *X. cheopis* group. It is very closely allied to *Xenopsylla hirsuta* Ingram 1928 and *Xenopsylla sulcata* Ingram 1928. The male is intermediate between these two in nearly all eharaeters, but differs more obviously from *X. hirsuta* in having the antepygidial bristle mounted on a shorter cone (figs. 1 and 2), and from *X. sulcata* in the shape of the VIIIth sternite (figs. 3 and 4) and the paramere (figs. 5, 6 and 7). The female resembles those of the other two species very closely, but seems to be separable in having more than twenty bristles on one side of the VIIIth tergite (fig. 8), there being less than twenty in the females of *X. sulcata* and *X. hirsuta*.



♂. Rostrum not reaching the apex of the forecoxa. Eye well developed. Dorsal groove of the head deep, continued on to the mesonotum, not as deep as in *X. sulcata*. Metepimerum with ten bristles in two rows of five each; no bristle above or behind the spiracle. First abdominal tergite with two tufts of stout bristles resembling those of *X. sulcata*; these bristles project at an angle from the tergite and are thus very conspicuous. Tergites II–VII with from ten to twelve bristles on the two sides together. Antepygidial bristle marginal, on a small cone (figs. 1 and 9).——*Modified segments* (figs. 3 and 9): tergite IX with a long stout bristle mounted on a cone. Sternite IX weakly chitinised, more or less parallel-sided, with a few

minute hairs apically. Sternite VIII resembles that of *X. hirsuta* in having the apical margin straight. In *X. sulcata* this sternite is produced backwards at its dorsal apical angle (fig. 4). It bears a closely set row of 8–9 long, stout bristles at its apical margin; the more ventral ones of these bristles are more bent than in *X. hirsuta*, but less so than in *X. sulcata*. Laterally the sternite VIII bears 8–9 bristles. Process P^2 of the clasper is somewhat oval in shape and bears some minute hairs laterally and along its margin; P^1 is much smaller, almost square and bears a few minute hairs. The dorsal apical angle of the paramere (Par.) is drawn out into a long projection resembling that of *X. hirsuta*, but quite distinct from that of *X. sulcata* (figs. 5, 6 and 7). Apical portion of the ejaculatory duct without a dorsal tooth or hump.

♀. Rostrum longer than in the male, but not reaching to the apex of



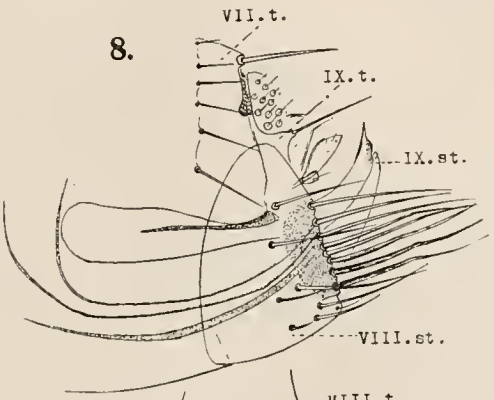
the forecoxa. Tergites II–VII with 12–14 bristles on the two sides together. Tergite VIII with 20–23 bristles (on one side), of which 9–10 at the apical margin, which is more or less straight, the rest lateral. The stylet is about twice as long as wide at the base and bears a long apical bristle. Sternite VIII feebly chitinised (fig. 9). Spermatheca (fig. 10) with the head wider than the base of the tail; portions of the duct are chitinised. The longest apical bristle of the tibia and the foretarsus reaching to the apices of the first and second tarsal segments respectively; longest bristle of the midtarsus nearly reaching to the apex of the fifth. Hindtibia with six dorsal notches bearing stout bristles, inclusive of the apical notch.

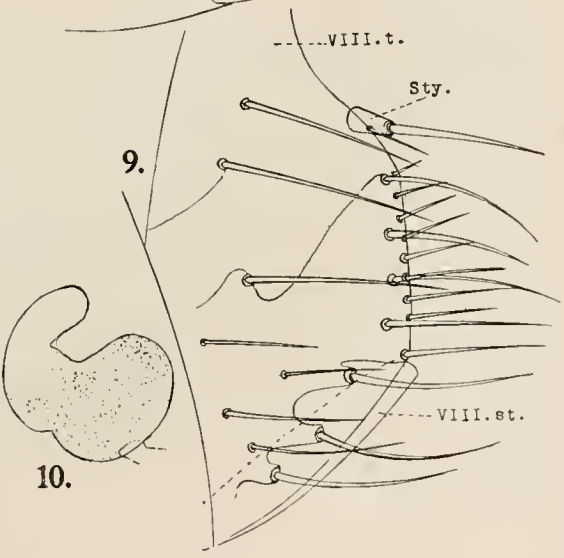
Length: ♂ 1·9 mm.; ♀ 2 mm.

Hab. South Africa, Cape Province: Chavonnes, Worcester, from *Tatera lobengulae*, 5.x.1928 (B. J. Kock), a series, type in coll. N. C. Rothschild.

Xenopsylla sulcata Ingr. 1928, *X. hirsuta* Ingr. 1928 and *X. logengulae* sp. nov. agree with the *X. brasiliensis* subgroup (Jordan, *Verh. International. Entomologen-*

Kongress, Zürich, Band II, pp. 610–611, 1926) in having in ♂ the antepygidial bristle on a marginal cone and in ♀ the head of the spermatheca wider than the base of the tail, also in the deep dorsal groove of the ♂-head, which is continued on to the mesonotum. They differ, however, widely from the other members of this subgroup in the characters of the processes P^1 and P^2 of the clasper. P^1 is not provided with stout bristles, neither is P^2 curved upwards at the tip (figs. 3 and 4). It would serve no useful purpose at present, however, to separate them off on this account; they are, therefore, kept in this subgroup to which a modified key is given below. They further differ from the other members of the subgroup in having a vertical row of strong bristles on the apical margin of the VIII st. in the male. *X. crinita* has a brush of long bristles on the VIII st. in the ♂, but it differs widely in many other respects, notably in the possession of an extra bristle on the hindtibia, and in the character of P^1 and P^2.





Key:

(*a*) Hindtibia with six dorsal notches bearing stout bristles, inclusive of the apical notch . . *b*

Hindtibia with an additional stout bristle between second and third pairs . . *f*

(*b*) Apical portion of ejaculatory tube (♂) with a sharp dorsal tooth

X. hamula Jord. 1925.

Tooth of ejaculatory tube absent . . . . . *c*

(*c*) Process P^1 of the clasper (♂) very small, not provided with stout bristles; P^2 oval; VII. st. (♀) with three bristles on each side. . . . *d*

Process P^1 with stout bristles; P^1 almost as long as P^2, which is turned up at the tip; VII. st. (♀) with more than ten bristles

X. brasiliensis Baker 1904.

(*d*) VIII. st. (♂) with apical margin straight (fig. 3); paramere with dorsal angle produced (figs. 5 and 7) . . . . . *e*

VIII. st. with the apical dorsal angle produced backwards (fig. 4); paramere without a dorsal projection (fig. 6); VIII. t. (♀) with less than twenty bristles on one side . . . . . *X. sulcata* Ingr. 1928.

(*e*) Antepygidial bristle on a small cone (fig. 1); bristles of marginal row of VIII. st. strong, the more basal ones twisted (♂); VIII. t. (♀) with more than twenty bristles on one side . . . *X. lobengulae* sp. nov.

Antepygidial bristle on a larger cone (fig. 2), bristles of apical marginal row of VIII. st. weaker, fewer in number and less or practically not twisted at all. VIII. t. (♀) with fewer than twenty bristles *X. hirsuta* Ingr. 1928.

(*f*) VIII. st. (♂) without brush of long bristles, with more than twenty bristles on each side; VII. st. (♀) with more than twenty-six bristles on the two sides together, base of tail of spermatheca more or less ventricose *X. scopulifer* Roths. 1905.

Transverse diameter of eye only equalling that of second segment of maxillary palpus, the eye being smaller than in *X. scopulifer*; VIII. st. (♂) with fewer than twenty bristles; base of tail of spermatheca not ventricose; VII. st. (♀) with fewer than twenty-six bristles *X. tortus* J. & R. 1908.

VIII. st. (♂) with brush of long bristles, groove of head very deep; female not known . . . . . *X. crinita* J. & R. 1922.

Figure 1. *Xenopsylla lobengulae*, ♂, apical portion of VII. t.
,, 2. ,, *hirsuta* Ingr. ♂, apical portion of VII. t.
,, 3. ,, *lobengulae*, ♂, terminal abdominal segments.
,, 4. ,, *sulcata* Ingr. ♂, terminal abdominal segments.
,, 5. ,, *lobengulae*, ♂, paramere.
,, 6. ,, *sulcata* Ingr. ♂, paramere.
,, 7. ,, *hirsuta* Ingr. ♂, paramere.
,, 8. ,, *lobengulae*, ♂, terminal abdominal segments.
,, 9. ,, *lobengulae*, ♀, terminal abdominal segments.
,, 10. ,, *lobengulae*, ♀, spermatheca.

THREE NEW ANTHRIBIDAE FROM BRITISH INDIA.

By DR. KARL JORDAN.

1. **Zygaenodes ferrealis** sp. nov.

♂. Magnus. Rostrum apice sinuatum atque longitudine angustius. Oculus integer. Elytrum crista subbasali alta instructum.

Long. (cap. excl.) 5·5 mm., lat. 3·25 mm.

Hab. Assam: from *Meseca ferrea* seeds, ix.1928 (R. N. Parker), 2 ♂♂.

Similar to *Z. vigens* Jord. 1925, from Sumatra, larger, eye not sinuate, subbasal tubercle of elytrum less elevate, occiput and posterior side of eye-stalk brown-black, with a russet tint, sharply contrasting with the vertical frons and rostrum and the anterior side of eye-stalk, which are clayish fawn.

Brown-black, slightly rufescent in parts, thorax and elytra mottled with clayish fawn. Proboscis with broadish, shallow impression near apex, apical margin very distinctly sinuate, distance from apex to tubercle of antennal groove longer than the apex is broad. Eye-stalk measured from antennal tubercle not quite three times as long as broad, about as long as the apex of rostrum is broad, flat in front, also flattened subdorsally and subventrally, recalling a prism, slightly bent down at apex. Occiput convex, medianly not sulcate, but with a faint indication of a raised line. Segment 3 of antenna almost half as long again as 4. Pronotum rather coarsely granulose, transversely depressed behind apex and at carina, lateral angle strongly projecting, less than 90°, but with the tip rounded off; markings clayish fawn, ill defined: a narrow, interrupted, median stripe and on each side from carina forward three smears, of which the two outer ones unite behind carina.

Scutellum clayish ochraceous. Elytra short, granulose, alternate interspaces slightly elevate, with blackish dots separated by clayish fawn streaks, particularly in 3; subbasal tubercle high, longer than broad. Pygidium with clayish fawn smear each side, granulose, slightly convex in middle, as long as basally broad, gradually narrowed to apex, which is rounded.

Underside and legs mottled with grey; on meso-metathorax a clayish smear at side; tarsal segment 1 about as long as 2 to 4 together, 2 slightly broader than long.

2. **Tropideres luteago** spec. nov.

♀. Pallidus, brunneo-nigro variegatus. Frons lata. Caput cum thorace fortiter punctatum. Pronoti carina dorsalis in medio angulata. Elytra fascia lata mediana luteo-notata atque signaturis subbasalibus et antcapicalibus angustis brunneo-nigris ornata. Pygidium pallidum.

Long. (cap. excl.) 5 mm.

Hab. N.W. India: Dehra Dun, Asan R., 11.ix.1928 (Sher Behadur), 1 ♀.

Proboscis pubescent luteous like frons, one-sixth longer than apically broad, with 5 carinae: dorso-lateral one ending between antennae, median one a little longer, lateral one shortest. Frons a little more than one-third of the apical width of rostrum. Occiput brown at sides. Antenna rufous-brown, paler at

base, 3 very little longer than 4, 8 less than twice as long as broad, 9 conical, a little more than one-half longer than broad, 10 as long as broad.

Pronotum blackish brown, coarsely punctate, on the whole the interspaces wider than the punctures ; before middle a transverse depression, but no sulcus ; a broad median stripe widened in front of and behind depression, in blackish area a middle dot, a larger one further lateral and further back, a third in angle of carina, a fourth behind carina nearer side than middle, and a large patch from apex of lateral carina to apical margin, where it is expanded, joining the median stripe, these markings buff ; dorsal carina with distinct median angle pointing backwards, lateral angle rounded, lateral carina nearly horizontal, its middle slightly incurved ; subbasal transverse carinula effaced in middle.

Elytra luteous, with blackish markings as follows : on subbasal callosity an anteriorly open arc, which is more or less expanded near suture, shoulder angle and a small double spot above it, an anteriorly open angle-shaped mark behind shoulder joined laterally to the anterior lateral branch of a broad median band ; this band divided laterally by a largish buff spot, both portions of the band bearing some buff spots, before middle a rounded sutural dot, and behind this a Y-shaped spot continued backward along suture ; in apical luteous area a curved band not touching suture, consisting on each elytrum of 5 more or less confluent spots ; stripes of punctures distinct to apex. Pygidium uniformly luteous, coarsely punctate, a little longer than a semicircle, less evenly rounded, apex somewhat depressed.

Thoracic sternites punctate, coarsely so at sides ; on metasternite some blackish lateral spots. Legs luteous, middle of femora, base and about apical third of tibiae, apex and extreme base of tarsal segment 1, and the whole of 2, 3 and 4 blackish ; claw rufous ; 1 slightly shorter than 2 + 3 + 4.

In colour similar to *Tropideres calliergus* Jord. 1923, from Tonkin ; but frons very much broader, lateral carina of pronotum almost horizontal, and first tarsal segment shorter.

3. **Tropideres comes** spec. nov.

♀. Brunneus, rostro pedibusque plus minus rufis, subtus griseus, supra griseo multimaculatus. Frons sat lata. Antennae segmentum 10um transversum. Pronotum punctatum, carinula transversa subbasali late interrupta. Tarsorum segmentum 1um caeteris simul sumptis longitudine aequale.

Long. (cap. excl.) 4 mm.

Hab. Assam : Shillong, 6000 ft., 23.v.1925 (C. F. C. Beeson), 1 ♀.

Proboscis one-sixth longer than apically broad, with 5 dorsal carinae, I extending beyond middle, but not reaching apex, II running from near eye to middle, its upper end bent inward, lower end bent outward, III from above antennal groove towards eye, which it does not reach ; base not impressed between the carinae ; apical margin slightly trisinuate, carinate edge of antennal groove directed towards lower portion of cheek, not towards underside ; no groove on gena. Frons and occiput brown, grey at the eyes ; frons as broad as antennal segment 2 is long. Antenna one-tenth longer than the distance from apex of proboscis to hindmargin of eye ; rufescent brown, very slightly paler at the joints ; segment 3 as long as 4, 8 not quite twice as long as broad, club nearly as long as 3 + 4 + 5, broad, 10 a little broader than long.

Pronotum distinctly, but not very coarsely, punctate all over, a little over half as broad again as long, transversely depressed before middle, but without sulcus, a median stripe interrupted in middle, a dot in depression nearly halfway to side, a nearly square apical spot, an U-shaped spot in arc of carina and a sublateral spot behind carina grey; carina medianly straight, curved back dorso-laterally and then flexed forward in a semi-circle; subbasal carinula broadly interrupted.

Elytra one-fourth longer than broad, rather strongly convex, feebly depressed behind subbasal swelling, which is low, punctate stripes feeble at apex except sutural one; on each elytrum over 20 short, more or less oblong, grey spots, of which some at base and some at apical margin are confluent, in middle, from near suture to sixth interspace, a posteriorly tridentate grey spot, the tooth near suture being the longest and thinnest, the subsutural portion of the spot not extending so far basad than the rest of the spot. Pygidium nearly as long as broad, gradually narrowing, rounded at apex, with broad brown median stripe.

I am much indebted to the Forest Research Institute at Dehra Dun for these new species.

REVISIONAL NOTES ON THE GENUS *EPAMERA* (LEP. LYCAENIDAE).

By N. D. RILEY.

IN NOVITATES ZOOLOGICAE, Vol. XXXIV, p. 384, 1928, it was suggested that *Iolaus hemicyanus* E. M. Sharpe (*Entom.* p. 203, 1904) and *Epamera frater* Joicey & Talbot (*Bull. Hill Mus.* i, p. 92, 1921) might be conspecific, and in fact *frater* was there treated as a synonym of *hemicyanus*.

Quite recently the type-specimen of *E. hemicyanus* has come to light, and through the kindness of Lord Rothschild I have been able to examine it. It proves to be a member of the *aethria* group, as it is devoid of the wide tuft of long hairs on the underside of the inner margin of the forewing, and also of the velvety brown patch of androconia in the speculum of the hind wing, features which are both present in *E. frater*; and is in fact the insect which I described (*T.E.S.* 77, p. 495, 1929) as *Epamera barbara toroensis*. *Hemicyanus* therefore supersedes *barbara* as dealt with in *Trans. Ent. Soc.* 77, p. 496, and *frater* J. & T. takes its place as the name of the other species.

The two species concerned then become:

(1) *Epamera frater* J. & T. (1921)
(= *E. hemicyanus* Sharpe, Riley (nec Sharpe) (1928).
With races:
(i) *E. frater frater* J. & T. (1921).
(ii) *E. frater kumboae* B. B. (1926).
(iii) *E. frater kamerunica* Riley (1928).
and
(2) *Epamera hemicyanus* E. M. Sharpe (Aug. 1904)
(= *E. barbara* Suffert, Riley, 1928, 1929).
With races:
(i) *E. hemicyanus hemicyanus* E. M. Sharpe (Aug. 1904)
(= *E. barbara toroensis* Riley, 1929).
(ii) *E. hemicyanus barnsi* J. & T. (1921).
(iii) *E. hemicyanus mildbraedi* Schultze (1910)
(= *E. yokoana* B. B., 1926).
(iv) *E. hemicyanus barbara* Suff. (Oct. 1904).

Brit. Mus. (N.H.), 9.v.30.

ON THE TWO SPECIES OF *DEUDORIX* KNOWN FROM NEW GUINEA (LEP., *LYCAENIDAE*).

By DR. KARL JORDAN.

ALTHOUGH still rare in collections, *Deudorix dohertyi* and *D. grandis* are represented in the Tring Museum by both sexes. All our specimens were obtained at higher altitudes, whereas the unique male of *D. dohertyi* was collected by Doherty at Andai, or, at any rate, is labelled "Andai." Both species are sexually strongly dimorphic, and vary geographically as follows:

1. **Deudorix grandis** R. & J. 1905.

♂♀. *Deudorix grandis* Roths. & Jord., *Nov. Zool.* xii. p. 465. no. 18 (1905) (Angabunga R.); Jord., *ibid.* xiii. p. 759. no. 4. pl. 3. figs. 9, 10 ♂ (1906) (upper- and underside).

In both sexes the green discal band of underside in fore- and hindwing straight, much nearer to cell than to termen; between it and termen a distinct white or whitish submarginal line. *Upperside* of hindwing of ♂ at most with a trace of metallic blue. In ♀ both wings with a large white area.

Underside of thorax and abdomen ochraceous in both sexes, as in *D. dohertyi*.

a. **D. grandis grandis** Roths. & Jord. 1905, l.c.

♂. Forewing, *upperside*: metallic blue area triangular, reaching from near base to lower cell-angle; costal half of cell black; black terminal area 7–8 mm. wide at submedian vein. Hindwing usually with a trace of metallic blue in the cell; abdominal margin green.——*Underside* olivaceous green.

♀ White area of forewing, *upperside*, extending from hindmargin forward to R^1, not penetrating into cell, 5–8 mm. broad at lower cell-angle and 14–16 mm. at posterior margin; black terminal area 4 mm. broad at submedian.—— Hindwing white, base broadly black; black terminal border extending to anal angle; within it a white subterminal line.

Underside brighter green than in ♂, much less olivaceous; white area of forewing nearly as above, but reaching closer to costa. On hindwing the green band placed between two white ones, of which the outer one is two to three times as broad as the inner, the latter being, in middle, about the width of the green band.

Length of forewing: ♂ 26–29 mm.; ♀ 22–31 mm.

Hab. British New Guinea: Angabunga R., 6,000 ft., November 1904–February 1905 (A. S. Meek), a series of ♂♂, 4 ♀♀; Mandated New Guinea: west side of Herzog Mts., inland from Huon Gulf, 6,200 ft. (A. F. Eichhorn), 1 ♀.

b. **D. grandis mesites** subsp. nov.

♀. Black terminal band of *upperside* of hindwing posteriorly narrower than in the previous subspecies, the partition before and the one behind the tail almost isolated as spots.

On *underside* the greenish white line bordering on outside the green discal band of forewing very little broader and but very slightly more pronounced than the submarginal line ; disco-cellular bar broader than in *D. g. grandis*. On hindwing the white stripe on basal side of green median band very much thinner than this band, measuring about 1 mm. in width at apex of cell.

Length of forewing : ♀ 25 mm.

Hab. Dutch New Guinea : Weyland Mts., Menoo Valley, Mt. Kumupi, 6,000 ft., Nov.–Dec. 1920 (C. F. and J. Pratt), 1 ♀ in the Hill Museum.

c. **D. grandis jactantis** subsp. nov.

♀. Like *D. g. mesites* ; white area of hindwing, *upperside*, more extended posteriorly, the black spot before tail almost isolated and the one behind tail diffuse and nearly suppressed by the encroachment of white ; white admarginal bars broader than in both previous subspecies.

Underside : forewing as in *D. g. mesites* ; hindwing as in *D. g. grandis*, the white stripe placed at basal side of green median band a very little broader at apex of cell than this band ; terminal and anal areas with a yellowish tint.

Length of forewing : ♀ 30 mm.

Hab. Dutch South-west New Guinea : Mt. Goliath, 5–7000 ft., June 1911 (A. S. Meek), 1 ♀.

2. **Deudorix dohertyi** Oberth. 1894.

♂. *Deudoryx* (!) *dohertyi* Oberthür, *Études d'Entom.* xix. p. 13. pl. 3. fig. 10, ♂ (1894) (Andai).

Underside of wings in both sexes malachite green, with a slightly deeper green, narrow, band halfway between cell and apex, almost parallel with termen, not very prominent, bounded on outer side by a paler green or whitish line which is more distinct on hindwing than on forewing and clearer white in ♀ than in ♂ ; a diffuse submarginal line pale green, vestigial in ♂ ; a black spot on anal lobe, another before tail, and a vestigial one in between.

♂. *Upperside* of both wings metallic blue, base, costal margin and apical half of forewing, base and costal area of hindwing black.

♀. Forewing, *upperside*, with a curved, white, discal band from posterior margin to near costa, about 4 mm. broad, touching (or nearly) apex of cell, but not entering it, about 4 mm. from termen at submedian vein.——White area of hindwing more extendedly shaded with greenish blue than in *D. grandis*, narrowing anteriorly, reaching costal margin, or vestigial from R′ costad, not entering cell, but touching its lower angle.

On *underside* the white area of hindwing represented by a white line along green discal band ; black spots in anal area as in ♂, but larger, also present on *upperside*.

Three subspecies :

a. **D. dohertyi dohertyi** Oberth. 1894, l.c.

Described from one ♂, now in the British Museum ; I have not seen any other specimen. The blue metallic scaling of the hindwing, *upperside*, extends close to the terminal fringe from before subcostal vein to anal angle.

Hab. Arfak Peninsula : Andai.

b. **D. dohertyi fortis** subsp. nov.

♀. White band of forewing, *upperside*, extending forward to stalk of subcostal fork, entire, the veins traversing it not being scaled black.——White area of hindwing reaching to costal margin, anteriorly somewhat suffused with brown in one of the two specimens (paratype); anterior submarginal black spot not distinctly isolated, second black spot nearly as large as first; black terminal line almost as broad as the white admarginal line; abdominal area shaded with bluish green.

Length of forewing: ♀ 29 mm.

Hab. Dutch South-west New Guinea: Mt. Goliath, 5,000 ft., March 1911 (A. S. Meek), 2 ♀♀.

c. **D. dohertyi cholas** subsp. nov.

♂. Blue colour on both wings less extended than in *D. d. dohertyi*; on forewing costal third of cell black, black terminal area 8 mm. broad at submedian vein.——On hindwing, outer half of subcostal cellule black.

♀. White band of forewing, *upperside*, broken up by nearly all the veins traversing it being narrowly black, the band faintly greenish, not quite reaching stalk of subcostal fork and not touching lower angle of cell.——White area of hindwing stopping short at R^1, its two anterior sections being suppressed; black submarginal band very strongly tapering, ending at M^1, black submarginal spot in front of tail well separated, second spot suppressed, the third in anal lobe small; black terminal line very thin, less than half the width of white admarginal line.

On *underside*, white discal line of hindwing thinner than in *D. d. fortis*.

Length of forewing: ♂ 29 mm.; ♀ 30 mm.

Hab. Mandated Eastern New Guinea: Rawlinson Mts. (Christian Keysser), 1 ♂ (type).—British New Guinea: Hydrographer Mts., 2,500 ft., April 1918 (Eichhorn Bros.), 1 ♀.——This ♀ may possibly represent another subspecies.

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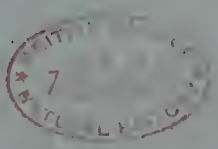

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NOVITATES ZOOLOGICAE

Vol. XXXVI. APRIL 1931. No. 2.

GEOMETRID DESCRIPTIONS AND NOTES.

By LOUIS B. PROUT.

A. INDO-AUSTRALIAN.

Subfam. OENOCHROMINAE

1. **Ozola concreta** sp.n.

♂♀, 25–29 mm. Antennal cilation of ♂ 1½–2. Hindtibia of ♂ very broadly dilated, on outerside concave, on innerside with groove containing strong brown hair-pencil (almost as in *indefensa* Warr., 1899). Head and body concolorous with wings.

Forewing, especially in the ♂, narrow, apex, especially in the ♀, somewhat produced, termen strongly oblique, but very little (sometimes not appreciably) concave between apex and R^1, hardly or very weakly bent about R^3; whitish, with very dense vinaceous-brown mottlings and blackish irroration, so that the ground-colour is scarcely anywhere shown except at apex and irregularly in parts of the narrow median area; cell-dot blackish, not very sharp, but generally a little enlarged by some grey diffusion; antemedian indefinite, excurved, band-like, rather distally placed, in cell only 1 mm. from cell-dot or little more; postmedian of a slightly brighter vinaceous than the rest of the mottling, duplicated distally by a second line or narrow shade, the two weakly but almost equally sinuous, thus much more nearly parallel than is usual in the *macariata* group, very slightly divaricating posteriorly; subterminal greyish, rather weak but generally complete, occasionally submacular; blackish interneural dots or dashes at termen.——*Hindwing* with termen not or scarcely produced at R^1; costal margin pale, more broadly at base; the rest mottled and irrorated as forewing; cell-dot moderately strong, crossed, or touched distally, by the almost straight median line, which is at least as bright as the postmedian of the forewing, more definitely formed than in *basisparsata* Walk. (1862) but not quite so strong as in *macariata* Walk. (1862) and *indefensa* Warr.; postmedian more bent, but very indistinct or almost obsolete; subterminal generally well discernible.

Underside similar or with rather stronger contrasts, the forewing generally with proximal and distal areas more broadly dark-shaded, the apex remaining pale.

Langkawi I., 14–29 April 1928 (H. M. Pendlebury), 1 ♂, 3 ♀♀, the type in coll. Brit. Mus. Also 1 ♀ from Kedah Peak, 3,300 feet, 21 March 1928 (H. M. Pendlebury), in coll. F.M.S. Museums.

Rather variable in colour. Readily distinguishable from *macariata* by the less extreme shape and the more oblique, more circumscribed central area of

forewing. The species which more resemble it in shape—*leptogonia* Hmpsn., 1902 (? = *minor* Moore, 1888), *exigua* Swinh., 1902, and *decolorata* Warr., 1897—have much less dilated ♂ hindtibia. Unfortunately, the only known ♂ has lost one forewing, but it has been made holotype for the sake of the structural character.

SUBFAM. HEMITHEINAE.

2. Actenochroma pullicosta sp.n.

♀, 44 mm. Face with a slight vertical furrow in middle, here blackish (partly descaled). Palpus with 1st and 2nd joints pale, above rather narrowly blackish, 3rd joint elongate (a little longer than 2nd).

Forewing with R^2 arising very near R^1; apparently of a paler green than in *muscicoloraria* Walk. (1862, N. India), but discoloured in relaxing; costal border for a breadth of about 1 mm. blackish fuscous from antemedian line to apex, interrupted by median, postmedian and subterminal pale spots, continuing extremely narrow to base along costal edge, and sending out a short projection basewards just behind SC; markings nearly as in *muscicoloraria*, but with the projection of the postmedian less strong and the terminal line blacker and less interrupted.——*Hindwing* with R^2 almost connate with R^1; concolorous with forewing, marked nearly as in *muscicoloraria*, but with a dot instead of the irregularly elongate cell-mark; terminal line as on forewing.

Underside closely as in the rather broad-banded examples of *muscicoloraria*.

Mindanao: Kolambugan, Lanao, plains, 20 June 1914, 1 ♀ in coll. Tring Mus.

3. Anisozyga valescens sp.n.

♀, 42 mm. Face green, narrowly white below. Palpus fully 2, with terminal joint not quite as long as 2nd; brownish white, above and on nearly the whole of the 3rd joint fuscous. Vertex mixed with light-brown and fuscous; occiput narrowly green. Body above: thorax green, abdomen mixed with light fleshy-brown and fuscous; beneath: brown whitish.

Forewing with costa gently arched, termen crenulate but not deeply, curved to become strongly oblique posteriorly; lettuce-green or pearl-green (a little faded); costa light pinkish cinnamon, with copious, in part confluent, dark irroration; antemedian line rather thick, especially at extremities, light vinaceous cinnamon with dark irroration, from costa at 4 mm. to hindmargin at nearly 5 mm., somewhat sinuous, dentate inward at M and SM^2; a large light pinkish cinnamon, slightly irrorated apical patch reaching R^3, mixed with lavender-grey at the part farthest from apex, 7 mm. long at costa, about 5 mm. posteriorly, edged by a thick dark line, which is very faintly excurved about R^1; a much smaller lavender-grey tornal patch behind M^2; a dark terminal line; fringe tinted with vinaceous.——*Hindwing* with termen more strongly crenulate, forming pronounced teeth at R^1 and R^3; green, with a lavender-grey line on abdominal margin not reaching base; no transverse line; apical patch more irrorated and with more extended violet suffusion than on forewing; tornal still smaller than on forewing; terminal line and fringe as on forewing.

Underside whitish green; the terminal blotches present, the fleshy parts very pale, the lavender-grey parts almost black.

Dutch New Guinea: Cyclops Mountains, August–September 1928 (Dr. E. Mayr), 1 ♀ in coll. Tring Mus.

Probably nearest to *decorata* Warr. ♀ (1906), but larger, terminal joint of palpus less elongate, abdomen without green patch at base, wings less bluish green, apical patches with dark instead of white edgings, that of forewing without green spots.

4. Spaniocentra agathoides sp.n.

♂, 29 mm. Face reddish. Palpus reddish above, white beneath. Vertex white, occiput narrowly red. Patagium and tegula green; thorax posteriorly and abdomen rosy, somewhat mixed with white and green; body beneath white.

Forewing green (probably as in the allies, but somewhat faded); costal margin at base broadly rosy, then rather broadly white, underlined with reddish, in places with dark speckling; markings vinaceous lilac, sprinkled—especially at their edges—with olive scales; antemedian represented by two spots, one 3 mm. from base in anterior part of cell, confluent with costal border, the other—slightly more distal and oblique—from hindmargin to just in front of SM^2; cell-mark long, anteriorly thick, touching the costal border; a similar subcostal streak midway between cell-mark and apex; an irregular terminal band, nearly 2 mm. wide at apex and slightly more just behind R^3, midway between these points narrowed to well under 1 mm. (its proximal edge being curved), again similarly narrowed posteriorly, at tornus connected with a large irregular mark which projects forward from hindmargin in the direction of the postmedian costal mark, is convex proximally, subconcave distally, and ends, rather long and flat, in front of M^2.——*Hindwing* with small cell-spot and a slight abdominal-marginal streak (as in the allies), culminating in a postmedian spot; border analogous to that of forewing, the apical broad part reaching to R^1.

Underside paler, with the markings shadowy.

Mindanao: Kolambugan, Lanao, plains, 4 July 1914 (A. E. Wileman), type ♂ in coll. Tring Mus.

A larger ♀ from the same locality, 16 June 1914, with similar borders to the hindwing, and to the forewing anteriorly, may belong with this, but has the cell-dot minute, the transverse markings wanting, an extremely large purplish blotch at tornus of forewing, intermediate between those of *S. megaspilaria* Guen. ♀ and *Rhomborista semipurpurea* Warr. (1897), 4 spurs on the hindtibia and may rather belong to an unknown ♂ of the *undiferata* group; the ♂ type, on the other hand, superficially recalls a small *Agathia* more than any previously known *Spaniocentra*.

Eretmopus Turn. (1910).

This genus, well differentiated from *Prasinocyma* and *Thalassodes* by the hindleg (spurless in the ♂, 2-spurred in the ♀), has been too hastily assumed to embrace only a single species and has not hitherto been critically analysed. The material, particularly in the ♂ sex, is unfortunately very meagre, but there are at least three species, readily distinguishable in the ♂, as will be seen from the following key:

1. Hindtarsus of ♂ densely rough-scaled . . . *discissa* Walk.
   Hindtarsus of ♂ not densely rough-scaled . . .. ,,
2. Hindwing of ♂ beneath with coarse buff (or somewhat cinnamon) scaling proximally . . . *marinaria* Guen.
   Hindwing of ♂ without buff scaling proximally . sp.n. (No. 5 infra).

E. discissa (Walk., 1861), founded on a ♂ from "Hindostan" [Moulmein] from Archdeacon Clerk's collection, is only definitely known to me from Lower Burma. A second ♂ in the British Museum is only labelled "N. India" (L. James; the collection number, 43.10, furnishing no further detail). A third, in the Tring Museum, only "Arracan" [Arakan]. The white cell-dot of the hindwing is rather large and there are traces of a minute second one on DC^3. A possible race from Dutch New Guinea (Etna Bay, 1 ♂, 1 ♀; ? Oetakwa River, Snow Mtns., 1 ♀) has similar leg-structure but hindwing scarcely angled, with reduced cell-dot. *E. marinaria* (Guen., 1858), founded on a ♀ (= *penicillata* Walk., 1861, founded on a ♂), is best known from Borneo, the type locality of both these names, but may have a somewhat extended range. The Tring Museum has a poor ♂ from [Tana] Djampea I. (Everett) and an old ♂ labelled "Amboina" (a locality often suspect); also well authenticated ♀♀ from Buru (cf. *Treubia* vii, 434) and Little Kei which may belong with it.

5. **Eretmopus retensa** sp.n.

♂♀, 40–46 mm. Closely similar to *marinaria* Guen. Face perhaps rather brighter red. Hindtibia of ♂ slightly longer and broader. Hindwing with termen slightly less angled; beneath uniformly pale green, without a trace of the coarse buff scaling of *marinaria* ♂.

Mindanao: Kolambugan, Lanao, plains, 19 June 1914 (A. E. Wileman), type ♂ and a ♀ in coll. Tring Mus.; a second ♂ in coll. Brit. Mus. Luzon: near Manila (J. Whitehead), 1 ♀ in coll. Tring Mus. Presumably this will also be the "*Thalassodes marinaria* Guen." of Semper, *Schmett. Philipp.* ii, 641 (Luzon, Bohol, Cebu).

6. **Hemithea melalopha** sp.n.

♂, 28 mm. Face red or brown-red (mostly abraded). Palpus not quite $1\frac{1}{2}$, the 3rd joint short but not minute; 2nd joint marked with red on outerside, beneath white; 3rd joint mixed with fuscous. Fillet narrowly white; crown green. Antennal joints slightly projecting, the paired fascicles of cilia just over 1. Thorax and abdomen above green, beneath whitish; first abdominal tergites partly vinaceous with some black irroration; an even intenser black crest than in *notospila* Prout (1917) and *quadripunctata* Warr. (1896).

Forewing moderately broad, costa arched at base and gently in its distal part, apex rather sharp, termen waved anteriorly, bowed, oblique; SC^1 well free, R^1 shortly stalked, M^1 connate; dull green (faded); lines whitish, edged in median area with darker green, formed much as in *subflavida* Warr. (1896) or the antemedian slightly less curved in front; terminal line slight, fusescent; fringe whitish, probably weakly dark spotted (defective).——*Hindwing* shaped about as in *subflavida*; a faint cell-dot indicated; postmedian line, termen and fringe about as on forewing.

Underside paler green, without markings.

Luzon: Klondyke, Benguet, 800 feet, 17 March 1912 (A. E. Wileman), 1 ♂ in coll. Tring Mus.

Not quite so broad-winged as *quadripunctata* Warr. (Dutch Timor), termen of forewing not quite so ventricose, the dark vein-dots on the lines wanting. Much smaller than *notospila* Prout (Borneo), terminal joint of palpus not so short, terminal blotches beneath wanting.

7. **Ptochophyle porphyrochlamys** sp.n.

♂♀, 25–27 mm. Head, thorax and anterior part of abdomen above, proximal part of antennal shaft and the dark parts of palpus and foreleg purple; posterior part of abdomen ochreous mixed with purple (broken in type ♂); underside cream-colour, structure normal; ♀ with terminal joint of palpus slightly longer than in ♂, antenna laterally compressed, strongly lamellate, the scaled area rough near base.

Forewing with costa shouldered at base, then nearly straight, apex rather blunt, termen little curved, moderately oblique; yellow (almost apricot-yellow, but with slightly less orange admixture), with rather strong purplish irroration except in narrow, very ill-defined ante- and postmedian bands; a purple patch at base (apparently rosy almost entirely overlaid with a dark blue-purple), 2–3 mm. wide, its distal edge twice incurved, but only slightly; an extension of this colour along costal edge for some distance; very slight indications of a large greyish cell-spot; a purple dot in cellule 6 nearly 3 mm. from termen; two others (very ill-defined in the ♀, the anterior one also reduced in the ♂) scarcely 1 mm. from termen, near costa and at R^3 respectively; dark terminal dots or minute dashes at the veins.——*Hindwing* moderately long, termen only bluntly bent at R^3; concolorous with forewing; basal patch rather smaller; costal edge not purple; hindmargin with the purple a little increased and with a conspicuous comma-shaped postmedian spot; the outer dots indicated, except the sub-apical; termen as on forewing.

Underside cream-colour, the hindwing unmarked, the forewing heavily clouded in costal region (most broadly in proximal part) and with vaguer cloudings or suffusions in the middle of the wing.

Malay Peninsula: Kedah Peak, 3,300 feet, 10 March 1928, at light (H. M. Pendlebury), type ♂ in coll. Brit. Mus., presented by the Federated Malay States Museums; Kuala Kubu, Bukit Kutu, Selangor, 3,400 feet, August 1915, allotype ♀ in coll. F.M.S. Museums.

Subfam. **STERRHINAE.**

8. **Chrysocraspeda altegradia** sp.n.

♀, 30 mm. Similar to the ♀ form of *concentrica* Warr., 1899 (*regalis* Warr., 1899, erroneously described as "♂"). Antenna with similar extremely long pectinations. Both wings with termen straighter, that of forewing almost perfectly straight, that of hindwing only very feebly convex. Colour much less bright—very light cinnamon-drab or brownish drab, with only a tinge of vinaceous (in *concentrica* ♀ between russet-vinaceous and Etruscan red, with a purple tinge distally).——*Forewing* with cell-dot minute, dark; a slight, but very extended median dark shade, quite undefined proximally, its distal edge straightish, about 3 mm. from termen; a very narrow, considerably darker band close to termen, separated therefrom by a yellow line, much narrower than that of *concentrica*; fringe paler yellow than the terminal line.——*Hindwing* similar, but with the cell-dot white and less small, the median shade ending a trifle less near the termen.

Luzon: Klondyke, Benguet, 800 feet, 22 March 1912 (A. E. Wileman), 1 ♀ in coll. Tring Mus.

9. Scopula inflexibilis sp.n.

♂♀, 21–22 mm. Face black. Palpus above and on much of outerside black. Vertex pinkish buff or whitish. Antennal joints in ♂ projecting very little; ciliation about 1½, in slender fascicles. Thorax and abdomen between pinkish buff and cartridge-buff, paler beneath; collar warmer buff. Legs mostly pale; forefemur and foretibia darkened on upper- and innerside; hindtibia in ♂ nearly twice as long as femur, rather strongly dilated, tarsus ⅔ tibia or rather less, with the first joint 1½ times as long as the second.

Forewing slightly broader than in most of the *nesciaria* Walk. (1861) group, termen smooth, sufficiently curved anteriorly to blunt the apex; cell ½ (just appreciably longer than in most of the group); areole moderate, with SC^1 about from its apex, SC^5 rarely much beyond, but variable; ground-colour indefinite, pale pinkish buff, with some fine and sparse, irregularly disposed black irroration; markings browner (near pinkish buff); cell-spot in the ♀ rather diffuse, sometimes with some black scales in the centre, in the ♂ showing chiefly as a small black dot; antemedian line sinuous, rarely conspicuous; median moderate, excurved well beyond the cell-spot, slightly incurved at fold; postmedian lunulate-dentate, somewhat angled at R^1, not deeply incurved between this and R^3, the teeth commonly marked with minute black vein-dots; subterminal shades weak; termen with the usual black dots small; fringe almost unmarked. ——*Hindwing* with termen almost rounded, very faintly bent at R^3; cell-dot minute, black; markings of forewing continued, excepting the antemedian; median just proximal to cell-dot.

Underside pale, the posterior part of forewing and the whole of hindwing paler; hindwing faintly or scarcely marked, forewing with cell-dot, postmedian line and terminal dots more or less strong, the postmedian very little or scarcely inbent between the radials.

South Andamans: 1 July–2 August 1927 (Ferrar coll.), 3 ♀♀, including the allotype; Port Blair, North Bay, 27 February–12 March 1925 (Mujtaba coll.) 2 ♂♂, 2 ♀♀; Port Blair, 1,200 feet, 1925 (Shaffi coll.), holotype ♂. All submitted by the Agricultural Research Institute, Pusa, the types presented to the British Museum.

Apparently very near the species which I believe to be *attentata* Walk. (*vide Journ. Bomb. Nat. Hist. Soc.* xxxi, 138), but on an average smaller, the hindtibia not quite so short, the forewing shorter and broader and with the termen not so perfectly even, the colouring rather warmer, the irroration sharper but sparser and less evenly distributed, the postmedian less incurved at R^5, notably beneath.

10. Scopula parodites sp.n.

♂, 20 mm. Face blackish. Palpus blackish, pale beneath. Vertex pale, inclining to écru-drab. Collar brown. Antennal joints scarcely projecting, ciliation very little over 1. Body whitish, suffused—especially above—with light brown. Hindtibia about 3 mm. long, dilated, fringed with whitish in proximal part, pencils moderately developed, tarsus barely over ½.

Forewing moderate, termen smooth, slightly curved in middle; whitish, suffused with light brown about as in rather well-coloured forms in the *minorata* Bdv. (1833) group; a few scattered black scales; cell-dot small but sharp: lines faint, brownish, the antemedian and the median, which is well outside the cell-dot,

sinuous, the postmedian marked, at least from R^1 hindward, with black vein-dots, oblique outward to R^1, deeply inbent between this and R^3 and well incurved at fold; subterminal shades obsolescent; terminal dots sharp; fringe unspotted. ——*Hindwing* with termen not appreciably bent at R^3; antemedian wanting, median just proximal to cell-dot; otherwise nearly as forewing.

Underside whiter, especially the hindwing and distal and posterior parts of forewing; cell-dots present; median shade on forewing and terminal dots on both wings indicated; a greyish postmedian (least indistinct on forewing), marked with darker vein-dots.

Selangor: Kuala Lumpur, 28 October 1927, at light (H. M. Pendlebury), type in coll. Brit. Mus., presented by the F.M.S. Museums. A ♀ from Mergui (Doherty) slightly paler, in coll. Joicey.

Very near *consimilata* Warr. (1896, as *Ptychopoda* !), somewhat browner, median shade more slender, fringe unspotted; but in that species the ♂ hindtarsus is $\frac{2}{3}$ and the antenna is more dentate-fasciculate.

11. **Scopula desita luzonica** subsp.n.

♂♀, 16–22 mm. On an average markedly smaller than *d. desita* Walk. (1860), both wings slightly less elongate costally. The pale ground-colour tinged with brown rather than with violet-grey; no differentiated brown shade outside the postmedian; apical dash of forewing obsolete, median shade rather less prolonged in that direction, its anterior part commonly less obsolescent than that of *d. desita* (in both here highly oblique inward); costal dot of postmedian on an average stronger above and beneath than that of *d. desita*.

Luzon: Klondyke, Benguet, 800 feet, March–May 1912 (A. E. Wileman), a good series; Montalban, Rizal, April 1914 (A. E. Wileman), a few; type ♂ from Klondyke in coll. Tring Mus.

Possibly a distinct species, but forms of *desita* from the Sunda Islands, Tenimber, etc., are somewhat intermediate, while conserving the characteristic apical dash.

12. **Scopula succrassula** sp.n.

♂♀, 22–27 mm. Slightly shorter-winged and more robust in build, especially in the ♀, than the very extensive Indo-Malayan group with which it shares its coloration and simple scheme of markings (*nesciaria* group), being formed about as in *destituta* Walk. (1866), *densicornis* Warr. (1897) or perhaps *amala* Meyr. (1886). Face black. Palpus black, beneath whitish. Antenna of ♂ with paired processes, from which arise dense fascicles of rather long cilia (nearly twice diameter of shaft). Vertex white. Collar light brown. Thorax and abdomen whitish. Hindtibia of ♂ long, fringed above and with rather strong hair-pencil; hindtarsus about $\frac{1}{2}$.

Forewing fairly broad, termen less oblique in ♀ than in ♂; whitish buff, with fine and sparse blackish irroration; cell-dot black, small; lines a little darker and browner than ground-colour, not slender; antemedian weak, somewhat sinuous; median well beyond cell-dot, gently sinuous, the outward curve between costa and M^1, the inward (slightly deeper) between this and SM^2, on which is a weak tooth outward; postmedian about 3 mm. from termen, somewhat dentate, slightly incurved between the radials and at fold, its irregularities often more or less straightened out by the thickening; subterminal weakly sinuous.

between fairly thick shades which are almost or quite as strong as the true lines ; terminal dots sharp ; fringe unspotted, slightly paler distally.——*Hindwing* with termen rounded, not noticeably bent at R^3 ; no antemedian ; median curved round (close proximal to) the cell-dot ; the rest as on forewing.

Underside with the cell-dots present, though generally reduced ; forewing with weak reproduction of the lines beyond ; hindwing a little whiter, with the postmedian discernible, though faint.

Mindanao : Kolambugan, Lanao, plains, May–June 1914 (A. E. Wileman) ; 2 ♂♂, 9 ♀♀ ; the ♂ type (coll. Tring Mus.) and paratype (coll. Brit. Mus.) are unfortunately worn, but quite recognizable. Two better ♂♂ from Palawan, January 1894 (Everett), of rather a warmer tone and with rather larger cell-dots (the differences racial ?) are in the Tring Museum.

This may well be the "*Craspedia densicornis* Warr." of Semper (*Schmett. Philipp.* ii, 630), in which case Luzon, Bohol and Cebu must be added to its range ; it is very similar to that species except in the less extremely long antennal ciliation, and much less abbreviated hindtarsus of the ♂.

13. **Sterrha homalorrhoë** sp.n.

♂, 21 mm. Face blackish fuscous. Palpus pale beneath. Vertex and base of antennal shaft whitish ; antennal joints somewhat projecting, ciliation over 1 in paired fascicles. Collar brown. Thorax and abdomen concolorous with wings. Hindleg whitish ; a long ochreous-tinged pencil from femoro-tibial joint, the tibia expanding into a broad compact flap or sheath, from the end of which projects a tuft of long scales as far as the end of the very short, aborted tarsus (without dissection it is impossible to decide whether a concealed first tarsal joint may participate in this expansion).

Forewing moderate, termen straightish, almost imperceptibly sinuous, rather strongly oblique ; areole moderately long, but with SC^1 stalked well beyond it ; very pale glossy grey, with a tinge of cinereous or plumbeous (with the lens resolving itself into a mixture of grey and whitish scales) ; costal edge and a subcostal line ivory-yellow or slightly buff ; three pale lines of a similar colour, the antemedian very slender, the other two stronger, with the lens appearing as chains of vein-spots ; all much straighter than in the similar species (*insuavis* Butl., *remissa* Wilem., etc.), the third, which is about 1 mm. from the termen, almost straight in the paratype, faintly bisinuate inward in the type ; very small pale interneural marks at termen, scarcely visible without the lens ; fringe faintly pale-spotted at vein-ends.——*Hindwing* with termen rounded, very faintly sinuous ; no sexual specializations ; SC^2–R^1 stalked to nearly half their length ; as forewing without first line.

Underside : forewing rather paler, faintly marked ; hindwing almost white.

Malay Peninsula : Kedah Peak, 3,300 feet, at light (H. M. Pendlebury), 27 March 1928 (type), and 26 March 1928 (paratype), the type in coll. Brit. Mus.

14. **Sterrha (Strophoptila) opsitelea** sp.n.

♂, 19–20 mm. Face blackish. Palpus more brown, above mixed with dull purple. Antennal ciliation even, fully 1. Vertex and patagium drab to buffy brown, collar rather browner. Wing-tegula purplish. Thorax and abdomen above glossed with dull purple. Hindleg buff, very heavily tufted, the tufts largely concealing the weak, curved tarsus.

Forewing of moderate breadth, termen curved, strongly oblique, tornus not strong; areole moderate or rather small, SC^1 variable, either from its apex or more or less long-stalked; brownish drab or vinaceous-drab, coarsely scaled, slightly browner distally; three buff costal streaks, respectively at nearly $\frac{1}{3}$, less than $\frac{2}{3}$, and $\frac{7}{9}$; antemedian angled outward at C, tapering to M; median slightly oblique inward to base of R^3, giving birth to an irregular line, which is extremely fine and strongly excurved between R^3 and M^2, behind M^2 broadened and somewhat oblique outward to hindmargin near tornus; postmedian short, giving birth to a slender and incomplete line, which is angled outward on R^1, obsolete between R^3 and the medians, excessively fine and highly sinuous to tornus; terminal line very faint and interrupted; fringe very weakly mottled, with a very fine pale line at base.——*Hindwing* with costa rather short, termen rather long and oblique outward to M^2, abdominal region folded, with fringe of hair; concolorous with forewing, more mixed with buff in abdominal region between the median and the postmedian, which show in the posterior part of the wing as incomplete, sinuous lines, the median the thicker.

Underside similar, or very little paler.

♀ paler (especially in the median area) and more avellaneous—or vinaceous—tinged; variable, similarly marked to the ♂ or more banded, so as to leave the costal streaks scarcely differentiable; hindwing with termen convex, but not perfectly regularly, broadly pale, especially beneath, where a rather definite border of the ground-colour is left distally to postmedian line.

Malay Peninsula: Kedah Peak, 3,300 feet, 12 March 1928 (type ♂), 25 March 1928 (paratype ♂), 23, 27 and 29 March 1928 (3 ♀♀), all collected by H. M. Pendlebury. Type in coll. Brit. Mus.

15. **Sterrha celativestis** sp.n.

♂, 18 mm. Closely related to *marginata* Swinh. (*Tr. Ent. Soc. Lond.* 1894, p. 182), agreeing in shape and venation—areole wanting, $SC^{1, 5, 2, 3, 4}$ on a long stalk. Hindfemur more swollen, purple-reddish. Upperside of wings indistinguishable from well-marked *marginata* with a pronounced costal spot; hindwing beneath with an extended fringe of long hair from just behind M and the base of M^2, directed hindward and outward, so as to cover most of the hind area of the wing except tornus; forewing beneath as far as the postmedian strongly suffused with reddish grey.

Selangor: Bukit Kutu, 3,500 feet, at light, 20 April 1926 (H. M. Pendlebury), 1 ♂ in coll. Brit. Mus.

Subfam. **LARENTIINAE.**

16. **Ecliptopera zophera** sp.n.

♂♀, 43–48 mm. Like *obscura* Moore (1867) = *monana* Swinh. (1893) except as follows:

Forewing with subbasal line gently curved, not or scarcely indented on M; dark spots between this and antemedian scarcely ever confluent; antemedian on an average less deeply outbent behind middle; postmedian without indentations in the anterior half (in *obscurata* indented on nearly all the veins, including particularly SC^5, the posterior white dashes which project inward along the veins extremely slender, virtually confined to the medians; terminal dark

patch between apex and R^3 generally less broad (but variable in both species). ——*Hindwing* with termen rather less convex between R^1 and tornus; darker, excepting the broad whitish costal area; less suffused with ochre, which colour, indeed, is hardly noticeable except in a small terminal patch between C and R^1; the pale lines more distally placed, much less dentate, the postmedian slender, almost straight, the subterminal weakly and irregularly crenulate, less bent between R^3 and M^1 than in *obscurata*.

Underside more strongly marked than in *obscurata*, with corresponding differences in the lines.

Sikkim, British Bhotan and the Khasis, the type from Cherrapunji, October 1893, in coll. Tring Mus.

Swinhoe, in erecting his *monana*, renamed Moore's species; probably he had standing in his collection as *obscurata* the present species, which is much the commoner of the two in the Khasis, and made the fatally easy mistake of separating out a new one without consulting the original. On the other hand, a part of the blame belongs to Moore, as his collection shows that he mixed the two and his description is perhaps in part designed to cover both, though "the points" (of the postmedian) "extending inwardly along the veins" should have been decisive as to the type. The crude figure (*Proc. Zool. Soc. Lond.* 1867, t. xxxiii, f. 7) might be taken for either, though the postmedian of the forewing again favours *obscurata* vera, as confirmed by the holotype. Hampson (*Faun. Ind., Moths*, iii, 360) sank *monana* to *obscurata*; not, however, because he discovered Swinhoe to have named the wrong one of two species, but because his uncritical eye failed to discriminate between the two.

17. Ecliptopera ctenoplia sp.n.

♂♀, 41–52 mm. Similar to *zophera* Prout (*supra*). Smaller. Antenna of ♂ bipectinate, the branches short (less than 2), thickened distally, well ciliated. Coloration still more uniform, the forewing almost, the hindwing altogether, without ochreous shadings.——*Forewing* with subbasal line straight, at least as far from base at hindmargin as at costa; antemedian with its curve still less deep and rather more anteriorly placed than in *zophera*; postmedian crenulate much as in *obscurata* Moore; subterminal projecting a rather strong tooth into the terminal patch on R^1.——*Hindwing* better rounded than in *zophera* (more as in *obscurata*), pretty uniformly fuscous, except for a *narrow* paler area at costa and a very indistinct pale postmedian line. Underside more like that of a dark *umbrosaria* Motsch. (1864), entirely lacking the sharp contrasts of *zophera* and *obscurata*, the broad pale anterior postmedian band of the forewing, etc.; cell-dot of hindwing rather large, slightly elongate.

Java: Tjibodas, 25–28 March 1904 (K. Kraepelin), type ♂ in Zool. Mus. Hamburg; Palabocan, a ♀ in Mus. Tring, misidentified by Warren as *muscicolor* Moore (1888), by me as *furvoides* Th. Mieg (1915).

The first known *Ecliptopera* with pectinate antenna, thus bearing the same relation to the rest of the genus as "*Paralygris*" *contorta* Warr. (1900) bears to *Eustroma*.

18. Photoscotosia miniosata cupha subsp.n.

♂♀. *Forewing* more reddish, much less variegated, less dark-mixed than in *m. miniosata* Walk. (1862), the blackish median line sharply defined proximally,

as well as distally, the buff apical spot beneath rarely very sharply defined.—— *Hindwing* of ♂ with the white area rather more extended.

Luzon, 5,000–7,000 feet, a good series, mostly collected at Haight's Place, Pauai, Benguet, by the late Mr. A. E. Wileman. Type ♂ in coll. Tring Mus.

19. **Electrophaes westi** sp.n.

♂♀, 29–33 mm. Face rough-scaled. Palpus long ($2\frac{1}{4}$ to $2\frac{1}{2}$). Antenna of ♂ laterally compressed. Posterior thoracic crest almost obsolete. Abdomen in place of the hair-pencils with a strong latero-ventral scaled plate terminating in coarser scales near the anal end of the abdomen (perhaps concealing pencils of which no trace can be found without dissection). Head and body concolorous with wings, abdomen above dark-mixed and with narrow white bands at ends of segments.

Forewing shaped nearly as in *fulgidaria* Leech (1897), tornus slightly more rounded ; areole undivided, R^1 just separate ; the white and yellow part coloured as in *fulgidaria*, the dark parts rather less dark, brightening in places to antique brown ; subbasal band angled outward in cell, incurved between the angle and SM^2 ; median band little sinuous proximally, but with a tooth proximad just behind M, more as in *fulgidaria* distally but with a much less profound indentation at R^2 ; distal markings much as in *fulgidaria*, the white marks at termen larger. ——*Hindwing* with DC not very oblique, SC^2 connate to short-stalked, R^3 central ; much more yellowish than in *fulgidaria*.

Underside showing corresponding distinctions in coloration and in form of markings.

Luzon, Benguet (A. E. Wileman) : Haight's Place, Pauai, 7,000 feet, November–December 1912, type ♂ and 2 ♀♀ in Mus. Tring, 2 ♀♀ in Mus. Brit. ; Baguio, 1 ♀ in each of these collections ; Sapiangao, a small ♀ in Mus. Brit.

Mr. R. J. West, to whom I dedicate this species, knew only the ♀♀, overlooked the venation and took it for a subspecies of *fulgidaria*. The structural deviations noted will perhaps necessitate generic separation.

20. **Dysstroma rufibrunnea** (Warr.).

Polyphasia truncata rufibrunnea Warr., *Nov. Zool.* vii, 181 (1900) (" Parana, Entre Rios " [N. Luzon]).

Warren founded this species on females labelled as from Parana, Entre Rios. So long ago as 1908, in a paper read before the City of London Entomological and Natural History Society on March 17 of that year (see *Trans. City Lond. Ent. Soc.* xviii, 51, 1909), I pointed out that the assumed locality must be due to some error in labelling, the genus being Holarctic, with a small contingent in the Himalayas, Formosa, Sumatra, Java and—as I have recently learned—the Philippines. But I was, naturally, unable to assign the correct locality and tentatively left it as an unmatched form of *citrata* Linn.

In 1912, however, the late Mr. A. E. Wileman obtained a fair series at Haight's Place, Pauai, Benguet, Luzon, at 7,000 feet altitude, June, July, November and December. For the positive citation of N. Luzon as type locality, the following corroborative evidence is sufficient. (1) The Tring Museum at about the same date received material from N. Luzon, 5,000–6,000 feet (Whitehead), but from no other locality in the Philippines. (2) I have actually found in the collection one male with the last-mentioned data, somewhat worn and rather

whiter than even the ♀ paratype, determined by Warren as "*calamistrata* Moore." (3) Another Geometrid with identical label ("Parana, Entre Rios"), somewhat rashly described by me (*Nov. Zool.* xxiv, 377) from a single ♀ as an aberrant *Racheospila* and named *R. variifrons*, was also taken by Mr. Wileman at Haight's Place, whence it has been renamed *Comostola acteana* West (*Nov. Zool.* xxxv, 257), although as it has not the discocellulars of *Comostola* it will have to stand as *Chloëres variifrons* (Prout) or—if that genus is ultimately merged in *Comostolopsis*—as *Comostolopsis variifrons*.

D. rufibrunnea does not seem to vary much in the proximal and distal areas of the forewing, but shows similar colour-changes in the median area as a number of its congeners; most commonly this is white, though with the inner lines of the postmedian group frequently rather strong (as in some forms of *citrata*, etc.), occasionally it is somewhat suffused with brownish, as in Warren's holotype (not by any means concolorous with the proximal and distal bands, as his description suggests, but much whiter), occasionally with blackish. In most specimens, a rather characteristic effect is produced by the subtriangular suffusion in the pale median area in front of M, which appears as an almost concolorous appendage of the proximal band; in *citrata* and other species which also at times develop it, this suffusion is grey rather than brown. Hindwing above glossy and not particularly dark—perhaps about as in *korbi* Heydem. (1929) or weakly-marked *citrata*. Central projection of postmedian strong, but not very extreme; the white line which bounds that of the forewing is single, slender, with a small tooth inward in front of R^1 and immediately succeeded by the well-developed hazel outer band.

I have submitted a ♂ to my friend Dr. F. Heydemann, who has recently made such a thorough-going study of the genitalia of the genus. He considers "on first inspection" that *rufibrunnea* comes near *flavifusa* Warr. (1896), forming perhaps a link to *japonica* Heydem. (1929). "The spined area of the vesica is, indeed, likewise narrow and the spines quite short, slender and very acute, but it is 2½ times as long as in *flavifusa* and more densely covered with spines, moreover set in a curve, not straight, as in *japonica*" (*in litt.*, 12 November, 1930).

21. **Dysstroma heydemanni** sp.n.

♂♀, 32–40 mm. General characters and coloration as in the rest of the group. Palpus quite moderate (about 1½). Thorax posteriorly and anterior part of abdomen with whitish dorsal spots generally rather well developed, sometimes in part confluent, suggesting a longitudinal line.

Forewing with proximal area brown, crossed by a dark, distally two-pronged subbasal band which is not sharply defined proximally, but generally rather well-defined distally; the two white hind-marginal spots (subbasal and antemedian) well developed, conspicuous; median area broad anteriorly, much narrower (often only about half as broad) posteriorly, its proximal edge (antemedian line) oblique outward (about as in not very extreme *corussaria* Oberth. 1880), indented at folds; the white enclosed band rarely at all clean, in the type heavily irrorated and lined, in many examples becoming blackish, in the white-banded examples fairly well lined and with a large subtriangular blackish (not brown, as in *rufibrunnea*) proximal suffusion in front of M; distal lobe of median area blunt, the slender, weakly dentate white postmedian line often running almost direct from

costa to R^3, at best only weakly incurved, posteriorly more oblique than termen and moderately incurved at fold, more or less indented at veins and fold; cell-mark generally rather small; distal brown band often with some buff alleviation between costa and R^1; subterminal line irregular, interrupted; *one* white dot or spot at termen, in front of R^3 (not one in front and one behind, as in *calamistrata* Moore, 1867).——*Hindwing* darker brown-grey, about as *dentifera* Warr. (1896).

Underside more or less dusky, the forewing much as in *tenebricosa* Heydem. (1929) but with the white costal band less broad (broader than in *rufibrunnea*), the hindwing more as in a rather dark *dentifera*.

Luzon: Haight's Place, Pauai, Benguet, 7,000 feet, June, July, November and December 1912 (A. E. Wileman), a long series, the type in coll. Tring Mus.

Generally larger than *rufibrunnea*, the median band differently shaped, the white hindmarginal spots more pronounced; only a few of the darkest-banded forms at all difficult to determine. Genitalia quite different. "Relatively to the total size of the aedoeagus, it has the largest spined area in the genus, filling the entire penis-funnel. A combination of *subapicaria* and *dentifera* or *corussaria*. Seven huge spines are placed in a curved row over against some 18 smaller ones" (Heydemann *in litt.*, 12 November 1930).

22. **Parazoma hypobasis** sp.n.

♀, 27 mm. Face with small pointed cone. Palpus well over 2, with suberect scaling above, 3rd joint moderate. Head and body whitish, mixed with brown and irrorated with fuscous, the abdomen rather robust, above with the brown shade somewhat prevalent.

Forewing slightly more elongate than in *ferax* Prout (1926), costa with proximal third very markedly shouldered, forming almost a hump; white, closely irrorated and banded with fuscous, and with brown suffusion on either side of the median fascia; a fine dark line, little sinuous, near base, separated from the subbasal band by a less fine white line; subbasal band (of two or three confluent lines) straightish proximally, more excurved distally; median band about 3 mm. wide, bordered by the usual fine white, dark-edged lines, the distal one duplicated at the costa; proximal edge of band sinuous and slightly curved, indented at SC; distal edge minutely concave between C and SC and more markedly between the radials, very weakly projecting between R^3 and M^2; subterminal line white, zigzag, almost lost between radial fold and M^1 in a moderately large midterminal white spot; a less zigzag presubterminal white line also suggested from costa to M^1, where it touches the proximal edge of the white spot; terminal line lunulate, scarcely interrupted; fringe weakly chequered, with a dark central line and with a clear white spot at R^3–M^1.——*Hindwing* longer than in true *Parazoma*; DC not biangulate, R^2 central; grey, suffused with brown; a small fuscous cell-dot, succeeded by a rather indefinite postmedian line and this by a still more indefinite double pale (brownish) line; terminal line nearly as on forewing, but rather weaker.

Both wings beneath sharply marked; forewing with basal area whitish in posterior half, straight subbasal and strongly curved antemedian line blackish, postmedian still blacker, white-edged in anterior half, area between this and the first subterminal brown, traversed by indistinctly darker lines, terminal area

largely dark, with reduced but sharply white spot between R^3 and M^1; hindwing with similar scheme from antemedian to subterminal, but with a strong black cell-dash, terminal area less darkened than on forewing and without the white spot.

Upper Burma: Htawgaw, 6,000 feet (Capt. A. E. Swann), 1 ♀ in coll. L. B. Prout, kindly presented by the discoverer.

A most interesting addition to the wonderful collection which has already been worked out in *Journ. Bomb. Nat. Hist. Soc.* xxxi (1926–27). The reference to *Parazoma* is provisional, the shape, presence of face-cone and extreme weakness of abdominal crests being somewhat dissonant.

23. **Episteira vacuefacta** sp.n.

♂, 29 mm. Palpus 3½, at base white, then olivaceous with some dark and some whitish irroration; terminal joint over half as long as diameter of eye. Antenna rather slender, about half as long as forewing. Thorax and abdomen concolorous with wings, the abdomen about 9 mm. long; the pouch ("keel") beneath its base a little less large than in the genotype (*colligata* Warr., 1899).

Wings narrow, slightly more so than in the genotype.——*Forewing* whitish, with the wavy green lines (faded to a yellower tone than olive-ochre) regularly spaced, those between the subbasal and antemedian (in sharp contrast to those of *colligata*) entirely without black admixture; subbasal extremely finely and interruptedly marked with black, acutely angled outward subcostally; antemedian single, irregularly thickened, sinuous, in cell connected by longitudinal black mark with postmedian group, from fold to SM^2 markedly oblique outward, at hindmargin forming a black spot; cell-mark elongate, close to antemedian; postmedian a group of three, indented at SC^5, then thickened, in part confluent, between R^3 and M^1 obsolete, the outermost at hindmargin thickened and very oblique outward; the second line beyond, and to a less extent the third, darkened on subcostals; the usual pair of subconfluent twin spots between the radials; a moderately uniform dark line or shade close to termen; terminal vein-dots rather large; fringe pale, weakly spotted.——*Hindwing* very pale grey; the very short cell entirely occupied by the specialized subvitreous area, the basal lobe behind it small; SC^2 arising closer to R^1 than in the genotype.

Underside pale greyish, unmarked.

Malay Peninsula: Kedah Peak, 3,300 feet, 25 March 1928, at light (H. M. Pendlebury), type in coll. Brit. Mus., presented by the Federated Malay States Museums.

The Tring Museum has 2 ♂♂ from Dradjad, G. Kendang, Preanger R., W. Java, which show the species to be variable in the strength of the central and subterminal markings, but without more material it is impossible to say what differences will prove individual and what racial.

24. **Sauris improspera** sp.n.

♂, 26–29 mm. Head pale green. Palpus over 2½, third joint half as long as second; pale green, at base white. Antenna laterally compressed, twice sinuate above, but not deeply; scaled surface black-mixed. Thorax above green; beneath, with abdomen, paler and greyer. Hindtibia long and slender, without spurs; tarsus nearly ¾ tibia.

Forewing rather narrow, apex blunt, termen entire, almost imperceptibly

waved, strongly oblique, curved except close to tornus ; areole ample, SC^1 from before its apex, SC^2 connate or short-stalked with SC^{3+4}, SM^2 sinuous ; green, a little greener than deep olive-buff (probably brighter when bred), with the usual deeper green lines in large part mixed with purple-brown, more or less interrupted by SC and M and behind SM^2 ; a very slight and indistinct line close to base ; subbasal band-like, rather strongly sinuous ; a similar but less brown-marked band between this and median area ; median area formed of six lines, the first and last slender and little marked with brown, the others thicker, mainly brown, in places confluent, especially in middle of wing, so that the cell-dot is often hardly differentiable ; antemedians dentate inward at both folds ; post-medians somewhat bidentate outward at R^1 and M^1, incurved between the last tooth and hindmargin, becoming strongly oblique outward at end ; green central spots generally conspicuous at both ends of this median area ; proximal subterminal line double anteriorly, fused posteriorly, dark-marked at the radials and the posterior part and (more weakly) at and near costa ; distal subterminal single, finer, dark-marked at the same places ; terminal line thick, grey, with oblong dark marks at the veins ; fringe dusky in proximal half, with whitish spots opposite the veins.——*Hindwing* small, apex blunt, termen feebly sinuous ; cell extremely short, C anastomosing with SC^2 just beyond it and continuing anastomosed for a good distance, then rapidly diverging, R^1 from apex of cell, a second radial ($R^2 + R^3$?) from its hind angle, sinuous to the false tornus, nearly the whole area behind it atrophied, at base forming a small folded lobe ; nearly uniform grey, inclining to drab.

Underside darker grey.

♀ similar, on an average rather larger, hindwing with cell much less short, C anastomosing to near its end, SC^2–R^1 fairly long-stalked, medians coincident.

India : Khasis, Nagas and E. Pegu, in Mus. Tring, the type from the Khasis, April 1897. Also known from Ceylon and the Malay Peninsula, possibly in separable races.

The unfortunate combination of circumstances that Guenée (*Spec. Gén. Lép.* x, 361) overlooked M^2 (his vein 4) in his type of *Sauris hirudinata*, and that the present species does occur on Ceylon (though very rarely) has led to a misidentification of his species and a misnaming of the group to which the present species belongs (see *Ins. Samoa*, iii (3) 148). His type proves to be a ♀ of the Ceylon race of his *Remodes abortivata*, described a few pages later, and the two will stand as *Sauris hirudinata hirudinata* (Ceylon) and *S. h. abortivata* (Borneo, etc.). The present species has thus been left without a name.

25. **Acolutha bicristipennis** sp.n.

♀, 17–18 mm. Closely similar to *pictaria* Moore (1888). Head paler ; face whitish, except for a light brown band across the middle.——*Forewing* with SC^1 arising about opposite to SC^5, in one example well before it (in *pictaria* generally well beyond it, but too variable to afford an altogether safe criterion) ; anterior part white, with only a weak irroration of light brown and with the ill-defined bands here light ochre rather than brown ; the bright ochreous patch at anterior part of termen and fringe clearer and more extended than in *pictaria* ; the posterior yellow bands broader and more confluent.——*Hindwing* with raised black cell-dot, recalling that of forewing though smaller (very distinct from the

minute dot of *pictaria*); yellow bands broadened.——Underside with the dark costal and apical area of forewing appreciably less extreme than in *pictaria*.

S. Andamans, 1,200 feet, at light, May and June 1927 (Ferrar coll.), 3 ♀♀; type in coll. Brit. Mus., paratypes in coll. Agric. Res. Inst. Pusa and coll. L. B. Prout.

SUBFAM. Geometrinae.

26. Ctenognophos imaginata sp.n.

"*Gnophus lichenea* Oberth." Hmpsn., *Faun. Ind. Moths*, iii, 253 (1895) (err. det.).

♂♀, 46–56 mm. Close to *lichenea* Oberth. (1886), possibly a race, as no structural difference has yet been found.—*Forewing* with the termen rather more strongly crenulate, more strongly curved, so that the angle at the apex is a little more obtuse; base generally paler; lines more strongly expressed, the postmedian more deeply lunulate between the veins, in particular with a large lunule at fold, altogether recalling the *muscosaria* (Walk.) group of *Gnophos*; a paler band between the postmedian and subterminal, entirely without the characteristic reddish posterior flush of *lichenea*; terminal dots larger.——*Hindwing* also with termen more strongly crenulate and with corresponding distinctions in base and postmedian.——*Forewing* beneath with larger terminal dots than in *lichenea*.

Sikkim: Tonglo, 10,000 feet, July 1886 (H. J. Elwes), 4 ♂♂, 4 ♀♀, including the type ♂; a few without exact locality (O. Müller). British Bhotan: Buxa, 7 ♂♂, 1 ♀. Tibet: Yatung, 12,000–14,000 feet (D. McDonald). All in coll. Tring Mus.

Hampson cannot have examined the venation of this species, as he groups it with *colaria* Guen. and gives both the venation of the latter. In *imaginata*, as well as in *lichenea* Oberth. and *punctivenaria* Leech (1897), SC^1 is free and SC^2 arises from the stalk of SC^{3-5}; about the last six joints of the ♂ antenna are non-pectinate. In the nearly allied *theuropides* Oberth. (1891) and *mandarinaria* Leech (1897) SC^2 arises from the cell and only a still shorter portion of the apex of the antenna is non-pectinate.

27. Ectropis païs sp.n.

♂, 31–32 mm. Group of *crepuscularia* Schiff. (1775). Face sharply two-coloured—upper half blackish, lower creamy white. Antennal ciliation very slightly over 1. Thorax and abdomen concolorous with wings. Legs with the usual dark markings; hindtibia not dilated.

Forewing with costa straight, except at base and near apex, termen moderately long (length of hindmargin), very gently curved, not excessively oblique; subcostal venation varying as in *dentilineata* Moore (1867)—in the type with the stalk of SC^{1-5} from the cell, in the paratype with it from that of SC^{3-5}; fovea ample, its distal wall almost perpendicular to SM^2; ground-colour dead white, scarcely so brownish even as second brood *bistortata* Goeze (1781), the drab irroration fairly dense in costal region, weaker posteriorly; lines weak, their costal spots (except perhaps the postmedian) more extended longitudinally than transversely; antemedian strongly oblique after its first outward curve, the shade proximal to it strong but irregular, somewhat maculat, mixed with dark grey; median shade almost obsolete; postmedian and the narrow shade outside it with the dark teeth at R^3–M^1 little accentuated; subterminal and terminal

markings normal.——*Hindwing* also rather weakly marked, but in both the examples with rather well-developed subterminal spots ; cell-mark elongate, in the type weak, in the paratype stronger.

Forewing beneath whitish, suffused except posteriorly with drab ; no markings except a slightly darker subterminal band (at least in anterior part of wing), in contrast to which an apical spot is almost white. Hindwing beneath whitish, unmarked.

Federated Malay States : Kedah Peak, 3,300 feet, 4 March 1928, at light (H. M. Pendlebury), type in coll. Brit. Mus., presented by the Federated Malay States Museums. Perak : Batang Padang, Jor Camp, 1,850 feet, 24 January 1925, at light (H. M. Pendlebury), paratype in coll. F.M.S. Mus.

Distinguished from *dentilincata* Moore, of which it may possibly prove a remarkable form, by its much smaller size, white ground-colour, strong subbasal band of forewing, etc.

28. **Ctimene spilognota** sp.n.

♂, 38 mm. Closely similar to *hieroglyphica* Walk., 1860 (= *vestigiata* Snell., 1881), possibly a subspecies.——*Forewing* with a large roundish black spot at base of cell and hindwards to near SM^2, supplanting the longitudinal streak of *hieroglyphica* ; postmedian black band differently formed, throwing out, at M^1, only the longitudinal band which—as in most *hieroglyphica*—connects it with the terminal band, the slender arm from cellule 3 to the proximal end of the black apical border entirely wanting, so that the orange subapical spot is single, not double.——*Hindwing* with the black median band reaching only from the subcostal. Streak to the radial fold, subsequently suggested at most by a dot at the hinder end of DC^3 ; postmedian band commencing at abdominal margin as in *hieroglyphica*, but curving strongly outward after crossing M^2, joining the terminal band on M^1 instead of running forward subparallel with it to beyond R^1.

Mindanao : Kolambugan, Lanao, plains (A. E. Wileman), 16 June 1914 (type and two others), 4 July 1914 (1 ♂). Type in Mus. Tring, paratype in Mus. Brit.

Warren's *concinna* (Nov. Zool. i, 412, " Philippines "), of which the type seems irrevocably lost, must, according to the very perfunctory description, have been one of the slenderly marked forms of *hieroglyphica*, such as are rather prevalent in N. Celebes. It is just possible, though quite improbable, that one such specimen merely labelled " Lorquin " (ex coll. Felder) may at one time have borne an erroneous label " Philippines " and been his type, having been assumed, in the absence of corroborative material from Celebes, to be a distinct but related species ; unfortunately a few of his earliest types did escape labelling and in some cases have only been rediscovered by careful study.

29. **Ctimene deceptrix** sp.n.

♂♀, 36–38 mm. Head and body black, the abdomen narrowly light orange-yellow beneath, marked with blackish at the extremities of the segments.

Forewing brown-black ; an orange-yellow dot or dash often present close to base, behind M ; an oblique, light orange-yellow band from midcosta (but leaving extreme costal edge black), variable in width from 2·5 to 4·5 mm., usually reaching termen at M^2–SM^2, but occasionally ceasing about 1 mm. before it, its edges variable in form (never quite straight), especially the distal, which is

usually indented near the costa, often bulging somewhat in the middle, commonly tapering behind ; 1 ♀ has two additional dots, one behind M towards middle of cell, the other at fold, behind base of M^2.——*Hindwing* entirely brown-black.

Underside similar, with some buff scaling at base of costa of hindwing.

Dutch New Guinea : Ditschi, Arfak Mountains, 1,200–1,500 m., May–June 1928 (Dr. E. Mayr), 9 ♂♂, 5 ♀♀ in coll. Tring Mus.

Superficially extremely like *Craspedosis flavidistata* Prout (1924), costa more rounded, band less smooth-edged, etc.

30. **Eubordeta meeki amyntica** subsp.n.

♀. Differs from *m. meeki* Rothsch. (1904) in that the upperside lacks the scarlet subapical mark of the forewing and subterminal band of the hindwing, the only red marking being the narrow costal streak of the hindwing, almost as in *albifascia* Joicey & Talb. (1915), which seems, according to the genitalia, to be a third race of the same species. From the latter, *m. amyntica* differs in that the white band of the forewing and the yellow markings beneath are scarcely any narrower than in *m. meeki*.

N.E. New Guinea : Edie Creek, west side of Herzog Mountains, 6,100 feet, early 1928 (A. F. Eichhorn), type in coll. Tring Mus.

In the unique type, the median band of the hindwing beneath is represented only by a small white dot between SC and the cell-vein and a stumpy yellow band behind M ; but this marking varies a little in the other races.

31. **Craspedosis albigutta truncifascia** subsp.n.

♂♀. Differs from *C. a. albigutta* Warr. (1897, Dutch New Guinea) in having the band of the forewing much reduced, not or scarcely crossing R^1 anteriorly and fold posteriorly, its greatest width about 2·5 mm., more or less indented at the veins, especially distally—in 1 ♀ definitely intersected.

Vulcan I., November 1913–January 1914 (Meek's expedition), 4 ♂♂, 4 ♀♀ in coll. Tring Mus.

32. **Craspedosis semilugens tenuivirga** subsp.n.

♂♀. Differs from *C. s. semilugens* Warr. (1896, Dutch New Guinea) in having the band of the forewing only about half as broad, generally 2 mm. or slightly less at the widest part, in two ♀♀ widening to 3 mm. about R^3. The dark lines (including on both wings a straightish median, which is not mentioned in Warren's description but is well traceable on the forewing in fresh specimens of *s. semilugens*) rather more strongly expressed.

Dampier I., February and March 1914 (Meek's expedition), 4 ♂♂, 3 ♀♀ in coll. Tring Mus.

33. **Craspedosis aurianalis** sp.n.

♂, 39 mm. Head, thorax and first four segments of abdomen blackish ; anal end orange, the genitalia long, with the hair more whitish beneath.

Forewing with termen long, curved, strongly oblique posteriorly, tornus rather weak ; blackish, with a tinge of slate-grey ; an oblique discocellular white patch scarcely beyond middle running from SC in the direction of tornus, but terminating between M^2 and fold, its form long-oval, or almost pointed behind, its greatest width (in middle) 2·5 mm.——*Hindwing* unicolorous slaty blackish.

Forewing beneath almost as above, but becoming paler posteriorly. Hindwing with a very ill-defined, approximately oval grey spot from radial fold just outside DC, across hinder angle of cell and bases of R^3 and M^1 about to submedian fold.

New Ireland, February 1924 (A. F. Eichhorn), 1 ♂ in coll. Tring Mus.

34. **Milionia curosyne** sp.n.

♂, 48–52 mm. Eye hairy. Antennal ciliation short. Hindtibial pencil and abdominal spine strong. Head, body and legs black, shot with metallic green-blue about as in the allies (*aglaia* Rothsch. & Jord. 1905, *diva* Rothsch. 1904, etc.). Hindwing beneath with apical patch of specialised scaling 4 or 5 mm. in diameter.

Forewing elongate, almost as in *aglaia* but with termen slightly more curved and not quite so long; black, with faint purple gloss; a scarlet or orange band from costa to end of hindmargin, 4 or 5 mm. wide, its distal edge very slightly excurved; an extended scarlet-red subbasal patch (the base itself suffused with blackish), posteriorly confluent with the discal band, anteriorly nearly reaching SC, but more or less strongly irrorated with black in front of M, distally bordered by a broad, sometimes subtriangular black wedge which, arising from the end of the black costal base, tapers to a point on or before SM^2.——*Hindwing* black.

Underside with the discal band reproduced, always orange; the subbasal patch wanting; both wings shot with blue proximally about as in *aglaia* Rothsch. & Jordan and *arfaki* B.-Bak. (1910).

Dutch New Guinea: Ditschi, Arfak Mountains, 1,200–1,500 m., May–June 1928 (Dr. E. Mayr), 3 ♂♂ in coll. Tring Mus.

In the ♂♂ of the variable *aglaia* and *arfaki* the transverse band is always well within the cell, whereas in *curosyne* $\frac{1}{3}$ or $\frac{1}{4}$ is beyond it; moreover they never, so far as is known, lose the red band of the hindwing, though it may be considerably abbreviated. Typical *arfaki* was taken with *curosyne*.

35. **Automolodes goldiei imparifascia** subsp.n.

♂. Bands of a more reddish orange than in *g. goldiei* Druce (1882)—flame-scarlet to grenadine-red—that of the forewing narrowed (4 mm. or less in width), that of the hindwing broadened (5 mm. or more) and lengthened, its tapered point well behind M^2, sometimes quite near abdominal margin.

N.E. New Guinea: Watut River to Buiang, west side of Herzog Mountains, 3,200–5,400 feet, early 1928 (A. F. Eichhorn), 10 ♂♂ in coll. Tring Mus.

B. AFRICAN.

Subfam. **GEOMETRINAE.**

1. **Aphilopota semidentata** sp.n.

♂, 35–40 mm. Face black-mixed, with pale lateral spots below. Palpus predominantly blackish. Head and body concolorous with wings, the thorax above darkened posteriorly. Legs weakly spotted, the foreleg largely darkened on the innerside.

Forewing with apex rather acute, termen at first almost or quite at right angles with costa, waved, curving strongly to become strongly oblique; pinkish

buff, or slightly yellower, strongly clouded, excepting an anterior streak (about 2–3 mm. in width but variable and not sharply defined), with dark greyish brown (in some individuals warmer brown, in any case with traces of the brown coloration, especially a spot between postmedian and subterminal in cellule 6); costal edge strongly dark-dotted; cell-spot round, about 1 mm. in diameter, not or most minutely pale-pupilled; lines blackish, highly oblique, approximated except anteriorly; antemedian on the pale area very oblique outward toward cell-spot, interrupted, sometimes almost obsolete, from cell-fold hindward fine, generally strong, wavy, direct to hindmargin about 3 mm. from base; postmedian punctiform on the pale area, from costa within 4 mm. of apex, becoming slightly more oblique and more continuous from R^1, gently incurved between M^2 and SM^2, reaching hindmargin about middle; in some specimens the pale groundcolour is more or less persistent between the lines, in which case a median line is visible or even strong; subterminal fine, dentate, interrupted, at least with a strong, enlarged tooth between R^3 and M^1, its passage across the pale area indicated by dark spots proximally; terminal line lunular, the lunules enclosing at extreme termen minute pale dashes; fringe dark, except at extreme base and tips.——*Hindwing* with costa longish, termen strongly crenulate in its anterior part, weakly in its posterior, the tooth at R^3 slightly the most pronounced; concolorous with forewing, but the dark greyish brown limited to a terminal band and strong proximal irroration, sometimes terminating in a median shade near the cell-spot; cell-spot variable, punctiform or fairly large, occasionally ocellated; a waved or subcrenulate postmedian line much less curved than termen; a slender brown shade close beyond it.

Underside paler; cell-spots black, on both wings large; a punctiform line little beyond it; proximal area as far as the line densely irrorated; forewing with a presubterminal costal spot; terminal line punctiform; fringe less dark than above, pale in proximal half, more brown in distal.

Madagascar: Diego Suarez, January–August 1917 (G. Melou), about 20 ♂♂ in coll. Tring Mus.

Except in the more crenulate hindwing, this seems to agree well with *Aphilopota* Warr. (1899) = *Haggardia* Warr. (1904).

2. Aphilopota perscotia sp.n.

Gnophus perscotia Hmpsn., MS., in coll. C. S. Barrett.

♂, 43 mm. Head and body concolorous with wings.

Forewing with apex moderate, termen scarcely oblique anteriorly, strongly curved behind R^3; venation probably normal in most specimens (i.e. SC^{1-2} coincident, free) but the type is a remarkable sport (fortunately quite asymmetrical, so that F. Bryk can scarcely propose a new family for it): right wing with subcostals normal, R^1 obsolete beyond its middle, reappearing as a curved spur out of R^2 near termen, R^2 at this point also forked; left wing with an anterior branch from R^1 before its middle and running into SC^5, SC^3 apparently wanting, having probably in reality migrated, as the first subcostal is branched before its middle, one branch (probably SC^1–SC^2) short, the other (probably SC^3) long and reaching costa close to apex; brown, somewhere between buffy brown and sayal brown of Ridgway, the veins inclining to the latter colour, a grey irroration darkening the rest of the wing; markings blackish; cell-spot moderate, oval,

scarcely ocellated ; faint suggestions of a subbasal line ; antemedian rather nearer to cell-spot than to base, rather thick, slightly bent outward in cell, inward behind M and forming a very gentle outward curve between this bend and hindmargin ; postmedian lunulate-dentate, arising at 4 mm. from apex, between the two folds forming a gentle inward curve, at hindmargin slightly nearer to tornus than to antemedian ; subterminal suggested by faint distal shading behind M^2 only ; terminal line very fine and weak.——*Hindwing* with termen faintly sinuous, appearing very slightly prominent (but not toothed) between R^3 and M^2 ; concolorous with forewing, but lighter costally, at least between the separation of C and SC and the postmedian line ; cell-mark as on forewing or slightly shorter ; a postmedian arising rather farther from apex than on forewing, otherwise similar ; termen as on forewing.

Underside slightly paler ; cell-spots and postmedian present.

Transkei, Cape Colony (Miss F. Barrett), 1 ♂ in coll. Tring Mus.

The wing-shape and the lunulate-dentate postmedian line are distinctive.

3. **Racotis apodosima** sp.n.

♂♀, 43–54 mm. Head mostly pale, face with a dark transverse central bar, palpus with some dark admixture on 2nd joint ; palpus $1\frac{3}{4}$. Antenna of ♂ pectinate from the 2nd to the 36th joint with moderate, tapering branches ; of ♀ subdentate, with tufts of cilia as long as diameter of shaft. Thorax and abdomen concolorous with wings, the abdomen above with dark bands or subconfluent paired spots. Forefemur not tufted ; foretibia and tarsus darkened, with pale tips to the joints ; hindtibia of ♂ not dilated.

Forewing not extremely broad, apex moderate, termen waved, gently curved, moderately oblique ; cell less short than in typical *Racotis* (appreciably over $\frac{2}{5}$) ; SC^{1-2} shortly stalked ; fovea in ♂ strong, double before and behind fold, which is here represented by a strong curved ridge on upperside ; in ♀ also present, though weaker ; yellow-brown (perhaps cream-buff or chamois), with moderately copious brown and blackish irroration ; cell-spot moderate, vaguely ocellated ; lines not well defined except on the veins, but arising from distinct (though not large) blackish costal spots ; a subbasal suggested by dots at costa and proximal edge of fovea ; antemedian marked by dots on M and SM^2, in a line with the costal spot, and faint indications of an outbent line in the cell ; median excurved outside the cell, posteriorly almost in alignment with cell-spot, the vein-marks dentiform ; postmedian mostly punctiform or subdentiform, posteriorly curving so as to end quite near the median, between SC^5 and R^1 with a deep lunule inward, on additional dot at proximal end of lunule ; ill-defined paired internеural spots proximal and distal to the dot on R^3 ; subterminal in places fairly distinct, macular or lunular, with a pair of dark spots proximally between costa and SC^5, a stronger pair between the radials (this latter pair with shadowy distal extensions to the termen) and less definite shading between M^2 and hindmargin ; terminal dots black, strong ; fringe weakly spotted.——*Hindwing* with termen rounded, well crenulate ; cell-dot punctiform ; median and postmedian lines distinct, lunulate-dentate, the median well proximal to cell-dote, with a rather strong tooth outward on base of M^2, the postmedian curved, approximately 6 mm. from termen; distal area much as on forewing, the posterior shade proximal to the subterminal rather well developed.

Underside with the cell-spots strong, that of the forewing not ocellated ; the

lines indicated ; forewing more or less suffused as far as the median shade ; both wings with a dark, generally broad subterminal band, on the forewing almost reaching the termen at tornus and throwing out a projection to the termen between the radials, on the hindwing less sharply defined distally and with vague distal extensions between R^1 and costa.

Delagoa Bay (Mrs. Monteiro), type ♂ in coll. L. B. Prout, paratype ♂ in coll. Joicey, allotype ♀ in Mus. Tring. Morogoro : Kibuku, 1 ♀ in Mus. Tring. Durban and district, 3 ♂♂, Transkei, 2 ♀♀, at Tring misidentified as *squalida* Butl. (1878), in Mus. Brit. as *Cleora extremaria* (Walk., 1860) = *haplocnema* Prout (1922), Kloof, November 1929 (Manley), a ♀ in coll. Transvaal Mus., perhaps a seasonal form, with a rather more olivaceous tone and the dark bands of the underside much reduced and broken, recalling some examples of *R. boarmiaria* (Guen.) *f. obliterata* Warr. (1894). Madagascar : Diego Suarez, a race (?) with the dark borders beneath very broad, 1 ♂ in coll. Tring Mus.

I have described this species very fully because there are so many similar species as yet imperfectly known. I suspect it is a race of *R. diffusa* (Walk., *Proc. Glasg. Nat. Hist. Soc.* i, 374) (Congo), larger and less ochreous, more strongly marked. It seems to agree perfectly in structure with the unique type (♀) of the latter, unless the antennal cilia be slightly less long, but it would have been futile to describe it by comparison with that, as it would have conveyed no intelligible information ; Swinhoe's synonymy of *diffusa* (*Trans. Ent. Soc. Lond.* 1904, p. 533) is quite incorrect.

R. apodosima is transitional between true *Racotis* and some really unplaced species—such as *extremaria* Walk.—which are still allowed to stand in *Cleora* (sens. latiss.) ; possibly on revision *Racotis* may be given a wider scope, but hitherto I have been inclined to rely chiefly on the short cell of the forewing—$\frac{2}{5}$ or less—and a combination of minor characters.

4. **Epigynopteryx flexa** sp.n.

♂, 45 mm. Head cinnamon-buff, the upper half of face and a narrow band on occiput fuscous ; palpus much mixed with fuscous. Antennal pectinations moderate (about 4). Body less cinnamon, being strongly mixed with rather pale vinaceous drab. Foreleg darkened above.

Forewing with costa slightly arched at base and in distal half, apex not acute, termen straightish (scarcely appreciably concave) to R^3, there bluntly angled, thence oblique and very faintly concave, tornus moderate ; the very long stalk of SC^{1-3} arising nearly 2 mm. down that of SC^{3-5}, anastomosing at a joint, or connected by a very short bar, with C ; pale cinnamon-buff, very much clouded with pinkish or vinaceous cinnamon and with short greyish strigulae ; costal edge proximally fuscous, then more dotted ; a small blackish cell-dot ; antemedian line sinuous, almost obsolete anteriorly, in posterior half marked by a rather broad cloud of grey shading ; postmedian fine and grey (its course made very clear by the markings which accompany it distally), commencing at a white costal spot 4 or 5 mm. from apex, which gives birth to a curved whitish line, enclosing a light olive-grey apical-costal blotch which reaches R^1 ; minute white dashes on SC^5 and R^1 at 3 mm. from termen ; from R^1 the postmedian makes an inward curve to R^3, a faint bend outward about R^3, thence a longer curve, reaching hindmargin 3 or 3·5 mm. from tornus ; a second olive-grey patch outside it at the radials, about as wide as the succeeding terminal area of the ground-

colour ; finally a very large, predominantly much blacker grey (dark quaker-drab) tornal blotch reaching the preceding patch and the termen.——*Hindwing* with the angle at R^3 moderate ; concolorous with forewing ; cell-dot very minute ; antemedian without definite cloud ; postmedian more than twice as near to cell-dot as to termen, excurved between radial fold and M^2, incurved at fold, oblique outward to hindmargin ; only the tornal blotch developed, and this more restricted and indefinite than on forewing.

Underside similar, rather paler, and slightly weaker-marked.

Cameroons : Bitje, Ja River, 1915 (G. L. Bates), type in coll. Joicey. Uganda : Kampala, Katamba, 27 June 1929, a rather smaller, rather worn, but otherwise closely similar ♂ in coll. Brit. Mus., received through the Imperial Institute of Entomology.

Very near *maculosata* Warr. (1901, Congo) but larger, differently coloured, forewing bent at R^3, postmedian rather different, etc.

5. **Sesquialtera lonchota** sp.n.

♀, 29–32 mm. Close to the genotype (*ridicula* Prout, 1916) in structure and coloration.——*Forewing* with the postmedian line less excurved, more approximated to cell-mark, on underside often rather thick.——*Hindwing* with the tooth at SC^2 conspicuously longer ; proximal part of the wing above and beneath whitish, a broad blackish-fuscous distal border, at SC^2 about 3 mm. wide, its proximal edge (the postmedian line) then curving inward so as closely to approach the cell-dot, then slightly excurved, but accompanied proximally on the upperside by a brown suffusion.

Abyssinia : Diredaua, N.W. of Harar, 1914 (G. Kristensen), 7 ♀♀ in coll. Tring Mus.

6. **Rhodophthitus thapsinus** sp.n.

♂♀, 38–46 mm. Very similar to *roseovittata* Butl. (*Proc. Zool. Soc. Lond.* 1895, p. 741, pl. xliii, f. 3), with which it has hitherto been confounded. Wings less glossy.——*Forewing* more definitely tinged with buff, the rosy longitudinal streaks variable in development, generally broad, the dots coarser, generally very copious.——*Hindwing* pale orange-yellow, the dots at least in part large, variable in number and distribution.——Underside similarly much more yellow than in *roseovittata*, the forewing posteriorly more yellow than on upperside.

Angola (Pemberton) : Bihé, 11 ♂♂, 1 ♀, including the type ♂ ; N. Bailundu, 3 ♂♂, 1 ♀. All in coll. Tring Mus.

A few specimens from Uganda (including Butler's assumed ♂ of *roseovittata*, p. 742, fig. 2) are known to me, but not enough to indicate whether they are racially separable.

7. **Narthecusa tenuiorata perspersa** subsp.n.

♂♀, 44–48 mm. Postmedian row of spots more proximally placed, notably on the forewing, where, moreover, it is generally less curved than in *t. tenuiorata* Walk. (1862) ; apical and terminal black patches more or less completely dissolved into small black spots and irroration ; this irroration also developed, though more sparingly, on other parts of the wings, at least on the anterior part of the forewing.

Nigeria (Dr. Ansorge): Degama, 2 ♂♂, 1 ♀; Ogruga, 2 ♂♂. All in coll. Tring Mus., the type ♂ from Degama.

The genus *Narthecusa* Walk. (cf. Prout, Nov. Zool. xxxiii, 181), notwithstanding the individual variability, is exceedingly prone to geographical variation. It is highly probable that *zerenaria* Mab. (1878), *melanthiata* Mab. (1891) and *nudalla* B.-Bak. (1913) are all races of the present species.

Negloides gen.n.

Face smooth. Palpus extremely short and slender. Tongue short and slender. Antenna in ♂ pectinate almost to apex, the branches extremely long (♀ unknown). Hindtibia in ♂ not dilated, all spurs fully developed.——*Forewing* shaped as in *Narthecusa*, venation the same; fovea undeveloped.——*Hindwing* subquadrate, apex rather prominent, rounded, termen slightly sinuous to R^3, here toothed or minutely tailed, thence straightish to the well-defined tornus; venation as in *Narthecusa*.

In spite of its very different aspect, scarcely different from *Narthecusa* (= *Negla*) except in the atrophied fovea and the quite differently shaped hindwing.

Type of the genus: *Negloides oceanitis* sp.n.

8. Negloides oceanitis sp.n.

♂, 30–33 mm. Head and body orange-buff, the face fuscous except the lower part; pectinations blackish.

Forewing orange yellow, not quite so clear as deep chrome, with a weak or moderate violet-grey clouding close to apex; a very faint or moderate, somewhat sinuous row of postmedian dots on the veins; sometimes no other markings, often an irregular row of subterminal spots, or at least the anterior part thereof, the one between R^1 and R^2 largest; occasionally also a median line, arising from an outwardly oblique costal streak, strongly angled (but almost or quite interrupted) between the radials, slightly sinuous posteriorly.——*Hindwing* concolorous, without subapical clouding, otherwise similar to forewing.

Underside similarly but more strongly marked.

Madagascar: Diego Suarez (G. Melou), 17 ♂♂ in coll. Tring Mus.

C. NEOTROPICAL.

Subfam. HEMITHEINAE.

1. Phrudocentra tanystys sp.n.

♂, 39 mm. Similar to *flaccida* Warr. (1909), of which I first supposed it to be a race. Antenna with about 30 joints pectinated before they become merely dentate (in *flaccida* not more than 25 joints). Abdomen with the white dorsal ornamentation strong.

Forewing with the proximal shadings vinaceous-grey in varying depth, costally and along the edge of the antemedian line almost white; the vinaceous grey reaches the antemedian anteriorly, is mixed with brown posteriorly and leaves (except at extreme base) a green patch behind the fold; antemedian sharply angled, oblique inward to middle of cell, outward to base of M^2, inward to fold, excurved between this and hindmargin, from costa to fold blackish, then

brown ; otherwise nearly as in *flaccida*.——*Hindwing* with termen well rounded, even fuller than in the ♀ of *flaccida*.

Brazil : Joinville, July–October (ex coll. Arp), type in coll. Deutsch. Ent. Inst.

These two aberrant species seem best referred to *Phrudocentra*, although the ♀ frenulum is not altogether wanting. Antenna in the ♂ with the pectinations 2 or less ; in the ♀ proximally (for a short distance only) lamellate with clawed teeth ; proximal spurs of hindtibia present, though short ; hindwing not at all bent at R^3, M^1 connate to quite moderately stalked, the latter the case in *tanystys*.

Subfam. **STERRHINAE.**

2. **Semaeopus indignaria** (Guen.).

Cnemodes indignaria Guen., *Spec. Gén. Lép.* x, 6 (1858) ; Oberth., *Ét. Lép. Comp.* xx, t. xlix, f. 4645 (1923) (" Brésil ? ").

Drepanodes absconditaria Walk., *List Lep. Ins.* xxvi, 1488 (1862) (St. Domingo).

The attempt to find a Brazilian species entitled to the name of *indignaria* Guen. has always been an unsuccessful one. I judge from the labelling in the Tring Museum that Warren's note on the potential validity of *Cnemodes* (Nov. Zool. ii, 91) was founded on a Tijuco ♂ of *Semaeopus ciliata* Prout (1918). What Warren made of 5 Novo Friborgo ♂♂ of the closely similar species with pectinate ♂ antenna (*vide infra*), which I believe must have been also in the collection at the time, is not manifest, as they bear no hand-written labels ; I can only conjecture that he did not notice the antennal difference and took all the six to be one species. Subsequently, in any case, he treated the pectinate species (a good series from Sapucay, Paraguay) as *indignaria*. But the appearance of Oberthür's figure, confirmed by the arrival of Guenée's type in this country, shows that it is not a Brazilian species at all but comes—like its neighbour *C. castaria* Guen. and many others of Guenée's Geometridae—from Haiti and supplants *Semaeopus absconditaria* (Walk.) ; this, indeed, I surmised from his description (see *Ann. Mag. Nat. Hist.* (9) i, 20), but did not venture to adopt. The Jamaican form of the same will, if more adequate material shows it racially separable, stand as *indignaria filiferata* Walk. (1862).

Well different from the following in its longer pectinations, browner tone, much less sinuous postmedian and smaller cell-spots.

3. **Semaeopus enodiflexa** sp.n.

" *Semaeopus indignaria* Guen." Prout, *Ann. Mag. Nat. Hist.* (9) i, 20 (1918) (err. det.).

♂, 35–38 mm.

This species, mentioned in the preceding note, has been almost sufficiently characterized by me in erecting *S. ciliata*, as it is almost exactly like that species except in the antenna. Antennal pectinations fully 2 on the outer series, slightly less than 2 on the inner, well ciliated at the tips. Wings very light brown, about as in *viridiplaga* Walk. (1861) ; cell-spots consisting of conspicuous, fairly large, brown-ringed white dots, which are generally oval rather than round ; sinuses of the postmedian not quite as deep as in *viridiplaga* and quite without the subordinate teeth.

Paraguay : Sapucay ; Brazil : Province of Rio Janeiro, ♂♂ not uncommon, ♀ rare. Type ♂ from Sapucay, 12 November 1904 (W. Foster) in coll. Tring

Mus. 2 ♀♀ from Tucuman, in coll. Joicey, may belong either to *enodiflexa* or to *ciliata*.

4. **Semaeopus mira** sp.n.

♂, 33 mm. Head buffy brown, slightly olivaceous; palpus beneath rather paler and more buff. Antenna subdentate-fasciculate. Abdomen beneath rough-scaled. Hindleg with a strong reddish tuft from femoro-tibial joint; tibia and first tarsal joint roughly clothed, exposed extremity of tarsus very short and pointed.

Forewing moderately broad, termen smooth, gently curved; English red (yellow densely irrorated with bright red); costal margin, as far as C, dark grey with a tinge of olive; posterior half of wing between ante- and postmedian lines suffused with grey; antemedian almost straight, red, about 4 mm. from base; cell-spot long-oval, grey, tinged with olive; median line beyond it, dark grey, almost perpendicular from costa to R^3, thence thickened and forming a slight curve inward; postmedian defined in anterior half by two very fine, shallow, bright yellow lunules, which meet in a rather acute outward angle on R^1; in posterior half by short detached lunules, about 2 mm. from termen between R^3 and M^2, much more proximal at fold; subterminal thick, dark grey, at SC^4 about 3 mm. from termen, at R^3 bending outward to termen, resumed more proximally at M^2 (at the postmedian) and running to tornus; terminal area with grey vein-streaks; terminal line yellow, very fine and much interrupted, chiefly indicated at the veins; fringe chequered with dark grey.——*Hindwing* with termen waved, especially in anterior half; cell-fold strong, almost vein-like, SC^2 minutely stalked, R^2 very weak, appearing as an anterior branch to the radial fold (will probably prove normally developed in the ♀); concolorous with forewing, the smoky clouding more extended, distal rather than posterior, forming a broad band just proximal to the postmedian, also diffusing the subterminal; two blackish cell-dots (as in *duplicata* Warr., 1905, etc.), set on a discoloured greyish patch; postmedian composed of isolated lunules throughout.

Underside paler cacao-brown dulled with olive-grey, especially in distal area; hindmarginal part of forewing whitish; cell-marks, median line and lunulate-dentate postmedian strong, subterminal weak; costa of forewing and termen nearly as above.

E. Peru: Huancabamba, Cerro de Pasco (E. Böttger), type in coll. Tring Mus.

Distinguished at once from the rest of the group by the bright red colouring, as well as by the structure.

SUBFAM. **LARENTIINAE.**

5. **Spargania subtilisecta** sp.n.

♂, 41–42 mm. Closely similar to *subignea* Dogn. (1904). Palpus scarcely noticeably longer, on outerside redder, with a blackish longitudinal streak.——*Forewing* with the dark maculation between basal patch and median band broader; subterminal line more slender, with less long tooth inward on SC^5; apical dash more slender, less steep, meeting the subterminal in cellule 6, not in cellule 5.——*Hindwing* particoloured, the anterior half (approximately) of a slightly deeper reddish, the posterior almost entirely clouded with a dark smoky shade.

E. Peru: Huancabamba, Cerro de Pasco, 6,000–10,000 feet (E. Böttger), 2 ♂♂ in coll. Tring Mus.

6. **Eudule secticolor** sp.n.

♂♀, 24 and 27 mm. Head and body blackish, in places with a bluish sheen.

Forewing in ♂ with the apical region contorted and the costal margin forming a rounded projection at the third quarter; in ♀ well rounded; venation in ♀ normal, with SC^5 (as in some other *Eudule*) arising from the large areole, in ♂ contorted, SC from the beginning of the areole markedly retroflex, DC^{2-3} in consequence extremely short, R^1 and R^2 curving so as to meet at about 2 mm. from termen, thence coincident, R^3 recurved, the subcostals, excepting SC^{3-4}, arising from the areole more or less widely separate, SC^4 shortly stalked, sinuous; orange, with reflections of flame-scarlet; costal and hind margins narrowly black; a blackish apical patch (less deep close to apex) extending about 5 mm. along costa, reaching about to M^1, connected by a very narrow terminal band with a small tornal patch, from which runs along the fold and behind the base of M to base of wing a thick, slightly curved black line; ♂ near the apex with a tuft of curved hair, partly blue-black, partly brownish, arising in front of SC^4 and directed upward, outward and backward.——*Hindwing* with DC in the ♂ biangulate, in the ♀ sinuous; black.

Underside similar, in the ♂ without the hair-tuft, and with smoky suffusion behind the longitudinal line of forewing.

Brazil: Alto de Serra, Sao Paulo, March 1928 (type ♂) and December 1928 (allotype ♀), both in the Tring Museum received from R. Spitz.

Subfam. **GEOMETRINAE.**

7. **Pherotesia abjecta** sp.n.

♂, 54–55 mm. At first sight much like a broader-winged, blacker-marked *liciata* Dogn. (1911), abdomen without the dorsal spots. In structure close to the much smaller *subjecta* Warr. (1905),[1] the pectinations being less short than in *liciata*, the lateral tuft of abdomen present (light ochreous brown), R^2 of the hindwing well separate from R^3, DC of forewing as well as (though less extremely than) that of hindwing biangulate.——*Forewing* with cell-spot large and with a strong costal half-band close to base (as in *subjecta*), in addition with a rather large blackish subbasal spot between M and SM^2; proximal subterminal spots strong, the one on each side of SC^5 considerably extended, the one at fold fully as large as in *subjecta*.——*Hindwing* above and beneath with the dark borders still less developed than in *subjecta*.

S.E. Peru: Oconeque, Carabaya, 7,000 feet, July 1904, dry season (G. Ockenden), both worn, but easily recognizable. Type in coll. Tring Mus.

8. **Bryoptera fulvisquamosa** sp.n.

♂, 28–29 mm. Head and body pale, with some irroration; palpus marked with black on outerside. Hindtibia not dilated. Wings shaped as in the group of *basisignata* Warr. (1904).

Forewing white, clouded with light brown, about as in *deformipennis* Warr. (1907); markings similar; antemedian rather heavier than in average *deformipennis*; cell-spot similarly rounded and light-coloured; median chiefly expressed

[1] Dognin (*Hét. Nouv.* ix, 29) says that this sinks to *gariota* Dogn. (*Ann. Soc. Ent. Belg.* xxxix. 114), but the description of the latter fits so badly that I do not venture to merge the two. Perhaps *subjecta* was misidentified in Dognin's collection.

by crescentic marks at costa, at radials, and between M^2 and fold, the latter two heavy, near the postmedian.——*Hindwing* with nearly the colour and markings of *deformipennis*, the patch behind cell-dot rather heavier, the postmedian, in sympathy with the normally shaped termen, slightly more curved anteriorly.

Forewing beneath nearly as in strongly marked *deformipennis*, the ill-defined dusky terminal band strongest in anterior half. Hindwing beneath pale at all margins, a very extensive central part covered with yellow-ochre androconial scaling.

S.E. Peru: La Oroya, Rio Inambari, 3,100 feet, January 1906 (type) and September 1904 (paratype), both in Mus. Tring, collected by G. Ockenden; Uruhuasi, a fine ♂ in Mus. Brit.

9. **Odysia laetipicta** sp.n.

♂♀, 31–36 mm. Face dark brown, narrowly whitish below. Palpus whitish, rather strongly dark-mixed on outerside. Antenna rather short, the pectinations in the ♂ about 5, in the ♀ 4, their terminal bristles scarcely differentiable, their cilia developed on the anterior side only. Vertex and thorax white, with little brown admixture; abdomen above more brown-mixed, anteriorly with indications of paired dark spots; the ♀ abdomen robust. Hindtibia of ♂ strongly dilated, with hair-pencil; the tarsus short and rather stout, in the ♂ less than ½ tibia and even in the ♀ considerably shorter than the tibia.

Forewing in ♂ moderate, in ♀ rather broad (strongly recalling the group of "*Nesalcis*" *laeca* Schaus), termen curved, oblique, scarcely waved; fovea well developed in the ♂; white, with faint smoky irroration and a few darker specks; some slight orange subbasal spots; lines, and to some extent their accompanying shades, arising from dark costal spots; antemedian at $\frac{2}{7}$, less curved than in *N. laeca*, strongest on veins, the accompanying proximal shade or line parallel, receding slightly at costa, strongly marked with orange, especially at the veins; median, except, its broad costal spots, weak, excurved outside the small cell-dot, more or less marked with orange on the veins, notably on base of R^3; postmedian from costa to the slight incurvature at fold forming a fairly regular outward curve, slender, but marked with strong vein-spots; its accompanying distal shade slender, weak, but marked with strong orange dashes on the veins, sometimes with a dark spot on fold; subterminal crenate, marked proximally by more or less continuous brown-grey shading, which strengthens costally and between the radials; orange vein-dashes close to termen, between the radials accompanied by some dark shading; termen with blackish interneural dots; fringe white, with dark spots opposite the veins.——*Hindwing* with termen rounded, weakly (behind M^1 not) waved; antemedian line shown by a dark mark close to base; cell-dot obsolete or slight; median marked by orange vein-spots, the one on DC^1 and base of R^1 elongate; postmedian and the markings beyond nearly as on forewing.

Underside white, in the ♀ more irrorated than above; costal spots present, but reduced; cell-dots as above; no orange spots; postmedian, with its vein-dots, distinct; a subterminal grey-brown shade, in the ♀ pretty complete, especially on the forewing, in the ♂ only well developed between the costa and R^3 of the forewing, in any case leaving free, in both sexes, white spots at apex, midtermen and behind M^2.

Venezuela: Las Quiguas, Esteban Valley, type ♂ in coll. L. B. Prout; San Esteban, June 1909 (S. M. Klages) paratype ♂ (rather worn) in coll. Tring Mus.; Ciudad Bolivar (S. M. Klages), 2 ♀♀ in coll. Tring Mus.

Apparently near "*Nesalcis*" *haematosticta* Dyar (1925), which I have not seen. The whole of that group (*croesaria* Schaus, 1901; *regularis* Dogn. 1902; *laeca* Schaus, 1912; *nebetta* Dyar, 1916) differs widely from typical *Nesalcis* (subgenus of *Melanolophia*, with pectinate ♀) in facies and venation, but lacks the fovea of the present species.

10. **Fulgurodes ypiranga** sp.n.

♀, 78 mm. Similar to *F. lilianae* Schaus (*Proc. Ent. Soc. Wash.* xxxi, 50). Still larger. Abdomen with the pale parts more buff, more restricted, the black dorsal lines thickening triangularly behind, merging in a broad black lateral stripe which contains a row of cream-buff spots.——*Forewing* with cell longer (nearly $\frac{3}{5}$), the white with a creamy tinge and in places dulled with greyish; the black lines thicker; antemedian more oblique to a sharp angle at forking of M with M^2; cell-mark narrowed; subterminal more distally placed, joined to the terminal by black veins, the two forming a narrow black marginal band on which stands a series of subterminal lunules of varying depth, very different from the broad zigzag white line of *lilianae*.——*Hindwing* with the cell elongate ($\frac{3}{5}$); veins heavily blackened and accompanied by much dark irroration, so that only a longitudinal streak in cell, a much narrower one close to abdominal margin, and some outer spots (particularly a series between the postmedian and the marginal band) remain whitish; a thick linear black mark on DC; postmedian line just beyond it, thick, curved, but not appreciably dentate; subterminal lunules obsolete.——Underside similar, but with the black still more extended.

Brazil: Ypiranga, Sao Paulo, March 1923 (R. Spitz), 1 ♀ in coll. Tring Mus.

11. **Phyllodonta cataphracta** sp.n.

♂, 38–41 mm.; ♀, 42 mm. In structure, shape and markings very similar to *matalia* Druce (1891). Distinguishable at a glance by its colour and on closer attention by several details of the markings.

Coloration above and beneath much darker and warmer than in *matalia*, in the ♀ clay-colour to tawny olive, suffused on the upperside with ochraceous tawny or tawny, in the lightest parts of the ♂ more definitely tawny olive, suffused beneath with a browner shade and above almost throughout with hazel, in part inclining to chestnut, rarely with much trace of the pale vinaceous-drab suffusions of *matalia*. Markings correspondingly darker than in *matalia*, otherwise on the upper side of the ♂ with little to distinguish them, except that the postmedian of the hindwing is more proximal and less deeply dentate. ♀ above with the subterminal line of the forewing ending closer to the tornus than in *matalia*, that of the hindwing more curved and considerably nearer the termen than in that species; a blackish spot between R^3 and M^1 of forewing close to termen, as in the ♂♂ of both species. Underside in both sexes characterized by the stronger and better-defined white apical patch of forewing and by having the strongest line (median on forewing, antemedian on hindwing) less curved and more proximally placed, on the forewing crossing or proximal to the cell-dot, on the hindwing well proximal to it.

E. Peru: Huancabamba, Cerro de Pasco, fairly common (including the

type ♂ in coll. Tring Mus.); Oxapampa. S.E. Peru: La Oroya and Santo Domingo, Carabaya. Rio Madeira: Calama, 1 ♂.

To judge from the Tring labellings, this species has been misidentified as *matalia* and the true *matalia* has been called *furcata* Warr. (1894). The latter determination is approximately correct, although I suppose *furcata* Warr. (Rio Janeiro, not "without locality") will prove a separable race; it may be added that Warren's assumed paratype of *furcata* (from Corcovado [Rio]) is really the ♀ to *informis* Warr. (1894).

12. **Rhomboptila cajanuma irrufata** subsp.n.

♂♀. On an average somewhat smaller than *c. cajanuma* Dogn. (1892) from Ecuador and Peru; the vinaceous-buff ground-colour changed to pale purple-drab; hindwing beneath with the dark border heavier, both the lines and the border much less red (more Rood's brown to Vandyke brown), the postmedian generally less deeply sinuate.

British and French Guiana, the type ♂ from St. Jean de Maroni, in coll. Tring Mus.

13. **Rhomboptila calamensis** sp.n.

♂. 34–37 mm. Closely similar to *cajanuma* Dogn., except that the forewing, instead of the large lobe at R^3 (pointing outward and hindward, as in a *Phyllodonta*), has only a very small tooth directed outward (scarcely, if at all, larger than that of *tipaldii* Th.-Mieg, 1893 = *delicata* Warr, 1894). Smaller; ground-colour on an average slightly paler; antemedian band and distal cloudings of forewing more blue-grey than green. Hindwing with median line crossing the cell-dot, or hardly proximal thereto. Underside very distinct from that of *cajanuma*, especially on the hindwing, lacking the red admixture; both wings more nearly as above, but with the blue-grey distal markings intensified, the clouding of forewing extended over a great part of the costal region.

Calama, Rio Madeira, below Rio Machados, August–October 1907 (W. Hoffmanns), 16 ♂♂, including the type; Allianca, Rio Madeira, 1 ♂; La Union, Rio Huacamayo, S.E. Peru, 1 ♂; Buenavista, E. Bolivia, 2 ♂♂; all in coll. Tring Mus.

The ♂ of the species which Warren chose for the type of his genus *Rhomboptila* (1894), namely *brantsiata* Snell. (1874), differs in venation from nearly all the others which I have examined, SC^2 of the forewing arising from the cell, connected with SC^1, whereas the rest follow the much commoner venation of the Neotropical genera of the group, SC^{1-2} long-stalked, their stalk connected by a bar with C; only the ♂ of *siccifolia* Warr. (1894) agrees with that of *brantsiata* in this particular.

14. **Erosina hyberniata fulvescens** subsp.n.

Erosina fulvescens Warr., MS. in coll. Tring Mus.

Larger and more ochreous than name-typical *E. hyberniata* Guen. (1858); the ♂♂ at least as large, and almost as well coloured as the ordinary ♀♀, whether from the type locality (Novo Friborgo, Brazil) or from Central America; the ♀♀ generally 54–58 mm., with the forewing and terminal part of hindwing above bright ochraceous buff, the underside correspondingly brightened.

Jamaica, fairly common, the type ♂ from Newcastle, September 1893, in coll. Tring Mus.

A PRELIMINARY REVIEW OF THE MOORUK (*PAPUANUS BENNETTI*) GROUP OF CASSOWARIES.

By LORD ROTHSCHILD, F.R.S.

(Plates I and II.)

THE instigation to this review was given by the extraordinary changes in the naked portions of the head and neck in the Cassowary still living in the Zoological Gardens which I described as a new species under the name of *Casuarius rogersi*. Although finally to decide the number of good species and subspecies in this group would entail keeping several of each form alive from the brown stage upwards to the final, most fully adult, stage, and having coloured drawings made at each stage and change, and this has not been done except in the case of *C. papuanus rogersi*, yet I think the number of living birds in all stages of development I have examined and the series of drawings I possess quite warrants this preliminary review. It should act as a pointer to subsequent investigations rather than as any definite or final solution of the status of the Mooruk Cassowaries. Thirteen names have been given to these birds, of which the following is the chronological list :

1. **Casuarius bennetti** Gould.

P.Z.S. 1857, p. 269, Aves pl. 129 (New Britain).

2. **Casuarius papuanus** Schleg.

Nederl. Tijdschr. Dierk. vol. iv, p. 54 (1871) (Andai).

3. **Casuarius westermanni** Sclat.

P.Z.S. 1874, p. 248 ; *Ibis*, 1874, p. 417 footnote.
P.Z.S. 1875, pp. 85, 87, 380, pl. xix (Mansinam).

4. **Casuarius picticollis** Sclat.

Rep. Brit. Assoc. 1874, p. 138 ; *P.Z.S.* 1875, p. 84, pl. xvii (Discovery Bay, S.E. New Guinea).

5. **Casuarius edwardsi** Oust.

P.Z.S. 1878, p. 389, pl. xxi (Dorey).

6. **Casuarius loriae** Rothsch.

Nov. Zool. vol. v, p. 513 (1898) (Moroka Distr. and Upper Brown R.).

7. **Casuarius picticollis hecki** Rothsch.

Bull. B.O.C. vol. viii, p. xli & xlvi (1899) (German New Guinea).

8. **Casuarius roseigularis** Rothsch.

Bull. B.O.C. vol. xv, p. 32 (1905) (?).

9. **Casuarius claudii** O. Grant.

Bull. B.O.C. vol. xxix, p. 25 (1911) (Iwaka River).

10. **Casuarius keysseri** Rothsch.

Bull. B.O.C. vol. xxix, p. 50 (1912) (Rawlinson Mts.).

11. **Casuarius foersteri** Rothsch.

Bull. B.O.C. vol. xxxiii, p. 66 (1913) (Inland from Huon Gulf).

12. **Casuarius papuanus goodfellowi** Rothsch.

Bull. B.O.C. vol. xxxv, p. 7 (1914) (Jobi Island).

13. **Casuarius rogersi** Rothsch.

Bull. B.O.C. vol. xlviii, p. 87 (1928) (?).

Before going into them seriatim I will put into words the changes in the type specimen of *C. rogersi* which are well depicted in the two accompanying plates. When I received this bird from Mr. Rogers of Liverpool, about March 1928, the plumage was already black and the fore- and hindneck were uniform dirty flesh-colour, with deep wrinkles and worm-like convolutions all over; the lower sides of the neck were somewhat suffused with pale mauve and the occiput was much paler flesh-colour; see Plate I. At the present moment the bird has the whole throat and foreneck and the upper 4th of hindneck blue washed with a dull leaden tinge; the occiput is white, and the lower half of hindneck yellowish orange, while the lower sides of the neck are bright rosy mauve. The change began by the foreneck gradually becoming tinged with dirty greenish blue which gradually spread and deepened, and the orange appeared last; see Plate II. This quite unlooked for change was very startling in a bird already in black plumage, and at once suggested that some of the other Cassowaries with depressed casques and NO wattles might be age phases only. So far I have been unable to prove this, as so many are without any data or locality, but the more careful study of the literature as well as the birds show that they have been wrongly grouped in several cases.

First of all, in examining the thirteen names we find that the bird I called in my monograph *C. papuanus* Schleg. is not *C. papuanus* Schleg., as the type of that bird has the occiput and hindcheeks black without a trace of white.

We find next, on examining the drawing of *C. edwardsi* Oust., that the occiput is uniform blue like upper portion of the hindneck and not white. Thirdly we find the occiput in *claudii* Grant black, but the remaining colours in their general distribution agreeing with *edwardsi* and the true *papuanus*; therefore I am forced to treat these three forms as follows:

Casuarius papuanus papuanus Schleg.—Andai.
Casuarius papuanus edwardsi Oust.—Dorey.
Casuarius papuanus claudii O. Grant—Snow Mts.

The bird which I called *papuanus* in the monograph, and which is one of the more frequent Cassowaries to be imported alive, at first sight appears to be

without a name, for the two figures by Keulemans, *P.Z.S.* 1872 and 1875, of *C. westermanni* Sclat. appear very different. If, however, the descriptions are examined, the matter becomes clearer, and taking account of Keulemans's habit of making rough sketches of the living birds he was commissioned to draw, and then finishing the final drawings at home, away from his model, I have no scruples in applying the name *westermanni* to this bird, and the three subspecies, therefore, will be as follows :

Casuarius westermanni westermanni Sclat.—Regions round Geelvink Bay.
Casuarius westermanni goodfellowi Rothsch.—Jobi Island.
Casuarius westermanni rogersi Rothsch.—Locality unknown.

Of *Casuarius roseigularis* Rothsch. I can say nothing new : the type remains unique. It is a bird in brown plumage and the pink foreneck, yellow hindneck, and greenish occiput are not found in any other Cassowary ; but no doubt when adult it might have had a totally different coloration. It now remains to discuss the eastern forms, of which the extremes are *bennetti* of New Britain and *loriae* of the higher parts of the Owen Stanley Range. These naturally fall into two groups : (1) those inhabiting the low country and (2) those inhabiting the high mountains. Of each we find three lowland birds and three high-mountain forms. In *picticollis* Sclat., the dull red of the throat in the immature bird points to a link with *keysseri* Rothsch., so that I foresee that all six will prove subspecies of *bennetti* Gould., but at present we must treat them as three species with their subspecies as follows :

Casuarius bennetti bennetti Gould—New Britain.
Casuarius bennetti hecki Rothsch.—Lowlands of North-East New Guinea.
Casuarius bennetti picticollis Sclat.—Lowlands of South-East New Guinea.
Casuarius keysseri keysseri Rothsch.—Rawlinson Mts.
Casuarius keysseri foersteri Rothsch.—Mts. inland from Huon Gulf.
Casuarius loriae Rothsch.—Highlands of Owen Stanley Mts.

TYPES OF BIRDS IN THE TRING MUSEUM.

By ERNST HARTERT, PH.D.

D. Gregory M. Mathews's Types of Australian Birds.

II.

(*For No. I see* NOV. ZOOL. XXXV, *pp.* 42–58.[1])

LARI.

† 54. **Hydrochelidon leucoptera belli** Math. = *Chlidonias leucopterus.*

Hydrochelidon leucoptera belli Mathews, *Austral Avian Record*, iii, p. 55 (1916—Lord Howe Island).

Type: ♂ in winter plumage, beginning to moult, West Beach, Lord Howe Island, 13.ii.1915. Roy Bell coll. No. 11.

Named after the collector.

† 55. **Hydrochelidon leucopareia rogersi** Math. = *Chlidonias leucopareia fluviatilis.*

Hydrochelidon leucopareia rogersi Mathews, *Nov. Zool.* xviii, p. 209 (1912—Parry's Creek, N.W. Australia).

Type: ♂ Parry's Creek, East Kimberley N.W. Australia, 10.ii.1909., J. P. Rogers coll.

Named after the collector. The specimens from the various parts of Australia cannot be separated into different subspecies.

† 56. **Gelochelidon nilotica normani** Math. = *Gelochelidon nilotica macrotarsa.*

Gelochelidon nilotica normani Mathew, *Austral Avian Record*, ii, p. 125 (1915—Normanton, Queensland).

Type: ♀ ad., Normanton, Queensland, 9.xi.1913. Robin Kemp coll. No. 3440.

The supposed smaller size is by no means constant, as shown by Mathews's series now.

† 57. **Gelochelidon nilotica cloatesi** Math. = *Gelochelidon nilotica macrotarsa.*

Gelochelidon nilotica cloatesi Mathews, *Bull. Brit. Orn. Club*, xlv, p. 41 (1924 –" New name for the bird figured in my *Birds of Australia*, vol. ii, plate 104, and described on p. 327, pt. 3, 1912. Type locality Point Cloates, Mid-West Australia ").

Type: The bird figured pl. 104: ♂ ad., Maud's landing, Point Cloates, West Australia, 1.v.1900. Tom Carter coll.

The name *cloatesi* is placed as synonym on p. 135 of the *Syst. Av. Australas*, i. Why it was given in 1924 is nowhere explained.

[1] For former lists of types see NOVITATES ZOOLOGICAE, vols. 1918, 1919, 1920, 1922, 1924, 1925, 1926, 1927, 1928.

† 58. **Hydroprogne tschegrava yorki** Math. = *Hydroprogne tschegrava strenua.*

Hydroprogne tschegrava yorki Mathews, *Austral Avian Record*, ii, p. 125 (1915—"Type, Cape York, Queensland").

Type: ♀ ad., Cable Station, Cape York, 10.iv.1913. Robin Kemp coll. No. 2759.

† 59. **Thalasseus bengalensis robini** Math. = *Sterna bengalensis bengalensis.*

Thalasseus bengalensis robini Mathews, *Austral Avian Rec.* iii, p. 55 (1916—"Cape York, Queensland").

Type: ♂ ? ad., Utingu, Cape York, 10.viii.1912. Robin Kemp coll. No. 1399.

Named after the collector's Christian name.

† 60. **Sterna striata christopheri** Math. = *Sterna dougallii gracilis.*

Sterna striata christopheri Mathews, *Nov. Zool.* xviii, p. 209 (1912—Point Cloates).

Type: ♀, Point Cloates, 16.iii.1902. Tom Carter coll. No. 9718 of the Matthews' collection.

Originally compared with the much larger *S. striata*, with which it has nothing to do.

† 61. **Sterna striata yorki** Math. = *Sterna striata striata.*

Sterna striata yorki Mathews, *Austral Av. Record*, ii, p. 86 (1914—Cape York).

Type: ♀ jun., Cape York, 1.i.1913. H. S. Vidgen coll. No. 17.

"Iris black. Feet reddish brown. Bill black."

There can be no doubt the type is immature and that the name *yorki* is only a synonym. I am not sure that *S. s. melanorhyncha* from Australia can be separated!

† 62. **Sterna sinensis tormenti** Math. = *Sterna albifrons sinensis.*

Sterna sinensis tormenti Mathews, *Nov. Zool.* xviii, p. 210 (1912—Point Torment, N.W. Australia).

Type: ♂ Point Torment, King Sound, West Kimberley, 12.iii.1911. J. P. Rogers coll. No. 1395.

?† 63. **Thalasseus bergii gwendolenae** Math. = ? *Sterna bergii pelecanoides ?*

Thalasseus bergii gwendolenae Mathews, *Noz. Zool.* xviii, p. 208 (January 1912—"South West Australia").

Type: ♀ jun. Rockingham, West Australia, 2.i.1909.

The diagnosis reads: "Differs from *S. b. cristata* in having the bill greenish, lighter and slightly larger." The author, however, meant to say that the bill was greenish (sign of juvenility!), and that the upperside of the bird (not the bill!) was lighter and larger, as is evident from later publications. Sufficient material from breeding-places is not available to me, from which to form a *definite* opinion about the number of recognizable subspecies. Oberholser, in 1915, admitted eleven subspecies, and Mathews seems to believe in them. When I wrote about these Terns in *Vög. pal. Fauna*, p. 1696, I stated that *pelecanoides* (Torres Straits) was the same as *cristata* (China), and admitted *gwendolenae* as

doubtfully separable from the latter. It seems to me now that Australian specimens are in the series lighter, purer grey, on the back than *cristata*, but I doubt that *gwendolenae* differs from other Australian forms. Comparing size the sexes should be considered!

TUBINARES.

64. **Cymochorea owstoni** Math. & Iredale = *Oceanodroma owstoni*.

Cymochorea owstoni Mathews & Iredale, *Ibis*, 1915, p. 581 (Okinose, Yokohama Bay, Japan).

Type: ♂ ad., Okinose, 1.v.1902, from Alan Owston.

This species is probably the same as the *O. tristrami* of the *Cat. B. Brit. Mus.* xxv, p. 354, but as the description of *O. tristrami* does not agree in all points and the type is lost, one better accepts the name *owstoni*. This bird is much like *markhami* in colour, but the head and back are browner, the bill is larger, the nasal tube ascends higher in front, tarsi and feet larger, wing longer than in *O. markhami*, of which we have two from west of Peru, collected by R. H. Beck during the Brewster–Sanford Expedition 1913.

(Cf. *Vög. pal. Fauna*, ii, p. 1416.)

(?) 65. **Pelagodroma marina dulciae** Math. = *Pelagodroma marina marina* ?

Pelagodroma marina dulciae Mathews, *B. Austral.* ii, pt. 1, p. 21 (1912—Breaksea Island off Albany, W. Australia).

Type: ♂ ad., Breaksea Island, Albany, W.A., 15.xii.1908. Tom Carter coll. Named after Miss Dulcie Wynne, Mr. Mathews's step-daughter.

† 66. **Pelagodroma marina howei** Mathews.

B. Austral. ii, pt. 1, p. 26 (1912—Mud Island, off Victoria).

Type: Ad., Mud Island, 14.xii.1907. Frank E. Howe coll.

Named after Mr. Frank E. Howe, who collected several specimens on Mud Island and gave them to Mr. Mathews.

Specimens from Eastern and Western Australian Seas are the same, and *howei* is now admitted by Mathews as a synonym of *dulciae*. Whether the latter is separable from *P. marina marina* of the South Atlantic Ocean is doubtful, and *hypoleuca* from the Salvages, etc. (cf. *Vög. pal. Fauna*, p. 1418) is hardly separable either.

Mathews, *Syst. Av. Australas.* p. 108, quotes "*Procellaria passerina* Mathews, *Birds Austral.* ii, p. 24, Kermadec Islands, ex Solander MS." This is somewhat troublesome, as "ex Solander MS." is only tacked on in the end. As it is, Mathews quoted Solander's description and said that he "felt" that it might refer to a form with which he was at the time unacquainted. That may be the case, but it is quite doubtful and a query should have been added to the name.

(In another case, under *Garrodia nereis*, Mathews quotes as synonyms "*Procellaria saltatrix* Math." and "*Procellaria longipes* Mathews," without saying that these names were not his names, but that he found them in Solander's MS. This must be mentioned, as one would otherwise expect the types to be in Tring, while, of course, there are no types of these two names.)

† 67. **Neonectris tenuirostris hulli** Math. = *Puffinus tenuirostris brevicaudus.*

Neonectris tenuirostris hulli Mathews, *Bull. B.O. Club*, xxxvi, p. 82 (1916—" Barrier Reef, Queensland ").

Type : Barrier Reef, off the Queensland coast, November 1882.

Already admitted to be synonym by the author in 1927.

† 68. **Priocella antarctica addenda** Math. = *Priocella antarctica.*

Priocella antarctica addenda Mathews, *Austral Avian Record*, ii, p. 125 (1915—" New Zealand Seas ").

Type : A specimen from the Tring Museum, acquired from a dealer and said to be from the seas " South of New Zealand," and this is the specimen " fully described and figured in vol. ii, p. 126, pl. 82, *Birds of Australia*," under the name of *P. antarctica*. This name is admitted to be a synonym in *Manual of the Birds of Australia*, i, pp. 32, 33, 1921, though, probably by some oversight, in 1928 (*Syst. Av. Australas.* p. 116) it was admitted as a valid subspecies.

69. **Pterodroma macroptera albani** Math. = *Pterodroma macroptera albani.*

Pterodroma macroptera albani Mathews, *Austr. Avian Rec.* i, pt. 2, p. 30 (1912—Rabbit Island, S.W. Australia).

Type : ♀ ad., Rabbit Island, Albany, S.W. Australia, 24.vi.1911. Tom Carter coll.

This form seems quite recognizable, though more material from S.W. Australia is desirable.

† 70. **Pterodroma inexpectata thompsoni** Math. = *Pterodroma inexpectata.*

Pterodroma inexpectata thompsoni Mathews, *Austral Avian Record*, ii, p. 125 (1915—" East Australia." Errore !).

Type : ♂ 6.ii.1890, Circular Head, North Tasmania (not East Australia !).

Evidently named after Thompson, from whom Mathews had many Tasmanian birds, but this specimen was collected by someone else (name not readable).

(Admitted synonym by Mathews.)

† 71. **Pterodroma neglecta quintali** Math. = *Pterodroma neglecta.*

Pterodroma neglecta quintali Mathews, *Austral Avian Rec.* iii, p. 68 (1916—Lord Howe Island).

Type : ♂ ad., dark form, Mt. Gower, Lord Howe Island, 25.xi.1914. Roy Bell coll.

(In *Vög. pal. Fauna*, p. 1435, I said that *quintali* had a bill different in shape from that of *P. neglecta*. When I wrote this I had only one specimen, which had a smaller bill, but with the series of the Mathews collection at hand I must agree with that author, that *quintali* is the same as *neglecta*, the birds from Lord Howe Island not differing from those of the Kermadec group. The differences I saw are merely individual.)

† 72. **Pterodroma dubius** Math. = *Pterodroma mollis mollis.*

Pterodroma dubius Mathews, *Bull. Brit. Orn. Club*, xliv, p. 70 (1924—" North Australia ").

Type : A specimen exchanged from the British Museum labelled : " N.W. Australia, Capt. Beckett." This locality was later doubted, as the occurrence

in Australian waters was not admitted, but the name *dubius* has recently been placed as a synonym of *P. mollis mollis*.

73. **Aestrelata lessonii australis** Math. = *Pterodroma lessonii australis*.

Aestrelata lessonii australis Mathews, *Austral Avian Record*, iii, p. 54 (1916—Sydney, N.S. Wales).

Type: ♀ picked up on Bondi Beach, Sydney, 21.x.1914, by G. E. Rohu.

The specimens are slightly smaller in wing and bill than those from Kerguelen, but larger series may diminish this character—I see no difference in the colour of the wing-feathers.

74. **Procellaria leucoptera** Gould = *Pterodroma leucoptera*.

Procellaria leucoptera Gould, *Ann. & Mag. Nat. Hist.* first series, vol. xiii, p. 364 (1844—Cabbage Tree Island, N.S. Wales).

? Paratype: An adult without collector's label, but with a label saying: "Procellaria nov. sp. von Salmin ad. 1845," but on Mathews's label is said: "One of Gould's types," and in the *Birds of Australia*, ii, p. 172, he says that it is a specimen from the Gould collection, and that he received it in exchange.

† 75. **Cookilaria cooki byroni** Math. = *Pterodroma leucoptera*.

Cookilaria cooki byroni Mathews, *Bull. Brit. Orn. Club*, xxxvi. p. 48 (1916—"Byron Bay, Northern New South Wales").

Type: An undated and unsexed specimen received through Tost & Rohu in Sydney. On the label it says: "Byan Bay, N. Coast." This was naturally taken to mean Byron Bay, on the northern coast of N.S. Wales by Mathews, l.c., but in the "Manual," p. 37, 1921, this is corrected, and it is said to be an error, the correct locality being "Cabbage Tree Island, N.S. Wales," while in 1927, in the *Systema Av. Austr.*, it is said to be "Port Stephens," which is at Cabbage Tree Island, as one can find out, but not without waste of time.

C. c. byroni is not now admitted by the author, nor does the type in any way differ from *leucoptera*.

In the *B. Austr.*, Mathews looked upon *cookii* and *leucoptera* as subspecies, but later on (1927) treated the two as different species. It requires a full study of all these forms to come to a conclusion about this question, which is not easy to answer.

† 76. **Halobaena caerulea victoriae** Math. = *Halobaena caerulea*.

Halobaena caerulea victoriae Mathews, *Austral Avian Record*, iii, p. 54 (1916—"Victoria").

Type: A dirty specimen with webs of feet eaten away, washed up dead on the shore at Mordialloc, Victoria (in 1890 apparently). At first it was said to be "smaller" than *H. c. caerulea*, but this is not the case, the wings appearing to be shorter, because the first primaries are wanting. In 1927 (*Systema Av. Austr.* p. 126) it is correctly admitted to be a synonym.

† 77. **Daption capense australis** Math. = *Daption capense*.

Daption capense australis Mathews, *Austral Av. Rec.* i, p. 187 (1913—New Zealand).

Type: ♀ Caversham near Dunedin, New Zealand, 17.vi.1905. Wm. Smyth coll. Dr. Lowe and N. B. Kinnear have duly quoted *D. c. australis* as a synonym of *D. capense*.

78. **Prion vittatus gouldi** Math. = *Pachyptila vittata gouldi.*

Prion vittatus gouldi Mathews, *Birds Austr.* ii, p. 211 (1912—"Australian Seas").

Type: ♂ ad., off Eastern entrance of Bass Straits, 11.vii.1847. J. Macgillivray coll., voyage H.M.S. *Rattlesnake.* Exchanged by Mathews from British Museum.

This bird is certainly different from the wide-billed *P. v. vittata*, but whether they are really different from *P. v. missa* Math. is difficult to say, as the bills vary to some extent. Unfortunately the name "*gouldi*" stands before "*missus.*"

79. **Prion vittatus missus** Matthews = *Pachyptila vittata missa.*

Prion vittatus missus Mathews, *Birds Austr.* ii, p. 212 (1912—"West Australian Seas").

Type: ♀ Cottesloe Beach, S.W. Australia, 14.vi.1904. J. Drummond coll.

This is the most extreme of the thin-billed forms of *Pachyptila* (*Prion*) *vittata.* The bird named *gouldi* by Mathews is variable and somewhat between *P. v. vittata* and *missa.* Both typical *vittata* and *gouldi* were sent from Bondi Beach. It seems that we do not know the breeding home of these thin-billed examples!

† 80. **Pelecanoides urinatrix belcheri** Math. = *Pelecanoides urinatrix urinatrix.*

Pelecanoides urinatrix belcheri Mathews, *Austral Av. Rec.* i, p. 84 (1912—"Australian Seas, breeding in the islands").

Type: A specimen without original label, on label written by Mr. Mathews, "Australian Seas."

(Cf. *Syst. Av. Australas.* p. 129.)

81. **Heteroprion belcheri** Math. = *Prion belcheri.*

Heteroprion belcheri Mathews, *B. Australia*, ii, p. 224 (1912—Belcher picked the type up "15 miles south of Geelong." It has no original label but one written by Mathews, which gives as locality "Torquay Beach, Geelong, October 1911," but Belcher had the bird, according to his letter reprinted *B. Australia*, ii, p. 224, already on July 23, 1911).

Type: Geelong, Victoria, July 1911. Charles Belcher coll., after whom it is named. Sex not stated!

This specimen differs from all others known to me in its narrow bill, but we do not know if this means a separate species or local form (subspecies)—or even aberrant specimens, which is apparently not the case. Unfortunately we do not know the breeding home, as the specimen was washed up dead with apparently 20 others; it was fresh, like several others, while the majority were damaged. It seems that birds very much like the type are known from the Kerguelen Islands and in the New Zealand Seas, as Mathews (*Syst. Av. Austral.* i, p. 127) says: "Southern Australian and New Zealand Seas. Extralimital."

?† 82. **Heteroprion desolatus mattingleyi** Math. = *Prion desolatus desolatus?*

Heteroprion desolatus mattingleyi Mathews, *B. Australia*, ii, p. 226 (1912—"Australian Seas").

Type: Also picked up by Belcher on the beach south of Geelong (Torquay Beach) in July 1911, erroneously labelled October 1911. No original collector's label, sex not stated.

Cf. Nov. Zool. xxxiii, 1926, p. 356.

?† 83. **Pseudoprion turtur solanderi** Math. = *Prion turtur turtur ?*

Pseudoprion turtur solanderi Mathews, *B. Austr.* ii, p. 220 (1912—" West coast South America ").

Type : A skin with uncertain locality and no collector's label, labelled by Mathews " Cape Horn," which is certainly not the " West coast of South America " !

It seems in no way to differ, and is more than doubtfully distinct.

† 84. **Pseudoprion turtur nova** Math. = *Prion turtur turtur.*

Pseudoprion turtur nova Mathews, *Austral Avian Rec.* iii, p. 55 (1916—" Described and figured *B. Austr.* ii, p. 217, pl. 93. Type, Sydney, New South Wales "). No differences stated, in 1927, *Syst. Av. Austr.* p. 127, admitted synonym.

Type : ♀ Botany Bay, N.S. Wales, collector unknown.

For other types of *Tubinares* (*Prion turtur huttoni* and *crassirostris, Heteroprion desolatus alter* and *macquariensis*) see NOV. ZOOL. xxxiii, 1926, pp. 355, 356 !

An adult female of *Prion turtur turtur* was found washed up on the S.W. Beach of Lord Howe Island 26.vii.1914 by Roy Bell. On the label is stated : " Bill light and dark blue, legs light blue, webs cream. Body in spirit." This species is therefore to be added to the list of Lord Howe Island's birds, as it is not mentioned in Mr. Mathews's fine book of 1928.

† 85. **Diomedea bassi** Math. = *Diomedea chlororhynchus.*

Diomedea bassi Mathews, *Nov. Zool.* xviii, p. 206 (January 1912—" Australian Seas. Extralimital ").

Type : Adult without original label, labelled : " ♂ Coast of S.E. Australia, 4.xii.1899, by Mathews."

In the original description only compared with *D. chrysostoma*, from which, of course, it differs. Lowe and Kinnear have correctly placed the name *D. bassi* as a synonym of *chlororhynchus.*

† 86. **Diomedella cauta rohui** Math. = *Diomedea cauta cauta.*

Diomedella cauta rohui Mathews, *Austral Avian Record*, iii, p. 55 (1916—" Type, Sydney, New South Wales ").

Type : Adult, Botany Bay, Sydney, no date ! " Iris black, beak slate and horn, feet flesh." Bought from Tost and Rohu, " taxidermists, furriers, tanners and curiosity dealers." After Mr. Rohu the supposed subspecies (now admitted synonym by its author) is named.

(**Diomedella cauta wallaca** Math. = *D. c. rohui* = *D. c. cauta.*

In *Austral Avian Record*, iii, p. 160 (1918) we find : " For *Diomedella cauta rohui* Mathews, *Austral Avian Record*, iii, p. 55, 1916, read *Diomedella cauta wallaca*, new name." Why ?)

(*To be continued.*)

LIST OF LEPIDOPTERA COLLECTED BY DR. ERNST HARTERT AND MR. FREDERICK YOUNG IN MOROCCO IN 1930.

By LORD ROTHSCHILD, Ph.D., F.R.S.

DR. ERNST HARTERT sent me the following notes on his 1930 trip to the Moroccan Atlas during which these Lepidoptera were taken.

"On June 27th, 1930, I left London on the S.S. Moultan, one of the largest of the P. & O. steamers, of 21,000 gross tons, and arrived at Gibraltar on July 1st, after an exceptionally fine and quiet journey. The same day we left Gibraltar on a very small boat of the Bland Line for Casablanca, where we arrived the next morning. Again Mr. Frederick Young of the Tring Museum accompanied me. On July 3rd we went to Marrakesh. There we observed nothing new in birds, and all birds were in full moult; we did not see the small Moroccan Sand-Martin, *Riparia paludicola mauritanica*. Butterflies were not numerous, but the Copper, *Polyommatus* (or *Chrysophanus*) *phoebus*, was about as common as in May and June.

"After getting the necessary written permission and a good car with an efficient chauffeur, we left early on the 7th to cross the Great Atlas. It was a very beautiful trip. The river, along which a great part of the road went, still contained running water, but much less than usually in the beginning of June, and most of the country had become rather dry. It seems peculiar to me that all along the river not a single *Motacilla alba subpersonata* occurs, and that no *Cinclus* live in this part. Altogether it is poor in birds, proper forests and big plains, as on the plateau of the Middle Atlas, being absent. In the afternoon we crossed the Tizi-N-Tichkan Pass and descended down the southern slopes of the Atlas. A few miles below the Pass is a belt of open, somewhat bare forest of *Callitris*, *Juniperus*, and *Quercus*, but without very tall oaks and without cedars. No butterflies were noticed in it, nor any interesting birds, but the striped Squirrel, *Atlantoxerus getulus*, was observed in small numbers. After passing the forest it became much more bare, and when arriving in the valley of Telouet (Glaoui country) we were rather disappointed, for the hills and mountains near by were very bare, some being actually bare rocks without any vegetation. In the valley are a few villages, among them the real Telouet with the grand old castle of the Pasha of the Glaoua. A couple of kilometres above is the new French Fort, out on the open stony plain, with about fifty men of the Foreign Legion, and the "Bureau Arabe." The officer of the latter, Lieutenant Tuder, Chef du Bureau des Affaires Indigènes, received us very kindly, gave us two bedrooms, and invited us to take the principal meals with him. There was only one other officer, Lieutenant Amilakrari, of the Foreign Legion, from the Caucasus, the Captain, Monsieur Gamez, arriving several days later.

"Along the river valleys were gardens, some small fields and fruit trees. Of butterflies the most conspicuous were the many *Melanargia galathea meade-waldoi*, but along and in the gardens some *Lycaenidae* and other species were not rare, but there was no sign of Zygaenas or of any of the rare *Satyrus* or other high mountain butterflies. Enormous numbers of a middle-sized Grasshopper and a few other species of *Orthoptera* inhabited the more fertile places. Gardens,

irrigated with water, conducted through narrow ditches from the river, did exceedingly well.

"The commonest bird was a short-billed Crested Lark, *Galerida theklae ruficolor*, which was seen in many places on the stony ground. Storks were feeding on the bare fields in numbers, *Neophron percnopterus* was once observed, a few *Milvus migrans migrans*. Kestrels here and there, *Oenanthe hispanica hispanica* and *Anthus campestris*. On the old castle *Hirundo rustica rustica* had nested, and in the gardens and villages one saw plenty of *Passer domesticus* and some *Serinus serinus*, *Hippolais pallida opaca* (rare !), *Emberiza striolata sahari*, *Carduelis cannabina*, *Muscicapa striolata*, Blackbirds, Goldfinches and a few Quails. *Streptopelia turtur arenicola* occurred in most village gardens, but not very numerous, while in April, we were told, thousands passed through. On steep rocks a few *Columba livia* nested, once an *Aquila bonellii*, and several times *Corvus corax tingitanus*, twice *Buteo rufinus cirtensis*, and once *Circaetus gallicus* were seen. Lieutenant Amilakrari took us to a fine valley, about two hours over an awful stony region, where *Alectoris barbara barbara* existed. Several, all much in moult, were shot, and as far as one can see they were true *barbara*. Twice several *Oenanthe leucura syenitica* were seen and one shot. In May or early June a flock of *Comatibis eremita* came up from the south and were feeding about an hour from Telouet, according to detailed description from the officers.

"Telouet or somewhere very near by must have been the place where Dodson shot the only known three specimens of *Rhodopechys sanguinea aliena*, but neither round the old castle nor anywhere else did I see a trace of them, and neither officers nor natives were able to give me any information about this very rare bird. Dodson said he got it at "the Glaoui," which is a fairly large district, but he slept at Telouet.

"We stayed a week at Telouet and then returned to Marrakesh. In Telouet the sun was shining all day, no clouds were seen during our stay there, and in the nights the full moon shone wonderfully, from about nine o'clock in the morning it became very hot and it was interesting to observe how the birds were seeking shade and came into the oasis gardens ; even Crested Larks came into the gardens and stayed under the trees, and I have also seen them sitting on vines and branches. About or towards noon a westerly wind came up and blew till ten at night or later, sometimes very strong and hurricane-like. The nights were cooler and most delightful.

"On the return journey we stayed nearly two hours on the Tizi-N-Tichkan Pass. Unfortunately sheep and cattle had been feeding there and had eaten much of the scanty vegetation, but Young found a spot on the east side where cattle could not get a foothold, and where there was a little stream of water and a bit of swampy ground. There butterflies were flying in numbers and among them the new subspecies of *Zygaena*. Marrakesh was very hot, while it had been hardly warmer there than on a hot summer day in England, before we went to Telouet.

"As soon as possible we left for Rabat, where we saw my old friend Théry. We then proceeded to El-Hajeb, passing a few hours in Meknès with Mr. Harold Powell. At El-Hajeb it had become too dry for Zygaenas and rarer lepidoptera, and very few moths came to the lights, though the nights were dark without any moonlight. We visited the rocks where the bare-necked Ibis, *Comatibis eremita*, nests, but they were no longer there, though a small flock flew round in

silence. As I had to be at home at the beginning of August we had very little more time, but went one day to Ifran. Ifran is a perfectly new French place in the Middle Atlas, reached (now) by motor-omnibus from Azrou. Hotel and restaurant are there and already in use, though neither was entirely finished. The way from Azrou to Ifran leads through very fine forests, chiefly of oaks, and some wonderful cedars, and we were very sorry that the motor-omnibus made no stops whatever. But near Ifran is also forest and there we caught a good number of butterflies, among them a few *Argynnis auresiana*. After Ifran we went for a day into the forests above Azrou. We had to take a Mokhrazni (Moroccan soldier) with us, but all was managed without much loss of time. We walked up over bare hills, where a large *Satyrus* was common, and then went down the steep road through the old forest. There we caught the rare *Argynnis lyauteyi*, also *Papilio podalirius lotteri* in perfectly fresh condition, and a number of other butterflies.

"We then returned to Rabat, which we left again on the 25th of July, and on the 28th we left Gibraltar, arriving at London on the 1st of August."

Ernst Hartert.

1. **Papilio machaon maxima** Verity.

Papilio machaon maxima Verity, *Rhopalocera Palaearctica*, p. 296, pl. lii. f. 2 (1911) (gen. vern. ; Tangier).

Papilio machaon maxima gen. aest. *angulata* Verity, l.c., p. 296, pl. lx, f. 14 (1911) (Tangier).

1 ♀ Ifrane, Middle Atlas, 20 July ; 1 ♀ above Azrou, Middle Atlas, 1,800 m. = 5,850 ft., 21 July.

Both these ♀♀ are worn, but show the characters of gen. aest. *angulata* strongly.

2. **Papilio podalirius lotteri** Aust.

Papilio podalirius ab. *lotteri* Austaut, *Petites Nouvelles Entomologiques*, vol. ii, p. 293 (p. 304 nom. corr. *latteri*) (1879) (Sidi-Bel-Abbès) (gen. aestiv.).

Papilio feisthameli forma *maura* Verity, l.c., p. 293, pl. i, ff. 7, 8 (1911) (gen. vern. ex Africa, Lambèze).

The 2 ♂♂ secured are true large summer brood *lotteri*.

2 ♂♂ above Azrou, 1,800 m. = 5,850 ft., 21 July.

3. **Ganoris rapae mauretanica** (Verity).

Pieris rapae mauretanica Verity, l.c., p. 155, pl. xxxii, ff. 43, 44 (gen. aest.) ; pl. xxxiv, ff. 15, 16 (gen. vern. *leucoteroides* Rothsch.) (1908) (Algeria, Morocco, Tunisia) (ff. and text Algeria) (xxxiv, 15, 16, as *leucotera* Stef.).

Pieris rapae mauretanica gen. vern. *leucoteroides* Rothsch., *Bull. Soc. Scient. Nat. Maroc.* vol. v, p. 129 (1925) (Rabat, Morocco).

The whole series of 9 ♂♂, 8 ♀♀ is of the gen. aest. *mauretanica*.

4 ♂♂, 2 ♀♀ Marrakesch, 6 and 14 July ; 3 ♂♂, 2 ♀♀ Telouet, S. Slopes of Great Atlas, 1,900 m. = 6,175 ft., 8 July, the larger ♀ has the black spot above vein 1 of the forewing reduced to two almost obsolete dots on each forewing ; 1 ♂ Tizi-n. Tichka, 2,450 m. = circa 8,000 ft., 12 July ; 2 ♀♀ Asni, Great Atlas, S. of Marrakesch, 13 July ; 1 ♂, 2 ♀♀ El Hajeb, W. Slopes of Middle Atlas, 19 July, one female has the dark tips to the forewings entirely absent.

4. Leucochloë daplidice albidice (Oberth.).

Pieris daplidice var. *albidice* Oberthür, *Étud. d'Entom.* vi, p. 47 (Algérie, Prov. Constantine Sud).

All the series except 2 worn ♀♀ shows by the strong yellow wash on the hindwings below that they are *albidice*, though not as distinct as most Algerian examples. 5 ♂♂, 4 ♀♀ Marrakesch, 5, 6 July ; 4 ♀♀ Telouet, S. Slopes of Great Atlas, 1,900 m. = 6,175 ft., 8 and 11 July ; 1 ♂ Asni, Great Atlas, S. of Marrakesch, 13 July.

5. Euchloë charlonia (Donzel).

Anthocharis charlonia Donzel, *Ann. Soc. Entom. France*, vol. xi, p. 197, pl. viii, f. 1 (1842) (Emsilah, Algeria).

1 ♂ Asni, Great Atlas, S. of Marrakesch, 13 July ; the specimen is very poor.

6. Colias electo croceus (Geoff.).

Papilio croceus Geoffroy, in Fourcroy's *Entom. Par.* vol. ii, p. 250 (1785) (Paris).

1 ♂, 1 ♀ Marrakesch, 6 and 14 July ; 2 ♂♂ Telouet, Great Atlas, S. Slopes, 1,900 m. = 6,175 ft., 10 July ; 1 ♂ Taddert Valley of the R'dat, Great Atlas, 1,700 m. = 5,525 ft., 7 July ; 1 ♂, 1 ♀ Ifrane, Middle Atlas, 20 July ; 2 ♂♂, 1 ♀ above Azrou, Middle Atlas, 1,800 m. = 5,850 ft., 21 July.

7. Gonepteryx cleopatra cleopatra (Linn.).

Papilio cleopatra Linnaeus, *Syst. Nat.* edit. xii, pt. 2, p. 765, no. 105 (1767) (Barbaria).

2 ♂♂, 1 ♀ Asni, Great Atlas, S. of Marrakesch, 13 July ; 1 ♀ above Azrou, Middle Atlas, 1,800 m. = 5,850 ft., 21 July.

8. Gonepteryx rhamni meridionalis Röb.

Gonepteryx rhamni meridionalis Röber in Seitz, *Grosschmett.* vol. i, p. 61 (1907) (Algeria and S. Asia Minor).

1 ♂ Ifrane, Middle Atlas, 20 July.

9. Vanessa polychloros erythromelas Aust.

Vanessa polychloros var. *erythromelas* Austaut, *Le Naturaliste*, vol. vii, p. 142 (1885) (Sebdou).

The single specimen obtained is very small, and the dark borders of the wings are broader than usual, while the discal spots are small. Expanse 55 mm.
1 ♂ Ifrane, Middle Atlas, 20 July.

10. Argynnis auresiana Fruhst.

Argynnis adippe auresiana Fruhstorfer, *Intern. Entom. Zeitschr. Guben*, vol. ii, p. 69 (1908) (Aurès Mts.).

Fruhstorfer treated this very distinct insect as a subspecies of *A. adippe*, but I consider it is a good species. Dr. Hartert was too late this year for this species and only got 1 ♂, 1 ♀ very much damaged ; and on his former expeditions he was too early and never got it.

1 ♂, 1 ♀ Ifrane, Middle Atlas, 20 July.

When a large series from Morocco comes to be examined, it is quite possible we may find the western form is somewhat different from the typical East Algerian race ; but so far too few Moroccan examples have been taken.

Oberthür already remarked that the Morocca examples were smaller and the ♂♂ redder above than Algerian examples.

11. **Argynnis lyauteyi** Oberth.

Argynnis lyauteyi Oberthür, *Étud. Lépid. Comp.* Fasc. xvii Planches, *Expl. des Pl. Phot.* Pl. D. pp. 48, 49, Pl. D. Phot. (Upper 2 ff.) (1920) (Forêt d'Azrou, Middle Atlas).

This large and fine *Argynnis* is undoubtedly closely allied to *A. aglaja* (Linn.), but it is abundantly distinct. The pattern on the hindwing below and the green colour would cause many entomologists to classify it as a subspecies of *aglaja* ; but without further evidence of intermediate races I prefer to consider it a distinct species. Dr. Hartert found it already on the wane and only obtained a few good specimens.

4 ♂♂, 4 ♀♀ above Azrou, Middle Atlas, 1,800 m. = 5,850 ft., 21 July.

12. **Argynnis lathonia** (Linn.).

Papilio lathonia Linnaeus, *Syst. Nat.* edit. x, vol. i, p. 481, No. 141 (1758) (Europe).

The 4 specimens are very red, but agree well with many northern examples.

4 ♂♂ Ifrane, Middle Atlas, 20 July.

13. **Melitaea aetherie algirica** Rühl.

Melitaea aetherie var. *algirica* Rühl., *Palaearkt. Grosssschmett.* p. 389 (1892–1895) (Algeria).

One worn ♀ was obtained.

1 ♀ above Azrou, Middle Atlas, 1,800 m. = 5,850 ft., 21 July.

14. **Satyrus alcyone maroccana** Oberth.

Satyrus alcyone maroccana Oberthür, *Étud. Lépid. Comp.* Fasc. xvii Planches, *Expl. des Pl.* Pl. C. p. 48, pl. C. Phot. (1920) (Forêt d'Azrou, Middle Atlas).

3 ♂♂ Ifrane, Middle Atlas, 20 July.

All 3 very large and dark.

15. **Satyrus briseis major** Oberth.

Satyrus briseis var. *major* Oberthür, *Étud. Entom.* Fasc. i, p. 27 (1876) (Boghari).

A nice series of fine large examples.

3 ♂♂ Tizi-n-Tichka, Great Atlas, 2,450 m. = circa 8,000 ft., 12 July ; 2 ♂♂, 1 ♀ Ifrane, Middle Atlas, 20 July ; 2 ♂♂, 8 ♀♀ above Azrou, Middle Atlas, 1,800 m. = 5,850 ft.

16. **Satyrus actaea simillima** subsp. nov.

Oberthür united this with *actaea neradensis* Ribbe from the Sierra Nevada in Spain ; but it is much darker both in ♂ and ♀ and has the blackish strigillation below more pronounced and denser.

1 ♀ Type El Hajeb, Middle Atlas, W. Slopes, 19 July. In addition to this specimen there are in the Tring Museum 3 ♂♂, 1 ♀ collected by E. G. B. Meade-Waldo at Tsauritz Entsagautz and Tizi gourza, and 6 ♂♂, 1 ♀ from coll. Vaucher : Glaoui = Telouet.

17. Melanargia galathea meade-waldoi Rothsch.

Melanargia galathea meade-waldoi Rothsch., *Nov. Zool.* vol. xxiv, p. 110, no. 54a (Tamarouth, Morocco).

Among the considerable series of 28 ♂♂, 25 ♀♀, 1 ♂ from Ifrane has on both upper- and underside a large amount of the black colour absent and the wings are of a curious quadrangular shape.

20 ♂♂, 16 ♀♀ Telouet, Great Atlas, 1,900 m. = 6,175 ft., 9 July; 7 ♂♂, 5 ♀♀ Tizi-n-Tichka, Great Atlas, 2,450 m. = *circa* 8,000 ft., 12 July; 1 ♂, 4 ♀♀ Ifrane, Middle Atlas, 20 July.

18. Parage megera megera (Linn.).

Papilio megera Linnaeus, *Syst. Nat.* edit. xii, vol. i, pt. ii, p. 771, no. 142 (Austria, Dania) (1767).

1 ♂ Marrakesch, 4 July; 1 ♀ Telouet, S. Slopes, Great Atlas, 1,900 m. = 6,175 ft, 10 July.

19. Epinephele lycaon mauretanica (Oberth.).

Satyrus endora var. *mauretanica* Oberthür, *Étud. Entom.* vi, p. 58 (1881) (Sebdou, Lambèze).

1 ♀ Ifrane, Middle Atlas, 20 July.

20. Epinephele maroccana Blach.

Epinephele lycaon var. *maroccana* Blachier, *Ann. Soc. Entom. France*, vol. lxxvii, p. 216, pl. iv, f. 5 (1908) (Moroccan Atlas).

Because the late Monsieur Ch. Blachier in describing this very distinct species placed it as a subspecies under *Ep. lycaon*, Oberthür says the name *maroccana* must be deleted from our lists and his name *nivelli* substituted, although the latter was published 12 years later. This is impossible under the acknowledged rules of nomenclature, so I here replace the correct name.

The pair taken are very typical, though not in first-class condition.

1 ♂, 1 ♀ Tizi-n-Tichka, Great Atlas, 2,450 m. = *circa* 8,000 ft., 12 July.

In addition to this pair there are in the Tring Museum 2 ♂♂ collected by E. G. B. Meade-Waldo at Tsauritz Entsagautz; and 1 ♂ from coll. Vaucher: Glaoui = Telouet (paratype).

21. Epinephele jurtina jurtina (Linn.).

Papilio jurtina Linnaeus, *Syst. Nat.* edit. x, vol. i, pt. ii, p. 475, no. 104 (1758) (Europe, Africa, Type Africa).

1 ♂, 2 ♀♀ Telouet, S. Slopes, Great Atlas, 1,900 m. = 6,175 ft., 10 July; 1 ♂ Ifrane, Middle Atlas, 20 July; 5 ♀♀ above Azrou, Middle Atlas, 1,800 m. = 5,850 ft., 21 July; 1 ♂, 2 ♀♀ El Hadjeb, W. Slopes of Middle Atlas, 19 July.

22. Epinephele ida ida (Esp.).

Papilio ida Esper, *Schmett.* vol. i, pt. 2, p. 184, no. 176, pl. xcii, f. 2 (cont. xlii) (1777) (Pyrénées).

1 ♂ Asni, S. of Marrakesch, 13 July; 5 ♂♂ Taddert, Valley of the R'dat, Great Atlas, 1,700 m. = 5,525 ft., 7 July; 8 ♂♂ El Hadjeb, W. Slopes of Middle Atlas, 19 July.

23. Coenonympha pamphilus lyllus (Esp.).

Papilio lyllus Esper, *Schmett.* vol. i, pt. 2, *Forts.* p. 23, no. 244, pl. cxxii (cont. 77), ff. 1, 2 (1805) (Portugal).

It is strange that although the whole series of 10 ♂♂, 10 ♀♀ are undoubtedly summer generation, yet a number of them show a mixed coloration on the underside of the hindwings.

2 ♂♂, 1 ♀ Ifrane, Middle Atlas, 20 July; 7 ♂♂, 5 ♀♀ El Hajeb, W. Slopes of Middle Atlas, 19 July; 1 ♂, 4 ♀♀ above Azrou, Middle Atlas, 1,800 m. = 5,850 ft., 21 July.

24. Thecla ilicis mauretanica Stdgr.

Thecla ilicis var. *mauretanica* Standinger, *Iris*, vol. v, p. 279, no. 11 (1892) (Tunis).

11 ♂♂, 6 ♀♀ Ifrane, Middle Atlas, 20 July; 2 ♂♂, 2 ♀♀ above Azrou, Middle Atlas, 1,800 m. = 5,850 ft.; 21 July; 1 ♂ locality lost.

25. Chrysophanus phloeas phloeas (Linn.).

Papilio phlocas Linnaeus, *Faun. Succ.* edit. alt. p. 285 (1761) (Sweden).

16 ♂♂, 8 ♀♀ Marrakesch, 4–14 July; 3 ♀♀ above Azrou, Middle Atlas, 1,800 m. = 5,850 ft., 21 July.

26. Chrysophanus alciphron heracleana Blach.

Chrysophanus alciphron var. *heracleana* Blachier, *Ann. Soc. Entom. France*, vol. lxxvii, p. 217 (1908) (Moroccan Atlas).

In the ♂ there is no trace of violet suffusion except very slightly along the costa and at the extreme base of the wings. In the ♀ there is less orange on hindwing than in *A. gordius* and *a. granadensis*, but a purple band between the 2 rows of postmedian black spots.

1 ♀ (slightly damaged) Tizi-n-Tichka, Great Atlas, 2,450 m. = circa 8,000 ft., 12 July.

27. Chrysophanus phoebus Blach.

Chrysophanus phoebus Blachier, *Bull. Soc. Entom. France*, 1905, p. 212 (Moroccan Atlas, Ourika).

128 ♂♂, 42 ♀♀ Marrakesch, 4–14 July; 1 ♂ has the spots on hindwing coalescing into streak .

28. Lampides (Polyommatus) boeticus (Linn.).

Papilio boeticus Linnaeus, *Syst. Nat.* edit. xii, vol. i, pt. 2, p. 789, no. 226 (1767) (Barbaria = Algeria).

4 ♂♂, 2 ♀♀ Marrakesch, 5 and 6 July.

29. Tarucus theophrastus (Fabr.).

Hesperia theophrastus Fabricius, *Entom. Syst.* vol. iii, p. 281, no. 82 (1783) (Morocco).

7 ♂♂, 5 ♀♀ Marrakesch, 6–13 July; 1 ♂, 1 ♀ Asni, Great Atlas, S. of Marrakesch, 13 July.

In Nov. Zool. xxxv (1929), p. 226, under no. 32, I stated that Zoudj-el-Beghal was in the extreme West of Morocco; it is, however, in the extreme East of Morocco.

30. Lycaena icarus celina Aust.

Lycaena celina Austaut, *Pet. Nouv. Entom.* vol. ii, p. 293, no. 212 (1879) (Sidi-bel-Abbès).

4 ♂♂, 2 ♀♀ Marrakesch, 4–6 July; 11 ♂♂, 2 ♀♀ Telouet, S. Slopes of Great Atlas, 1,900 m. = 6,175 ft., 10 July; 1 ♂♂, 4 ♀♀ Asni, Great Atlas, S. of Marrakesch, 13 July; 12 ♂♂, 3 ♀♀ Ifrane, Middle Atlas, 20 July; 3 ♂♂, 3 ♀♀ above Azrou, Middle Atlas, 1,800 m. = 5,850 ft., 21 July; 4 ♂♂, 2 ♀♀ Marrakesch, 4 July.

31. Lycaena astrarche calida Bell.

Lycaena agestis var. *calida* Bellier, *Ann. Soc. Entom. France*, série 4, vol. ii, p. 615, no. 2 (1862) (no locality).

Twenty out of the twenty-two specimens are true *calida* with short rounded wings and complete subterminal bands of large rufous spots, but two are almost typical *astrarche* with long pointed forewings and only the tornal half of the submarginal row of spots present on the forewing.

1 ♂ Tizi-n-Tichka, Great Atlas, 2,450 m. = *circa* 8,000 ft., 12 July (*astrarche* like); 1 ♂ Ifrane, Middle Atlas, 20 July, intermediate; 14 ♂♂, 2 ♀♀ Marrakesch, 5–14 July (typical *calida*); 1 ♂, 2 ♀♀ El Hadjeb, W. Slopes of Middle Atlas, 19 July.

32. Lycaena bellargus punctifera Oberth.

Lycaena bellargus punctifera Oberthür, *Étud. Lépid. Comp.* fasc. iv, pt. i, pp. 268, 269 (1910) (Algeria).

1 ♂ (worn) Ifrane, Middle Atlas, 20 July.

33. Lycaena allardi ungemachi (Rothsch.).

Lycaena allardi ungemachi Rothschild, *Bull. Soc. Scient. Nat. Maroc*, vol. v, p. 333, no. 46 (1925) (Aselda, Great Atlas).

1 ♀ (very poor) Taddert, R'dat Valley, Great Atlas, 1,700 m. = 5,525 ft., 7 July.

34. Lycaena hylas atlantica Elw.

Lycaena hylas atlantica Elwes, *Trans. Entom. Soc. London*, 1905, p. 380, no. 53 (Imentala, 5,500 ft.).

1 ♂ Ifrane, Middle Atlas, 20 July.

35. Lycaena lysimon (Hübn.).

Papilio lysimon Hübner, *Samml. europ. Schmett.* vol. i, p. 46, no. 10, pl. 105, figs. 534, 535 (1805) (Portugal).

14 ♂♂, 3 ♀♀ Marrakesch, 3–6 July.

36. Adopoea thaumas (Hufn.).

Papilio thaumas Hufnagel, *Berl. Mag.* vol. ii, p. 62 (1766) (Berlin).

3 ♂♂, 1 ♀ Ifrane, Middle Atlas, 20 July.

37. Adopoea acteon (Rott.).

Papilio acteon Rottemburg, *Naturf.* vol. vi, p. 30, no. 18 (1775) (Landsberg a.d. Warthe).

1 ♂ Tizi-n-Tichka, Great Atlas, 2,450 m. = 7,963 ft., 12 July.

38. **Adopoea hamza** (Oberth.).

Hesperia hamza Oberthür, *Étud. d'Entom.* fasc. i, p. 28, pl. iii, ff. 2A, B (1876) (Oran).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 19 July.

39. **Hesperia onopordi** Ramb.

Hesperia onopordi Rambur, *Faune Andal.* p. 319, no. 4, pl. viii, f. 13 (1842) (Granada).

6 ♂♂, 1 ♀ Telouet, S. Slopes of Great Atlas, 1,900 m. = 6,175 ft., 9–10 July ; 1 ♂ above Azrou, Middle Atlas, 1,800 m. = 5,850 ft., 21 July ; 1 ♀ much worn, Ifrane, Middle Atlas, 20 July.

40. **Zygaena aurata blachieri** subsp. nov.

This beautiful form was taken on Tizi-n-Tichka, thus making it almost certain that nearly every peak of the Great Atlas has a special form of *Z. aurata*, as *Z. aurata aurata* Bloch. occurs on Tsauritz Entsagauz and Tizigourza, while *Z. aurata opaca* occurs on Amsmiz.

♂♀ differ from *a. aurata* and *a. opaca* at first sight by the intense ruby-crimson of the red portions ; it resembles *a. opaca* more in the decided green, NOT greenish-golden colour of the forewings, and in the more extended black thorax and the larger size and broader wings. It differs from both in the longer antennae in the ♂ and in the larger size and greater distinctness of the red markings on the forewings. The green of the forewings is paler and brighter than in *a. opaca* and has a very intense metallic gloss.

4 ♂♂, 3 ♀♀ (type ♂) Tizi-n-Tichka, Great Atlas, 2,450 m. = 7,963 ft., 12 July.

41. **Zygaena orana harterti** Rothsch.

Zygaena harterti Rothschild, *Bull. Soc. Scien. Nat. Maroc*, vol. v, p. 338, no. 76 (1925) (Azrou).

1 ♂ Tizi-n-Tichka, Great Atlas, 2,450 m. = circa 7,700 ft., 12 July.

42. **Laphygma exigua** (Hübn.).

Noctua exigua Hübner, *Samml. Europ. Schmett.* Lepid. iv, Noct. ii, iii, genuinae D. etc. f. 362 (1805) (locality ?).

1 ♂ El Hadjeb, W. Slopes, Middle Atlas, 19 July.

43. **Eublemma jucunda** (Hübn.).

Noctua jucunda Hübner, *Samml. Europ. Schmett.* Lepid. iv, Noct. iii, Semigeom. D. etc. nos. 486 and 492 (1805) (locality ?).

1 ♀ Ifrane, Middle Atlas, 20 July.

44. **Catocala nymphaea** (Esp.).

Phalaena Noctua nymphaea Esper, *Schmett.* vol. iv, pl. 105 (*Noct.* 26), no. 4, p. 358, no. 52 (Europ. Heter. no. 189) (1786) (Lyons, Devillers coll.).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 19 July.

45. **Sterrha numidaria** (Lue.).

Acidalia numidaria Lucas, *Expl. Scient. Algéric, Anim. Artic.* vol. iii, p. 395, no. 141, Lépid. pl. iv, f. 2 (1849) (Constantine).

2 ♂♂ Telouet, S. Slopes of Great Atlas, 1,900 m. = 6,175 ft., 8 July.

46. **Anaitis efformata** Guen.

Anaitis efformata Guenée, *Spec. gén. Lépid.* vol. x, *Uran. et Phal.* vol. ii, p. 500, no. 1730 (1858) (Syria).

1 ♂ El Hadjeb, W. Slopes of Middle Atlas, 19 July.

47. **Metasia ibericalis** Rag.

Metasia ibericalis Ragonot, *Ann. Soc. Entom. France*, vol. lxiii, p. 170, no. 263 bis (1894) (Cuenca Castille).

1 ♀ El Hadjeb, W. Slopes of Middle Atlas, 19 July.

A NOTE ON SOME EARLY PLUMAGE PHASES IN THE STEGANOPODES WITH A DESCRIPTION OF A PREVIOUSLY UNDESCRIBED PHASE IN *FREGATA AQUILA* (LINN.).

By PERCY R. LOWE.

THROUGH the generous efforts made this summer by Colonel S. T. Hayley, in the island of Ascension, the British Museum has acquired an interesting collection of sea-birds in spirit. These were so well collected and preserved that they could be made up into excellent "skins"; while some were retained in spirit for anatomical study.

Among the skins were some interesting examples of the Frigate Bird, *Fregata aquila* (Linn.), and two of these, a male and female, appear to illustrate a phase in the sequence of the plumage changes of this species from chick to adult which was previously unrepresented in the collection. Indeed, as far as I am aware, this phase has not as yet been described, if indeed it is known, to ornithologists, so that the note in regard to it under "Phase IV" may prove of some interest. Coincidently with the description of this apparently new plumage phase I thought it might prove useful to pass in review the entire plumage sequences undergone by *Fregata aquila* in as far as the material available in the British Museum enables us to come to a conclusion; while at the same time I have made some notes, derived from microscopical examination, of the early plumage phases of the steganopodes in general.

Plumage Sequences of Fregata aquila as represented in the British Museum Collection.

In the absence of any definite knowledge, derived from a study in the field, as to the actual age at which the various phases of plumage in *Fregata aquila* are assumed, I have thought it safer to describe the plumage sequences under the headings of "Phase I" and "II," and so on—that is to say, as they appear to be represented in the British Museum.

Phase I. The Early Chick, either "Naked" or in Down (Plumulae).

As is well known, the chick, when first hatched, is entirely naked. Subsequently the first feather covering takes the form of the pre-plumule down, that is to say, the down proper of the chick. It is pure white, very soft, very thick and very long. Later on this is followed by the plumule down, proper to the adult. Neither of these downs belong to the category of contour feathers or pennae. Such pennal feathers, or teleoptiles, in most, or at any rate, a large number of bird groups are preceded by pre-pennal feathers—that is to say, by one or other or both of successive generations of feathers which have been termed (1) protoptiles and (2) mesoptiles. In the Frigate bird in so far as the contour feathers are concerned both protoptiles and mesoptiles seem to have been entirely "smothered," and so almost literally suppressed, by the dense pre-

plumule down ; for the pennal or teleoptile feathers do not carry on their tips either protoptiles or mesoptiles when they first make their way through the skin. This they do not do until after the pre-plumule down has attained its full length. In the earliest chick " in quill " we have (99.1.4.12) I have been unable to discover even traces of protoptiles borne on the tips of the pennal contour feathers (for example, those of the mantle), as they work their way through the thick covering of down. That the mantle feathers just alluded to are teleoptiles and not mesoptiles is definitely shown by the strongly pennaceous structure of their barbules. There seems, therefore, every reason to suppose that both the protoptile and mesoptile pre-pennal feather phase has been suppressed in *Fregata*.

In the Cormorants (*Phalacrocorax*) the same sequence of events seems to have occurred ; for the first feathers to appear are pre-plumule down feathers ; while in the material available in the collection I can find no evidence whatever that pre-pennal feathers follow this down. On the contrary it is followed by the teleoptile or pennaceous stage of the contour feathers, and the tips of these as they work their way through the skin (cf. a half-grown chick 1922.1.21.5) have to be sought for deep down at the bottom of the dense layer of brownish pre-plumules. In some species, perhaps in all, the barbules of these distal ends of the teleoptiles are considerably specialised and keratinised, the greater part of their length consisting of well-defined cellular segments in which pennaceous hooklets and barbicels are conspicuous by their absence. At a later stage (cf. 1924.4.10.156) as these teleoptiles grow, and more and more of their length becomes visible beyond the skin, pennaceous barbules make their appearance and are in all respects similar as regards function to the pennaceous barbules of the fully adult feather. By this time too, the plumule down of the adult may be seen replacing the pre-plumule down of the chick.

In the Gannets (*Sula*) dense pre-plumule down also precedes the contour feathers. Cossar Ewart (*Proc. Zool. Soc.* 1921, p. 623) has stated that " this down grows so rapidly that the pre-pennae, even when well developed, are difficult to find." For my own part, as far as the material in the British Museum is concerned, I have completely failed to find any evidence at all of pre-pennal feathers, as for instance in two half-grown chicks (cf. 99.1.4.9 and 1913.11.10.88) and the first contour feathers to appear have a definitely pennaceous structure as regards their basal barbules.

In the Darters (*Plotus*), again, the first pennal contour feathers to appear take the form of teleoptiles with highly pigmented, or keratinised, barbules at their distal ends, somewhat similar to those seen in the case of the Cormorants but perhaps more specialised. The tips of these teleoptiles, as in the two preceding genera already noticed, make their way through the skin at the bottom of the dense layer of pre-plumule down, and are followed by barbules differentiated into " base " and " pennulum " and provided with functional hooklets. Thus as far as I have been able to gather from a comparative microscopical examination of the earliest feather phases in the genera *Fregata*, *Phalacrocorax*, *Sula* and *Plotus* both forms of pre-pennal feathers (protoptiles and mesoptiles) have been suppressed, and the earliest form of feather covering to be assumed takes the form of pre-plumule down : or in other words, an exactly opposite condition to that obtaining in Ducks or Game birds, in which the first feather covering is pre-pennal followed later by pre-plumulae.

It should, however, be noted here that the above remarks only apply to the contour feathers of the *body*; for in all the above genera protoptiles may be seen to be carried on the tips of either the mesoptiles or teleoptiles of the wing. This persistence of the pre-pennal elements of the wing pennae has evidently been rendered possible by the relative shortness of the down on the wings as compared with that on the body, so that we may feel reasonably certain that where and when the pre-pennal feathers of the body have been suppressed this has followed upon what may be almost termed the mechanical obstruction of the long and thick pre-plumule down and that originally both forms of pre-pennae were present. This seems to be indicated by the fact that in both the genera *Pelecanus* and *Phaëton* protoptiles in the body pennae are conspicuous by their presence. For instance, in *Phaëton* it is evident that the first down plumage to appear, or at any rate to make itself conspicuous, is not a pre-plumule or even a plumule down as in the above described genera, but a pre-pennal down (protoptile). This is well seen in specimen 1909.3.2.15, where it is being carried on the tips of mesoptiles, which in their turn are followed by teleoptiles seen to be struggling through a plumule down. Thus protoptiles, mesoptiles and teleoptiles can be seen in actual continuity and sequence. The protopiles are very well developed, and although they obviously take the place in *Phaëton* of the pre-plumule down of *Fregata*, *Sula*, *Phalacrocorax* and *Plotus*, it is equally obvious that they look different and have a different structure, as in point of fact when examined microscopically they have. Thus it was quite easy to see that a very young chick collected by Capt. Boyd Alexander in the Cape Verde Islands (1911.12.23. 163) and wrongly labelled as a *Sula*, was in reality a *Phaëton*. In *Phaëton*, therefore, although a true plumule (adult) down appears some time after the appearance of the protoptile down, it is the pre-plumule which have been suppressed in this genus, or at any rate relatively suppressed, for traces of them still remain.

This is an interesting point in view of the fact that the relations of the genus *Phaëton* to the other Steganopode genera have been called in question. Whether for instance the difference in regard to the relative degree of development and function of the early plumage phases in *Phaëton* points to a corresponding difference in genetic relations or is merely the result of differing factors of environment or habit is a question which might arise for solution. It may be recalled in this connection that *Phaëton* brings up its young in underground burrows, while the young of the other Steganopode genera live in exposed and open nests. Was it the subterranean abode which made the specialisation of the pre-plumule down, so characteristic of the other Steganopodes, unnecessary in the case of the *Phaëton*; or was it the failure of the pre-plumule down to develop which made the subterranean retreat a necessity?

In a paper in the *Ibis* (1926, pp. 152–188) dealing with the value of the quadrate as a factor in avian classification I have (pp. 187–188) expressed my opinion, based on the morphology of the quadrato-tympanic region, that *Phaëton* is a Steganopode and not a gull, as has recently been maintained by Mathews and Iredale. Other anatomical features bear this out. Fürbringer, Gadow and Beddard were inclined to the view that *Phaëton* stood at the base of the Steganopodes. In as far as its various plumages seem to have persisted and therefore seem to be more generalised than the other genera this view receives support.

PHASE II. THE INFANTILE CHICK IN WHICH CONTOUR OR PENNAL FEATHERS (TELEOPTILES) HAVE ALREADY APPEARED

As I have suggested above, the first pennal feathers of *Fregata* to appear take the form of a saddle-like patch of slaty brown in the middorsal region (mantle-feathers). This dark patch is in striking contrast with the pure white down. Subsequently the tips of the remiges and coverts carrying protoptiles are the next pennal feathers to appear. From now onwards the chick continues to grow in size and the contour feathers to appear until it is on the point of becoming fully fledged. In this final or infantile stage as a chick (B.M. Coll. 99.1.4.11), both wing and contour feathers, as, for instance, those of the mantle, are as fully developed in regard to the pennaceous structure of the barbules as in the next stage (Phase III), which may be designated the juvenile. This I have proved by a microscopical examination; so that as the pennaceous structure in the Juvenile (Phase III) is as well-developed as in the adult it seems certain that a mesoptilic stage of plumage is not represented in the Frigate Bird. The plumage of the *Infantile Phase* is as follows:

The head (vertex), nape, ear-coverts, sides of face and forehead exhibit pure white teleoptiles. The neck shows tufts of white teleoptiles "coming through." Here where the down is short these carry on their tips what appear to be feebly developed teleoptiles; while in the spaces between the teleoptilic tufts are greyish down feathers proper. At the lower end of the dorsal region of the neck the white tufts of teleoptiles are replaced by black tufts.

The breast feathers are represented by a broad band of brownish, or slaty black, feathers anterad of which is a dense bed of pure white down through which the dark teleoptiles have not as yet penetrated.

The lower breast, abdomen and crissum is covered with white teleoptiles. The flank feathers are also white and extend well back into the axillary region. The under-tail coverts are slaty brown, or brownish slate.

The mantle and lesser wing-coverts are brown with paler edgings; the median and greater wing-coverts, remiges, and rectrices, are feebly iridescent purplish black; scapulars, upper tail-coverts and lower back duller purplish black or brown.

PHASE III OR "JUVENILE." B.M. COLL. 80.11.18.439

The head and neck in this phase is pure white; upper and lower breast pale umber-brown; abdomen white; crissum and under tail-coverts dark brown; flanks white, the white extending upwards over the roots of the axillaries in the form of the "thumb-marks" very much as in *Fregata ariel*; mantle and lesser coverts brown with darker centres, very much as in Phase I, but feathers longer and more pointed and where "moulting in" darker; lower back and upper tail-coverts as in previous phase; remiges and rectrices steely or iridescent purplish blue. Scapulars purplish brown fading to brown.

The inter-ramal space is bare and the gular patch is sparsely covered with fine white feathers.

PHASE IV.

This is the phase mentioned above which does not appear to have been previously described:

(*a*) *Female*. *B.M. Coll.* (1930.8.13.16).—Head (vertex) and nape iridescent dark greenish black, the feathers being lanceolate ; sides of face, throat and forepart of upper neck duller and blackish brown, feathers not so lanceolate ; these dull blackish brown feathers ending on the forepart of the upper neck in the form of a bluntly-pointed " gorget " ; inter-ramal space and gular patch bare. Breast pale umber-brown, the coloration extending round to back of lower neck so as to form a pale neck-band of sooty-brown feathers, a " ghost-like " reminder of the white cervical ring of *Fregata ariel*. Lower breast and abdomen pure white ; crissum and under tail-coverts blackish purple. Mantle feathers iridescent greenish, not so lanceolate as in the male ; but more so than in *F. ariel*. Lesser wing-coverts dark umber or purplish brown ; median and greater coverts, scapulars, remiges and rectrices iridescent purplish blue ; back and upper tail-coverts dark purplish blue. Feet pink. Ovaries not large ; breeding (?).

(*b*) *Male*. *B.M. Coll.* (1930.8.13.15).—As in female, but with no pale pre-axial wing-bar and without the post-cervical " ghost-like " pale band ; small gular sac present ; feet black. Testes large.

In addition the coloration of the feathers of the entire body is more saturated, darker, more iridescent, richer, with the feathers comparatively more lanceolate. All the wing-coverts, including the lesser, and the feathers of the pre-axial border are iridescent dark purplish violet. The white coloration of the abdomen runs upwards to the axilla over the base of the axillary feathers.

Phase V. Apparently the Fully Adult.

The female resembles the female of the previous phase, but the white abdomen and the white " thumb-marks " of the flanks have given place to a brownish black coloration ; while the post-cervical band is not quite so obvious. In the male all trace of the white abdomen and white flank marks have also disappeared.

Regarded from a dorsal aspect the two males and the two females of this and the last phase would be very difficult to distinguish.

Finally, I should like to put forward the alternative suggestion that " Phase V " is nothing more than a melanistic phase of " Phase IV," this last phase being explicable on the theory that it is a rare normally-coloured adult phase which is on the point of extinction, or replacement by a melanistic phase. This theory seems all the more justifiable because we have an apparently comparable case in the very rare normally-coloured phase of *Coereba saccharina* occurring in the West Indian islands of Grenada and St. Vincent, where the infinitely commoner melanistic forms known as *C. wellsi* and *C. atrata* have now practically replaced the normally-coloured adult form.

DESCRIPTIONS OF NEW SPECIES OF JAPANESE, FORMOSAN AND PHILIPPINE PYRALIDAE.

By R. J. WEST.

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THE following paper forms the conclusion of a series of descriptions of new species represented in the collection of the late Mr. A. E. Wileman, which is now the property of the British Museum (Natural History), wherein the types of all species described below are contained.[1]

The names of colours mentioned below, are taken from Ridgway, *Color Standard and Color Nomenclature*, 1912.

GALLERIINAE.

Corcyra brunnea sp.n.

♀: *Palpus* fuscous. *Antenna* minutely ciliate. *Head:* frons and vertex fuscous. *Thorax:* patagium and tegula fuscous. *Abdomen* cartridge-buff tinged with fuscous above and beneath. *Pectus* light buff. *Legs:* fore- and midlegs fuscous, hindleg light buff, tarsus fuscous. *Forewing* long, narrow, fuscous, a longitudinal fuscous-black streak below median nervure from base to lower angle of cell. *Hindwing* cartridge-buff. *Underside:* forewing glossy, cartridge-buff lightly suffused with fuscous; hindwing glossy, cartridge-buff tinged with fuscous on upper half.

Expanse 34 mm. (*tip to tip* 32 mm.).

Holotype ♀: 9.iv.1908, Formosa, Kanshirei, 1,000 ft.

Nearest ally: *C. cephalonica* Stt.

Pempelia baea sp.n.

♀: *Palpus* avellaneous. *Antenna* apparently simple. *Head:* frons and vertex avellaneous. *Thorax:* patagium and tegula avellaneous. *Abdomen* wood-brown, venter avellaneous. *Pectus* and *legs* avellaneous. *Forewing* wood-brown sparsely irrorated with fuscous-black; postmedial fascia consisting of a dentate, fuscous line, outwardly oblique from costa to vein 5, then inwardly oblique to inner margin. *Hindwing* light buff suffused with wood-brown. *Underside* glossy, similar to upperside.

Expanse 34 mm. (*tip to tip* 32 mm.).

Holotype ♀: 20.iv.1912, Philippine Is., Luzon I., subprov. Benguet, Klondyke, 800 ft.

Nearest ally: *P. ruficostella* Rag.

[1] For previous papers dealing with the Wileman collection, see NOVITATES ZOOLOGICAE, XXXV, pp. 105–113 and 254–264.

SCHOENOBIINAE.

Ramilla thectopetina sp.n.

♀: *Palpus* white mixed with fuscous. *Antenna* ciliate. *Head:* frons and vertex white. *Thorax:* patagium and tegula white. *Abdomen* white above and beneath. *Pectus* white. *Legs* white, a suffusion of fuscous on tibia and tarsus of foreleg. *Forewing* white, apex acute, termen oblique, fuscous on costa; postmedial and subterminal fasicæ consisting of two, fine, faintly marked, fuscous lines inwardly oblique and parallel; fringe fuscous. *Hindwing* concolorous with forewing, fasciae forming continuations of those on forewing. *Underside* similar to upperside.

Expanse 44 mm. (*tip to tip* 42 mm.).

Holotype ♀: 14.iv.1912, Philippine Is., Luzon I., subprov. Benguet, Klondyke, 800 ft.

Nearest ally: *R. marginella* Moore.

PHYCITINAE.

Ambesa cartera sp.n.

♂: *Palpus* pinkish buff mixed with fuscous. *Antenna* ciliate. *Head:* frons fuscous, vertex dark vinaceous-brown. *Thorax:* patagium dark vinaceous-brown, tegula and rest of thorax pinkish buff. *Abdomen* pinkish buff lightly suffused with fuscous, venter and anal tuft pinkish buff. *Pectus* pinkish buff. *Legs* pinkish buff, some fuscous on tibiae and tarsi. *Forewing* pinkish buff lightly suffused with fuscous on distal half; medial fascia consisting of a fine, faint, fuscous, outwardly bowed, wavy line; a fuscous bar on discocellulars; subterminal fascia consisting of two fuscous, outwardly bowed lines, more widely separated on costa than at inner margin, crossed by an oblique dark vinaceous-brown shade, from costa just before apex to inner margin, at about two-thirds, in which is a fuscous spot on vein 2. *Hindwing* glossy, semi-transparent, opalescent, suffused with fuscous. *Underside:* forewing pinkish buff suffused with fuscous, a dark vinaceous-brown fold on proximal half of costa; hindwing similar to upperside.

Expanse 24 mm. (*tip to tip* 23 mm.).

Holotype ♂: 22.vi.1912, Philippine Is., Mindanao I., subprov. Lanao, Kolambugan (plains).

Phycita southi sp.n.

♀: *Palpus* drab-grey, lightly suffused with fuscous. *Antenna* minutely ciliate. *Head:* frons and vertex drab-grey. *Thorax:* patagium and tegula drab-grey tinged with drab. *Abdomen* drab-grey suffused with drab, venter cartridge-buff. *Pectus* cartridge-buff. *Legs* drab-grey, suffused with fuscous on femora and tibiae. *Forewing* drab-grey suffused with drab, a light suffusion of fuscous along costa; antemedial fascia pale drab-grey terminating in a fuscous patch on inner margin, outwardly oblique, waved, defined distally by a fine fuscous line; subterminal fascia pale drab-grey, ill-defined, excurved. *Hindwing* translucent, glossy, cartridge-buff, a light suffusion of drab on costa and termen. *Underside:* fore- and hindwings, glossy, cartridge-buff.

Expanse 16 mm. (*tip to tip* 15 mm.).

Holotype ♀: 1.viii.1904; *paratype* ♀: 27.viii.1904, Formosa, Takow.

The original material forming the basis of the description of *Phycita formosella* Wlmn. and South (*Entom.* li, p. 219, 1918) consists of four specimens. The "Type ♂" is unfortunately a female of *Ephestia cautella* Walk. In 1928 Shibuya drew attention to the fact that the specimen belonged to *Ephestia cautella*, but apparently he did not examine the specimen as regards sex. He has also unfortunately made a mistake in his treatment of the species, and has suggested that "the specific name should be adopted for the female type specimen only." While this might be extremely convenient, the fact that the type of *Cryptoblabes formosella* is a female of *Ephestia cautella* involves sinking the name *formosella*, and the rest of the material represents a new and unnamed species. A new name might be proposed and the original description of the female adopted, were it not that the description is, besides being inadequate, definitely misleading.

Ceroprepes jansei sp.n.

♂: *Palpus* pinkish buff. *Antenna* unipectinate. *Head:* frons and vertex avellaneous. *Thorax:* patagium and tegula avellaneous. *Abdomen* drab, venter pinkish buff. *Pectus* light buff. *Legs* light buff, tarsi fuscous, a suffusion of fuscous on foreleg. *Forewing* proximal third avellaneous, distal two-thirds light buff suffused with fuscous above vein 2, below irrorated with fuscous; antemedial fascia represented by two fuscous-black lines, the proximal one straight from median nervure to inner margin, the other from costa above proximal one, longitudinal for a short distance, excurved, then wavy to inner margin; a faint fuscous bar on discocellulars; subterminal fascia fuscous, defined distally by light buff, inwardly oblique from costa to vein 6, angled, then outwardly oblique to vein 4, angled, then inwardly oblique to inner margin. *Hindwing* glossy, light buff tinged with fuscous. *Underside:* fore- and hindwings glossy, light buff suffused with fuscous.

Expanse 28 mm. (*tip to tip* 27 mm.).

Holotype ♂: 28.vii.1902, Japan, Hokkaido, prov. Oshima, Junsai Numa (plains); *paratype* ♂: 23.iv.1893, Honshu, prov. Musashi, Tokyo (plains).

Nearest ally: *C. patriciella* Zell.

EPIPASHIINAE.

Macalla shibuyai sp.n.

♂: *Palpus* light buff suffused with army-brown. *Antenna* pectinate, a long curved process from first segment, army-brown at base. *Head:* frons and vertex light buff suffused with army-brown. *Thorax:* patagium light buff, army-brown laterally, tegula light buff mixed with army-brown and fuscous-black. *Abdomen* light buff above and beneath, lateral streak of fuscous-black and army-brown, anal tuft pinkish buff. *Pectus* light buff. *Legs* light buff, fuscous-black at joints, tarsi suffused with fuscous-black. *Forewing* proximal third army-brown suffused with fuscous-black, distal edge excurved, medical third white, distal third army-brown, a tuft of hair-scales in cell, another below, and two in apical area; antemedial fascia consisting of a broken, excurved, fuscous line; a fuscous spot on discocellulars; postmedial fascia fuscous, wavy.

Hindwing white suffused with army-brown, distal third army-brown; postmedial fascia consisting of a crenulate (points basad), fuscous line. *Underside:* fore- and hind wings cartridge-buff suffused with army-brown.

Expanse 26 mm. (*tip to tip* 25 mm.).

Holotype ♂: 28.v.1913, Philippine Is., Luzon I., subprov. Benguet, Palali, 2,000 ft.

Nearest ally: *M. rubripalpis* Hmpsn.

Coenodomus hampsoni sp.n.

♂: *Palpus* pinkish buff. *Antenna* pectinate, a long curved process from first segment, light buff tinged with light brownish olive. *Head:* frons and vertex light buff tinged with light brownish olive. *Thorax:* patagium and tegula light buff tinged with light brownish olive. *Abdomen* light buff tinged with light brownish olive above and beneath, with fuscous suffusion at base dorsally. *Pectus* light buff. *Legs* light buff, foreleg suffused with fuscous, tarsi fuscous, light buff at joints. *Forewing* light buff tinged with light brownish olive, suffused with fuscous-black on costa; postmedial fascia consisting of a faintly marked, wavy, light buff line, outwardly bowed to vein 2, then incurved to inner margin; six tufts of hair-scales, army-brown tipped with fuscous-black, one below proximal half of cell, one on discocellulars, four on postmedial, of which latter two are near costa, and two near inner margin. *Hindwing* concolorous with forewing, some army-brown hair-scales tipped with fuscous-black near tornus. *Underside:* fore- and hindwings light buff.

Expanse 30 mm. (*tip to tip* 26 mm.).

Holotype ♂: 28.vi.1913, Philippine Is., Luzon I., subprov. Benguet, Palali, 2,000 ft.

Nearest ally: *C. dudgeoni* Hmpsn.

Stericta caradjai sp.n.

♂: *Palpus* olive-yellow. *Antenna* ciliate, a long curved process from first segment, olive-yellow, clove-brown at distal end. *Head:* frons olive-yellow, vertex clothed with upstanding hairs-scales of olive-yellow tipped with clove-brown. *Thorax:* patagium olive-yellow mixed with vandyke-red, tegula olive-yellow, rest of thorax olive-yellow mixed with clove-brown. *Abdomen* olive-yellow above and beneath, irrorated with clove-brown and vandyke red. *Legs* olive-yellow suffused with vandyke-red and clove-brown, tarsi clove-brown, olive-yellow at joints. *Forewing* olive-yellow; a flattened glandular swelling on costa above discocellulars; antemedial fascia clove-brown, slightly excurved, distal edge sharply defined, proximal edge diffused; postmedial fascia clove-brown, proximal edge sharply defined, straight from costa to vein 7, then inwardly bowed to inner margin, distal edge diffused and spreading into subterminal area; subterminal fascia consisting of a faint, fine, olive-yellow line from costa at same point as postmedial, outwardly bowed from vein 7 to inner margin, interneural clove-brown spots on termen; fringe light buff lightly tinged with vandyke-red. *Hindwing* light buff lightly suffused with clove-brown on apex and termen; fringe on inner margin tinged with vandyke-red. *Underside:* forewing light buff suffused with clove-brown, olive-yellow on costa with slight irroration of vandyke-red near base; hindwing light buff suffused with clove-brown at apex, irrorated with vandyke-red on costa.

Expanse 22 mm. (*tip to tip* 21 mm.).

Holotype ♂: 15.v.1914, Philippine Is., Mindanao I., subprov. Lanao, Kolambugan (plains).

Nearest ally: *S. leucogonalis* Hmpsn.

Stericta schausi sp.n.

♂: *Palpus* warm buff. *Antenna* apparently simple, from first segment an upcurved, plumed process, warm buff, fuscous-black at tip. *Head:* frons and vertex warm buff. *Thorax:* patagium and tegula buffy olive. *Abdomen* cartridge-buff tinged with buffy olive above and beneath, transverse fuscous-black bands dorsally. *Pectus* cartridge-buff. *Legs:* fore- and midlegs warm buff, tarsi fuscous, hindleg light buff. *Forewing* buffy olive, fuscous-black streak below costa; four tufts of hair-scales, one below proximal half of cell, fuscous-black mixed cartridge-buff, one in distal end of cell, fuscous-black mixed with cartridge-buff, two in apical area, coloured vandyke-red, fuscous-black and cartridge-buff; antemedial fascia cartridge-buff excurved to median nervure, angled, then slightly excurved to inner margin; postmedial fascia cartridge-buff outwardly bowed from costa to vein 2, sharply angled, then excurved to inner margin. *Hindwing* cartridge-buff on basal half, buffy olive on distal half, a tuft of hair-scales at lower angle of cell, fuscous-black mixed with cartridge-buff, two similar tufts in apical area; postmedial fascia cartridge-buff outwardly bowed to vein 2, straight to inner margin. *Underside:* forewing cartridge-buff suffused with fuscous in apical area, postmedial fascia fuscous; hindwing cartridge-buff.

Expanse 24 mm. (*tip to tip* 22 mm.).

♀: Similar to ♂, but without the modification of first segment of antenna.

Expanse 25 mm. (*tip to tip* 23 mm.).

Holotype ♂: 6.iv.1912; *allotype* ♀: 3.v.1912; *paratype* ♂: 18.iii.1912, Philippine Is., Luzon I., subprov. Benguet, Klondyke, 800 ft.

Nearest ally: *S. trissosticha* Turner.

Stericta plinthochroa sp.n.

♂: *Palpus* pinkish buff mixed with liver-brown. *Antenna* minutely ciliate, a long, curved, thickly scaled process from first segment, pinkish buff mixed with liver-brown. *Head:* frons and vertex pinkish buff mixed with liver-brown. *Thorax:* patagium and tegula pinkish buff mixed with liver-brown. *Abdomen* Hay's russet, venter pinkish buff, anal tuft pinkish buff suffused with Hay's russet. *Pectus* and *legs* pinkish buff. *Forewing* ochraceous-buff irrorated with blackish brown on upper half as far as postmedial, subterminal area liver-brown with interneural white streaks defined with blackish brown, a blackish brown basal patch below median nervure; antemedial fascia obliquely excurved, vinaceous fawn, edged with Hay's russet, a fine blackish-brown line in centre; postmedial fascia vinaceous-fawn, edged with Hay's russet, a fine blackish-brown line in centre; a longitudinal bar of vinaceous-fawn edged with Hay's russet connecting antemedial and postmedial fasciae in the distal end of cell, in which is a streak of blackish-brown and white hair-scales; subterminal fascia consisting of a prominent pinkish buff line defined proximally by Hay's russet; two streaks of blackish-brown and white hair-scales in apical area. *Hindwing* concolorous

with forewing, fasciae forming continuations of those on forewing. *Underside :* fore- and hindwings pinkish buff suffused with fuscous in subterminal area, postmedial fascia fuscous.

Expanse 24 mm. (*tip to tip* 22 mm.).

Holotype ♂ : 28.xii.1912 ; *paratypes* 2 ♂♂ : 27, 28.vi.1913, Philippine Is., Luzon I., subprov. Benguet, Palali, 2,000 ft. ; *paratype* ♂ : 22.vi.1914, Mindanao I., subprov. Lanao, Kolambugan (plains).

Nearest ally : *S. carniola* Hmpsn.

Orthaga meyricki sp.n.

♂ : *Palpus* olive-brown, white at base and tip. *Antenna* fasciculate. *Head :* frons white mixed with light brownish olive, vertex light brownish olive, white at base of antenna. *Thorax :* patagium light brownish olive, white on inner edge, tegula light brownish olive, white posteriorly, rest of thorax white. *Abdomen* white with transverse olive-brown marks laterally, anal tuft light brownish olive, venter white suffused with olive-brown. *Pectus* white. *Legs :* coxae, femora and tibiae olive-brown to light brownish olive, white at joints, tarsi olive-brown, white at joints. *Forewing* proximal third light brownish olive, with an oblique white streak from base of costa to near inner margin ; medial third white, sparsely irrorated with olive-brown, a flattened glandular swelling on costa above discocellulars, and longitudinal fold in distal end of cell ; distal third olive-brown, with a white point on costa well before apex. *Hindwing* white suffused with olive-brown. *Underside :* fore- and hindwings white suffused with olive-brown.

Expanse 22 mm. (*tip to tip* 21 mm.).

Holotype ♂ : 1.viii.1913, Philippine Is., Luzon I., subprov. Benguet, Palali, 2,000 ft.

Nearest ally : *O. cnerata* Butl.

Orthaga durranti sp.n.

♂ : *Palpus* old gold to dull citrine, blackish brown at joints. *Antenna* fasciculate. *Head :* frons old gold, vertex old gold, vinaceous-brown posteriorly. *Thorax :* patagium old gold, tegula old gold mixed with fuscous. *Abdomen* light buff above and beneath, a dorsal suffusion of blackish brown. *Pectus* light buff. *Legs* light buff suffused with vinaceous-brown, tarsi blackish brown, light buff at joints. *Forewing* old gold to dull citrine suffused with blackish brown on antemedial and subterminal areas ; antemedial fascia old gold slightly incurved from costa to anal vein, straight to inner margin ; postmedial fascia blackish brown, crenulate (points distad), straight from costa to vein 6, excurved to vein 2, inwardly oblique to inner margin ; termen blackish brown, dull citrine points at ends of veins ; fringe old gold with blackish brown streaks. *Hindwint* light buff, postmedial fascia fuscous, termen fuscous, fuscous streaks on veins connecting postmedial to termen. *Underside :* fore- wing light buff suffused with fuscous, a patch of dull citrine below costa near apex, postmedial fascia fuscous ; hindwing light buff lightly suffused with fuscous, irrorated with fuscous below costa, postmedial fascia fuscous.

Expanse 38 mm. (*tip to tip* 36 mm.).

Holotype ♂ : 26.xi.1912 ; *paratype* ♂ : 11.xi.1912, Philippine Is., Luzon I., subprov. Benguet, Pauai, Haight's Place, 7,000 ft.

Nearest ally : *O. mölleri* Hmpsn.

The old gold colour on these specimens may have been green originally, a change which frequently takes place in green moths.

ENDOTRICHINAE.

Endotricha wilemani sp.n.

♀: *Palpus* pinkish buff. *Antenna* minutely ciliate. *Head:* frons and vertex pinkish buff. *Thorax:* patagium and tegula pinkish buff. *Abdomen* pinkish buff above and beneath. *Pectus* pinkish buff. *Legs* pinkish buff tinged with brownish vinaceous. *Forewing* pinkish buff lightly suffused with brownish vinaceous on subterminal area; fringe cartridge-buff suffused with brownish vinaceous. *Hindwing* pinkish buff lightly suffused with brownish vinaceous. *Underside:* forewing pinkish buff suffused with brownish vinaceous on lower half; hindwing cartridge-buff suffused with brownish vinaceous.

Expanse 15 mm. (*tip to tip* 14 mm.).

Holotype ♀: 29.iv.1913, Philippine Is., Palawan I., Taytay (plains).

Nearest ally: *E. stibialis* Rag.

Orthoraphis paula sp.n.

♀: *Palpus* cartridge-buff, suffused with bone-brown outwardly. *Head:* frons and vertex cartridge-buff. *Thorax:* patagium and tegula cartridge-buff. *Abdomen* cartridge-buff above and beneath, some bone-brown dorsally, bone-brown spots laterally. *Pectus* cartridge-buff. *Legs* cartridge-buff, bone-brown on tibia and tarsus of foreleg. *Forewing* cartridge-buff overlaid with clay colour, bone-brown on basal third of costa, bone-brown on costa before apex, a bone-brown spot on median nervure subbasally; antemedial fascia consisting of a bone-brown dentate line; bone-brown spot on discocellulars; subterminal fascia consisting of an inwardly oblique, wavy, cartridge-buff line, defined by bone-brown with a deep suffusion of clay-colour proximally and a light suffusion distally; termen excised below apex. *Hindwing* cartridge-buff, a bone-brown spot on discocellulars; postmedial fascia consisting of a bone-brown line from costa for a short distance then becoming obsolescent. *Underside:* forewing cartridge-buff densely irrorated with fuscous, clay-colour on costa and termen; spot on discocellulars, and postmedial fascia fuscous; hindwing cartridge-buff irrorated with fuscous on upper half, spot on discocellulars and postmedial fascia fuscous.

Expanse 24 mm. (*tip to tip* 22 mm.).

Holotype ♀: 27.vi.1913, Philippine Is., Luzon I., subprov. Benguet, Pauai, Haight's Place, 7,000 ft.

Nearest ally: *O. metasticta* Hmpsn.

PYRALINAE.

Pryalis callista sp.n.

♂: *Palpus* light buff suffused with sorghum brown. *Antenna* fasciculate. *Head:* frons and vertex light buff suffused with sorghum-brown. *Thorax:* patagium and tegula sorghum-brown. *Abdomen* light buff suffused with sorghum-brown, venter light buff. *Pectus* and *legs* light buff. *Forewing* subbasal area sorghum-brown antemedial fascia consisting of a cartridge-buff, wavy line; area

between antemedial and postmedial fasciae light vinaceous-fawn, a fuscous-black spot on discocellulars ; postmedial fascia consisting of a cartridge-buff line defined by sorghum-brown, outwardly oblique from costa to vein 7, angled, then straight to inner margin ; subterminal area light vinaceous-fawn suffused with sorghum brown. *Hindwing* light buff, subbasal area suffused with fuscous above anal vein, and sorghum-brown below ; antemedial fascia consisting of a deeply dentate, cartridge-buff line ; two wide streaks of light vinaceous-fawn from antemedial to postmedial fasciae, one between veins 2 and 3, the other below anal vein ; postmedial fascia consisting of an outwardly bowed, fuscous line, defined by light buff ; subterminal area light vinaceous-fawn suffused with fuscous. *Underside :* forewing light buff suffused with fuscous increasing in density toward termen ; hindwing light buff suffused with fuscous on apical area.

Expanse 12 mm. (*tip to tip* 11 mm.).

Holotype ♂ ; *paratype* ♂ : 22.vi.1914, Philippine Is., Mindanao I., subprov. Lanao, Kolambugan (plains) ; *paratype* ♂ : 9.iv.1913, Palawan I., Taytay (plains).

Nearest ally : *P. ravoalis* Wlk.

Diloxia euteles sp.n.

♂ : *Palpus* drab. *Antenna* fasciculate. *Head :* frons and vertex drab. *Thorax :* patagium and tegula drab. *Abdomen* drab above and beneath. *Pectus* light buff. *Legs* light buff suffused with fuscous. *Forewing* drab, costa fuscous, broken by light buff points, a fuscous spot on discocellulars ; postmedial fascia consisting of a light buff line defined by fuscous proximally, bowed outwardly from costa to vein 2, then excurved to inner margin ; a tinge of vinaceous brown on termen ; fringe cartridge-buff, fuscous at base. *Hindwing* concolorous with forewing, antemedial fascia wavy, outwardly oblique ; postmedial fascia bowed outwardly from costa to vein 2, then excurved to inner margin. *Underside :* forewing drab suffused with vinaceous-brown, irrorated with fuscous ; postmedial fascia light buff defined by fuscous proximally ; hindwing light buff suffused with vinaceous brown on distal half, irrorated with fuscous ; postmedial fascia light buff defined by fuscous proximally.

Expanse 18 mm. (*tip to tip* 17 mm.).

Holotype ♂ : 1.v.1913, Philippine Is., Palawan I., Taytay (plains).

Nearest ally : *D. fimbriata* Hmpsn.

HYDROCAMPINAE.

Ambia pedionoma sp.n.

♀ : *Palpus* white, chamois at base and on third segment. *Antenna* minutely ciliate. *Head :* frons white, vertex white edged with chamois. *Thorax :* patagium white, chamois on inner edge, tegula white, streaked with chamois. *Abdomen* white above and beneath, banded with chamois dorsally. *Pectus* white. *Legs* white, patches of chamois on foreleg. *Forewing* white, all fasciae chamois bands edged with fuscous ; subbasal and antemedial fasciae wavy ; postmedial fascia slightly incurved from costa to vein 2 with a point on proximal edge at vein 7, acutely angled at vein 2, then arched and inwardly oblique to inner margin at one third, from top of arched portion a band rising to subcosta,

bent and arched toward base, terminating on median nervure; subterminal fascia slightly waved to vein 2 where it is constricted, then inwardly oblique to inner margin at one half; terminal band chamois edged with fuscous-black. *Hindwing* concolorous with forewing, postmedial fascia forming on forewing continuations of postmedial and subterminal fasciae which join on median nervure and continue as a single band to inner margin; subterminal fascia waved; terminal band as on forewing. *Underside:* fore- and hindwings glossy, white, markings of upperside faintly showing through.

Expanse 15 mm. (*tip to tip* 13 mm.).

Holotype ♀: 29.iv.1913, Philippine Is., Palawan I., Taytay (plains); *paratype* ♀: 16.i.1914, Luzon I., prov. Rizal, Montalban (plains).

Nearest ally: *A. portialis* Wlk.

Aulacodes simplex sp.n.

♀: *Palpus* light buff. *Antenna* apparently simple. *Head:* frons and vertex light buff. *Thorax:* patagium and tegula buff-yellow. *Abdomen* light buff suffused with buff-yellow, venter light buff. Pectus light buff. *Legs*: foreleg buff-yellow, fuscous at lower end of tibia, midleg buff-yellow, hindleg light buff. *Forewing* white suffused for the greater part with buff-yellow, a prominent fuscous spot on discocellulars; buff-yellow on costa and along inner margin; subterminal fascia consisting of a buff-yellow band parallel with termen; a buff-yellow band edged with fuscous-black on termen, fringe light buff. *Hindwing* white, a wide oblique band of buff-yellow from apex to middle of inner margin; a buff-yellow band on termen in which is a broken, fuscous-black patch containing two white spots, between veins 3 and 5, below this, the band is edged with fuscous-black to anal vein. *Underside:* fore and hindwings, glossy, cartridge-buff, markings showing through from upperside.

Expanse 24 mm. (*tip to tip* 23 mm.).

Holotype ♀ and *paratype* ♀: 29.vi.1913, Philippine Is., Luzon I., subprov. Benguet, Palali, 2,000 ft.

Nearest ally: *A. saturalis* Snell.

Aulacodes splendens sp.n.

♂: *Palpus* ochraceous-buff, Saccardo's umber at tip. *Antenna* fasciculate. *Head:* frons and vertex ochraceous-buff. *Thorax:* patagium ochraceous-buff, tegula ochraceous-buff, a fuscous-black spot anteriorly, Saccardo's umber posteriorly, rest of thorax ochraceous-buff, a fuscous-black spot between tegulae and a patch posteriorly. *Abdomen* cream colour, venter white. *Pectus* ochraceous buff. *Legs*: foreleg coxa and femur ochraceous buff, tibia Saccardo's umber, tarsus white; mid- and hindlegs coxae and femora ochraceous buff, tibiae cream-colour, tarsi white. *Forewing* white, an arched streak of cream-colour from base to near tornus, Saccardo's umber along costa; from this antemedially, a wide, wavy band extending to inner margin, postmedially an outwardly oblique band, subterminally a slightly excurved, inwardly oblique band joining the postmedial at vein 2, forming a triangular mark; a border of cream-colour edged with fuscous-black on termen. *Hindwing* white, a patch of Saccardo's umber at base, a lunule of Saccardo's umber from lower angle of cell across vein 2, followed by an oblique, wavy streak of cream-colour from apex to

inner margin, a border of cream-colour on termen edged with fuscous-black at apex, interrupted by four, interneural, fuscous-black spots below vein 5, bordered distally by metallic scales, a metallic lunule in each spot. *Underside :* forewing white, cream-buff on costa ; hindwing white, three fuscous-black spots on termen between veins 2 and 5.

Expanse 38 mm. (*tip to tip* 37 mm.).

♀ : Similar to ♂, antenna simple.

Expanse 46 mm. (*tip to tip* 45 mm.).

Holotype ♂ : 18.v.1912, Philippine Is., Luzon I., subprov. Benguet, Klondyke, 800 ft. ; *allotype* ♀ : 1.vii.1913, subprov. Benguet, Palali, 2,000 ft.

Nearest ally : *A. mormodes* Meyr.

Tatobotys tanyscia sp.n.

♂ : *Palpus* light buff, sepia above. *Antenna* minutely ciliate. *Head :* frons sepia, vertex sepia, a warm buff spot anteriorly. *Thorax :* patagium warm buff, tegula warm buff, sepia posteriorly. *Abdomen* sepia, diffusely banded with warm buff on basal segments, venter light buff suffused with sepia. *Pectus* light buff. *Legs* light buff, a suffusion of sepia on foreleg above. *Forewing* sepia, warm buff points on costa, two warm buff patches lying obliquely on lower half of wing, one antemedially, the other just before postmedial, a warm buff spot between the two ; postmedial fascia consisting of a fine, wavy, warm buff line from costa to vein 2. *Hindwing* sepia, a warm buff patch at base, medial fascia oblique, waved, warm buff ; postmedial fascia oblique, warm buff. *Underside* similar to upperside but with markings less definite.

Expanse 14 mm. (*tip to tip* 13 mm.).

♀ : Similar to ♂, markings more definite.

Expanse 16 mm. (*tip to tip* 15 mm.).

Holotype ♂ : 11.iv.1913 ; *allotype* ♀ and *paratype* ♀ : 13.iv.1913, Philippine Is., Palawan I., Taytay (plains).

Nearest ally : *T. aurantialis* Hmpsn.

PYRAUSTINAE.

Phostria jansei sp.n.

♂ : *Palpus* sepia. *Antenna* minutely ciliate. *Head :* frons sepia, vertex Saccardo's umber. *Thorax :* patagium Saccardo's umber, tegula sepia. *Abdomen* Saccardo's umber suffused with sepia, anal tuft sepia, venter pinkish buff. *Pectus* pinkish buff. *Legs :* foreleg sepia, tarsus pinkish buff, midleg sepia, tibia thickly clothed with hair-scales, tarsus pinkish buff suffused with sepia hindleg pinkish buff lightly suffused with sepia, fringe of hair-scales on lower half of tibia and first segment of tarsus. *Forewing* Saccardo's umber, antemedial fascia consisting of a sepia line, incurved from costa to just below median nervure, sharply angled, then incurved to inner margin ; sepia spot on discocellulars ; postmedial fascia consisting of a sepia line straight from costa to vein 5, excurved to vein 3, angled, then slightly arched, inwardly, to vein 2, wavy to inner margin. *Hindwing* concolorous with forewing, postmedial fascia obliquely excurved to vein 3, angled, then directed inwardly for a short distance, angled, slightly excurved to inner margin. *Underside* similar to upperside.

Expanse 36 mm. (*tip to tip* 34 mm.).

Holotype ♂: Philippine Is., Luzon I., Mount Makiling (Baker); *paratype* ♂: Luzon I., subprov. Benguet, Klondyke, 800 ft. (Wileman).

This species superficially resembles *P. notescens* Moore, but the tegulae are not elongated as in that species.

In addition to the example in the Wileman Collection there is also one in the British Museum Collection, and this being the finer specimen it has been selected as the type.

Dichocrocis liparalis sp.n.

♀: *Palpus* antimony-yellow. *Antenna* minutely ciliate. *Head:* frons and vertex antimony-yellow. *Thorax:* patagium and tegula antimony-yellow. *Abdomen* antimony-yellow suffused with ochraceous-orange, venter antimony-yellow. *Pectus* and *legs* antimony-yellow, blackish brown on joints of tibia of foreleg. *Forewing* ochraceous-orange, antimony-yellow on costa; three prominent, transverse, blackish brown dashes from costa, one at base reaching anal vein, one antemedially reaching median nervure, the other postmedially reaching vein 6; fringe antimony-yellow. *Hindwing* ochraceous-orange, fringe antimony-yellow, a short, oblique, blackish-brown streak near anal angle. *Underside:* fore- and hindwings antimony-yellow lightly suffused with ochraceous-orange, a prominent, blackish-brown dash from costa postmedially to vein 6, on both wings.

Expanse 26 mm. (*tip to tip* 25 mm.).

Holotype ♀: 23.iii.1912; *paratype* ♀: 20.iv.1912, Philippine Is., Luzon I., subprov. Benguet, Klondyke, 800 ft.

Nearest ally: *D. semperi* Sauber.

Dichocrocis acoluthalis sp.n.

♀: *Palpus* pale orange-yellow. *Antenna* minutely ciliate. *Head:* frons and vertex pale orange-yellow. *Thorax:* patagium and tegula deep chrome. *Abdomen* deep chrome, dorsal and lateral series of blackish-brown spots, anal tuft blackish brown, venter pale orange-yellow. *Pectus* pale orange-yellow. *Legs:* foreleg pale orange-yellow, a blackish-brown spot at lower ends of femur and tibia, midleg pale orange-yellow, a blackish-brown spot at lower end of femur, hindleg pale orange-yellow. *Forewing* deep chrome, pale orange-yellow on costa, a blackish-brown spot at base; subbasal fascia consisting of three blackish-brown spots; antemedial fascia blackish brown, slightly excurved, broken in middle; a blackish-brown spot in distal end of cell, a blackish-brown bar on discocellulars; postmedial fascia consisting of a blackish-brown dash from costa reaching to vein 6, and two spots near inner margin; subterminal fascia consisting of a series of blackish-brown spots, excurved from costa to vein 5, sharply angled, then excurved and inwardly oblique to inner margin, fringe cartridge-buff. *Hindwing* deep chrome, subterminal fascia consisting of a series of blackish-brown spots, excurved from costa to vein 5, sharply angled, then excurved and inwardly oblique to inner margin; fringe cartridge-buff. *Underside:* fore- and hindwings pale orange-yellow, markings similar to those of upperside.

Expanse 24 mm. (*tip to tip* 23 mm.).

Holotype ♀: 14.iii.1912, Philippine Is., Luzon I., subprov. Benguet, Klondyke, 800 ft.

Nearest ally: *D. punctiferalis* Guen.

Sylepta lygropialis sp.n.

♀: *Palpus* buffy brown, cartridge-buff beneath. *Antenna* minutely ciliate. *Head:* frons and vertex buffy brown. *Thorax:* patagium and tegula buffy brown. *Abdomen* buffy brown, venter cartridge-buff. *Pectus* and *legs* cartridge-buff. *Forewing* buffy brown, a fuscous spot in distal half of cell, another on discocellulars, between these spots an opalescent patch; postmedial fascia consisting of a series of opalescent patches and lunules defined proximally by fuscous, obliquely incurved to vein 5, oblique to vein 2, incurved to anal vein, oblique to inner margin. *Hindwing* buffy brown, a large wedge-shaped, opalescent patch medially, wide at costa and tapering to a point on inner margin, fuscous on proximal edge, distal edge crenulate (points basad), fuscous, bordered with lunules beyond. *Underside:* forewing white suffused with buffy brown over the greater part; hindwing white suffused with buffy brown on subterminal area, markings showing through from upperside on both wings.

Expanse 50 mm. (*tip to tip* 48 mm.).

Holotype ♀: 25.xii.1911, Philippine Is., Luzon I., subprov. Benguet, Klondyke, 800 ft.

Nearest ally: *S. magna* Butl.

Sylepta elegans sp.n.

♂: *Palpus* cartridge-buff, suffused with fuscous at base. *Antenna* ciliate. *Head:* frons and vertex cartridge-buff. *Thorax:* patagium and tegula fuscous, edged with cartridge-buff. *Abdomen* fuscous, cartridge-buff patch on basal and anal segments, anal tuft light buff, venter cartridge-buff, a suffusion of fuscous distally. *Pectus* cartridge-buff. *Legs* cartridge-buff with patches of fuscous. *Forewing* glossy, translucent, light buff shaded with fuscous from base to antemedial, and from postmedial to termen; subbasal fascia fuscous, straight from costa to inner margin; antemedial fascia fuscous, outwardly oblique and slightly waved; a fuscous spot in middle of cell, a fuscous patch on discocellulars; postmedial fascia fuscous, inwardly oblique from costa to vein 5, angled, and again inwardly oblique to vein 2, angled, then rising inwardly to median nervure, sharply angled, then oblique to inner margin. *Hindwing* concolorous with forewing, antemedial and postmedial fasciae represented by two oblique lines from costa to vein 2. *Underside* similar to upperside.

Expanse 25 mm. (*tip to tip* 24 mm.).

Holotype ♂: 3.vii.1913, Philippine Is., Luzon I., subprov. Benguet, Palali, 2,000 ft.

Nearest ally: *S. proximalis* Wlk.

Sylepta macallalis sp.n.

♀: *Palpus* bistre. *Antenna* ciliate. *Head:* frons white, a patch of bistre on upper half, vertex cream-colour. *Thorax:* patagium and tegula cream-colour mixed with bistre. *Abdomen* cream-colour, suffused with bistre distally, anal tuft bistre, venter cream-colour suffused with bistre. *Pectus* cream-colour. *Legs* white with patches of bistre. *Forewing* white, veins snuff-brown, snuff-brown on costa, subbasal area snuff-brown on upper half, the distal edge reaching down to inner margin; antemedial fascia consisting of a deeply dentate, snuff-brown line; spot in cell and another on discocellulars snuff-brown; postmedial fascia

snuff-brown, commencing at costa as a line, inwardly oblique to base of vein 6, sharply angled, then outwardly oblique to vein 4, where it becomes a wide suffusion to inner margin; subterminal fascia consisting of a snuff-brown line inwardly oblique to vein 4, slightly excurved to vein 2, where it is merged into the suffusion of postmedial; subterminal area suffused with snuff-brown; fringe cartridge-buff. *Hindwing* cream-colour, postmedial fascia consisting of a faint snuff-brown line from costa to vein 3; subterminal area lightly suffused with snuff-brown. *Underside:* fore- and hindwings cartridge-buff, snuff-brown lunules on discocellulars, postmedial fascia snuff-brown, subterminal area suffused with snuff-brown.

Expanse 40 mm. (*tip to tip* 38 mm.).

Holotype ♀: 29.vi.1913, Philippine Is., Luzon I., subprov. Benguet, Pauai, Haight's Place, 7,000 ft.

Nearest ally: *S. pogonodes* Hmpsn.

Noorda aeanalis sp.n.

♂: *Palpus* light buff suffused with fuscous. *Antenna* ciliate. *Head:* frons and vertex light buff suffused with fuscous. *Thorax:* patagium and tegula light buff suffused with fuscous. *Abdomen* light buff suffused with fuscous, venter light buff. *Pectus* light buff. *Legs* light buff tinged with fuscous. *Forewing* light buff dusted over with fuscous; antemedial fascia consisting of a fuscous, slightly waved line; a fuscous bar on discocellulars; postmedial fascia consisting of a fuscous line, outwardly bowed from costa to vein 2, incurved to inner margin. *Hindwing* glossy, translucent, white, suffused with fuscous in subterminal area. *Underside:* fore- and hindwings, glossy, white, lightly suffused with fuscous.

Expanse 16 mm. (*tip to tip* 15 mm.).

Holotype ♂: 9.iv.1912, Philippine Is., Luzon I., subprov. Benguet, Klondyke, 800 ft.

Nearest ally: *N. ceramia* Turner.

Pyrausta homoeides sp.n.

♂: *Palpus* tawny. *Antenna* minutely ciliate. *Head:* frons tawny, vertex tawny, a light buff spot in middle. *Thorax:* patagium and tegula tawny. *Abdomen* light buff suffused with tawny above and beneath, anal tuft light buff. *Pectus* light buff. *Legs* light buff suffused with tawny, tibia of hindleg enlarged by a fold containing white hair. *Forewing* tawny, antemedial fascia consisting of an inwardly oblique, narrow, white band defined by fuscous distally; a fuscous bar on discocellulars; postmedial fascia consisting of a narrow, white band defined proximally by fuscous, inwardly oblique, outwardly bowed between veins 6 and 2. *Hindwing* light buff. *Underside:* fore- and hindwings glossy, light buff.

Expanse 26 mm. (*tip to tip* 24 mm.).

♀: Similar to ♂, but of a darker shade, and having a faint fuscous postmedial fascia on hindwing.

Expanse 30 mm. (*tip to tip* 28 mm.).

Holotype ♂ and *allotype* ♀: 25.iii.1912, Philippine Is., Luzon I., subprov. Benguet, Baguio, 5,000 ft.

Nearest ally: *P. leucula* Meyr.

Pyrausta cricophora sp.n.

♂ : *Palpus* russet, white at base. *Antenna* minutely ciliate. *Head :* frons and vertex russet. *Thorax :* patagium and tegula russet. *Abdomen* light buff suffused with russet, above and beneath. *Pectus* light buff suffused with russet. *Legs* russet, white at upper joint of tarsus of foreleg, tarsi of mid- and hindleg white. *Forewing* russet to tawny ; an antemedial fascia consisting of a narrow white band, inwardly oblique and waved ; fuscous bar on discocellulars surrounded by a white ring ; postmedial fascia consisting of a narrow white band, inwardly oblique and outwardly bowed from costa to vein 2. *Hindwing* light buff suffused with russet. *Underside :* forewing light buff suffused with russet, markings showing through from upperside ; hindwing light buff suffused with fuscous on distal half of wing, russet lunule on discocellulars, postmedial fascia russet.

Expanse 34 mm. (*tip to tip* 32 mm.).

♀ : Similar to ♂.

Expanse 35 mm. (*tip to tip* 33 mm.).

Holotype ♂ : 26.vii.1913 ; *allotype* ♀ : 21.vi.1913, Philippine Is., Luzon I., subprov. Benguet, Pauai, Haight's Place, 7,000 ft.

Nearest ally : *P. leucula* Meyr.

THREE NEW SPECIES OF *NEOPSYLLA* (SIPHONAPTERA) FROM THE ORIENTAL REGION.

By DR. KARL JORDAN.

(With 5 text-figures.)

THE new species here described are allied to *N. stevensi* Roths. 1915 and *N. secura* Roths. 1915, both from the Himalayas. All five species agree with each other in a number of features: the longer of the two genal spines is longer than the genal process; the comb of the pronotum is longer than the pronotum, and in front of the row of bristles of this segment there are no small bristles or only one to three; the mesopleura bear 6 or 7 bristles; the hindcoxa has a row of small spines on the inner surface, and the hindtibia a row of 5 or 6 bristles on the outer surface; the exopodite F of the male projects a little above the rounded process P^2 of the clasper; and the tail of the spermatheca of the female is long and cylindrical, not being caved in below its apex. The species differ chiefly in the tail-ends, particularly in the ninth sternite of the male.

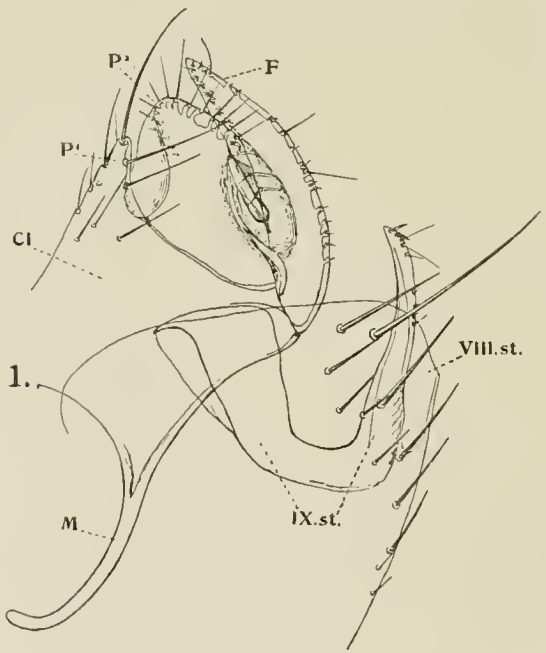


FIG. 1.—*Neopsylla sondaica.*

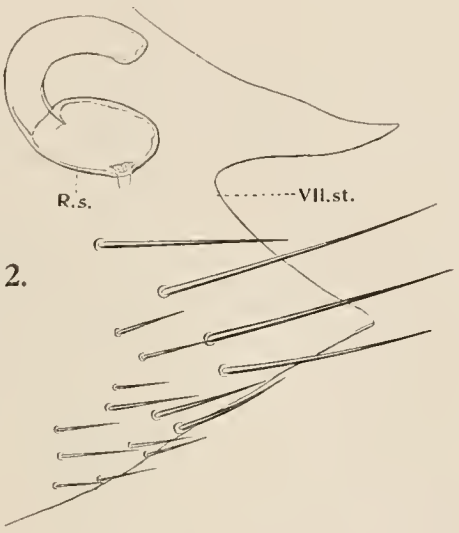
1. **Neopsylla sondaica** sp. nov. (text-figs. 1 and 2).

♂♀. On pronotum a row of 11 to 13 bristles (usually 12) and from 1 to 3 small ones representing an anterior row; a comb of 19 spines, dorsally one half longer than the pronotum, or nearly. On meso- and metanotum a row of 14 bristles (rarely 13) and before this row on mesonotum in ♂ from 28 to 33 smaller bristles and in ♀ from 32 to 35. Metepimerum with 11 or 12 bristles, rarely 9.

Abdominal tergites with the following number of apical spines (on the two sides together): I 2, II 2 to 4, III 2, IV 2, V 2, VI 0. Bristles on tergites in ♂: III 18 to 20, 17 or 18, VI 12 or 13, 15 or 16, VII 9 to 11, 12; in ♀ III 31 to 33, 18, VI 23 to 26, 15 to 17, VII 10, 6 or 7. On sternites in ♂: IV 8 or 9, 6, V 6 to 9, 6 or 7, VI 7 to 11, 6 or 7, VII 10, 6 or 7; in ♀: IV 13 to 17,8 to10, V 15, 8 to 10, VI 13 to 16, 9 or 10.

Modified Segments.——♂: VIII. st. rounded at apex (text-fig. 1),

with 11 to 14 bristles on each side, of which about 6 are stout, one being much longer than the others, nearly equalling in length the ventral arm of IX. st. measured dorsally. Manubrium (M) of clasper very narrow, almost of even width from base to near apex. Clasper as usual divided into two lobes: the upper process P^1 conical, a little longer than basally broad, with a long apical bristle and, on dorsal and outer surfaces, with about 8 bristles, the number being somewhat variable, the inner surface likewise bearing bristles; P^2 much broader than P^1, its thinned dorsal marginal area broader than in the allied species, along apical and posterior margins about 10 thin bristles. The groove in which the exopodite F is inserted (= acetabulum) a very little above two-thirds of the distance from the lowest point of F to the top of P^2. The slit between P^1 and P^2 very narrow. Exopodite F a little more than four times as long as it is broad in middle, conical from middle upwards, with three small bristles at the posterior margin as usual in this group, and a variable number of very minute hairs. Apex of vertical arm of IX. st. broad, rounded-truncate, the whole widened apical portion trapezoidal; the bay between this portion and the ventral arm wide, not quite evenly rounded; ventral arm almost gradually narrowed to a point, slightly bent upwards from middle, at apex two small spiniforms, proximally of them two very thin longish hairs and a short one, and on the distal side of middle 4 or 5 small hairs.——♀: VII. st. with a posterior row of 8 to 10 bristles (on the two sides together) and before the row 22 to 26 smaller bristles; apical margin deeply sinuate, the apex of the sinus less than 90°, but rounded off; lobe above sinus long, more or less sharply pointed (text-fig. 2). On ventral area of VIII. t. 8 to 10 bristles on outside, and 12 to 15 on inside, the latter spiniform except 2 or 3 longer marginal ones. Body of spermatheca twice as long as wide, tail long, in middle half as wide as the body.



2.

Fig. 2.—*Neopsylla sondaica*.

Length: ♂ 2·4 mm.; ♀ 2·7 to 2·9 mm.; hindfemur: ♂ 0·36 to 0·38 mm.; ♀ 0·40 to 0·44 mm.

Hab. East Java: Tengger Mts., Wonokitri, 2,000 m., 21 September 1930, off *Rattus concolor ephippium*; Tosari, 1,750 m., 20 September 1930, off *Rattus rattus diardi*; 2 ♂♂, several ♀♀, collected by Dr. F. Kopstein. Type: ♂ from Wonokitri.

2. **Neopsylla avida** sp. nov. (text-figs. 3 and 4).

♂♀. Thorax and abdomen with fewer bristles in front of the posterior row than in the preceding species, and the tail-ends different.

Pronotal comb with 19 or 20 spines in ♂ and 21 in ♀; in front of the row

of 11 to 13 long bristles no bristles in ♂ and 2 in ♀. On meso- and metanotum a posterior row of 11 to 13 bristles, usually 11, and in front of it on mesonotum 22 to 26 small bristles and on metanotum 18 to 24. The metepimerum bears 9 to 11 bristles.

Spines on abdominal tergites (on the two sides together) in ♂: I 2, II 2, III 2 or 3, IV 2, V 2, VI 1 or 0; in ♀: I 4, II 2, III 2, IV 2, V 1, VI 0. The number of bristles in ♂: on tergite III 12 or 13, 17, VI 5 or 6, 14 or 15, VII 5 or 6, 12 or 13; in ♀: on III 20, 18, VI 16, 15, VII 11, 12. On sternites in ♂: III 6 to 10, 4 to 6, IV 4 to 6, 5 or 6, V 5 or 6, 5 or 6, VI 7 or 8, 6, VII 9 ,6, only two bristles of the posterior row being long on each side; in ♀: III 8, 9, IV 7, 8, V 9, 10, VI 9, 10, three of the posterior bristles being long on each side.

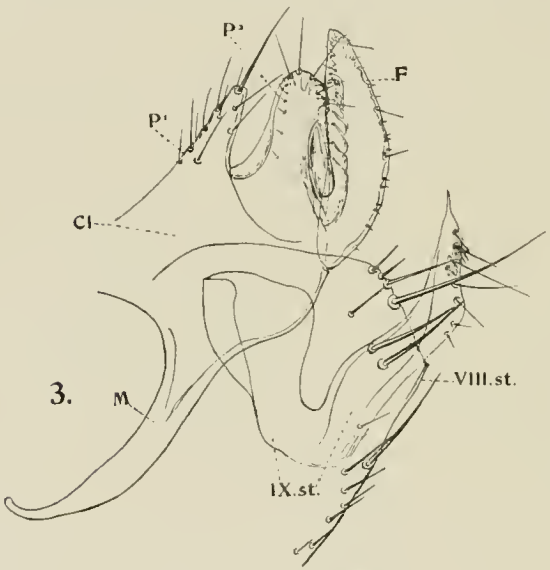


FIG. 3.—*Ncopsylla avida*.

Modified Segments.——♂: Apical margin of VIII. st. (text-fig. 3) irregularly rounded, subventrally oblique and nearly straight; the number of bristles very slightly different in the two specimens: at apex, some distance above ventral angle, a long bristle, longer than the others on this segment, but smaller than the median antepygidial bristle; above this long one three short bristles, either the two upper ones spiniform and the third longer, as in our figure, or all three spiniform; on the side of the segment 3 or 4 subapical bristles, of which a subventral pair is stout; further forward 6 to 8 bristles, ventral and subventral, of which the most distal ventral one is stout and either reaches to ventral angle of the segment or falls short of it. Manubrium (M) of clasper about twice as broad as in *N. sondaica* sp. nov., but very strongly narrowed at apex, which is curved upwards. Process P^1 of clasper narrower than in *N. sondaica*, P^2 much narrower, the sinus between them much wider, and the dorsal thinned marginal area of P^2 narrow. Top of acetabulum a little above two-thirds of the distance from lowest point of F to top of P^2. Exopodite F broader than in *N. sondaica*, otherwise not essentially different (text-fig. 3). Both the vertical and ventral arms of IX. st. broader than in the previous species, the bay between them much smaller; ventral arm curved twice, being somewhat ventricose at two-thirds, apex sharply pointed, close to apex an irregular row of 5 or 6 short spiniforms on inside, on outer side two longish, but thin, bristles and farther frontad row of 4, of which the 2 frontal ones are small.——♀: Sinus of VII. st. nearly rectangular (text-fig. 4); the lobe above it triangular, pointed, much shorter than in *N. sondaica*, being about as long as basally broad. On outer surface of VIII. t. 9 bristles, nearly all long and stout, 4 of them at apical

margin ; on inside 13 bristles at and close to apical margin as in *N. sondaica*. Spermatheca as in the previous species.

Length : ♂ 2·4 mm. ; ♀ 2·8 mm. ; hindfemur : ♂ 0·40 mm., ♀ 0·43 mm.

Hab. South Annam, Langbian Peak, 6,000 ft., off *Rattus bowersi*, 2 ♂♂, 1 ♀, collected by C. Boden Kloss.

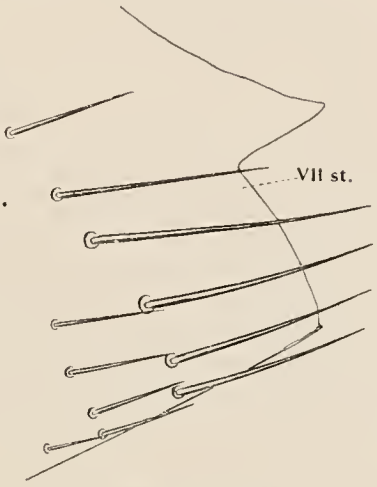


Fig. 4. *Neopsylla arida.*

3. **Neopsylla tricata** sp. nov. (text-fig. 5).

♂. Abdominal sternites on the whole with fewer bristles than in *N. arida* sp. nov., but this distinction probably not reliable. Genitalia conspicuously different, especially the ninth sternite.

Pronotal comb with 22 spines : 14 bristles in the row, no small ones in front of the row. Bristles on mesonotum 20 (?), 12, on metanotum 19, 11, on metepimerum 10 or 11.

Apical spines on abdominal tergites (on the two sides together) I 5, II 2, III 2, IV 2, V 2, VI 1. Bristles on tergites III 15, 18, VI 3, 16, VII 3, 12. On sternites III 5, 6, IV 5, 6, V 4, 6, VI 3, 6, VII 7. 5, the two ventral ones on each side being long.

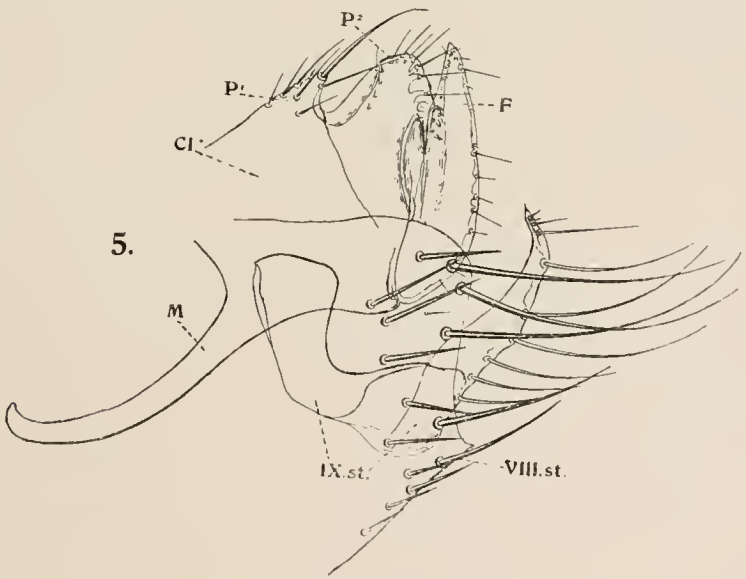


Fig. 5.—*Neopsylla tricata.*

Modified Segments.——♂ : Apical margin of VIII. st. strongly rounded dorsally, but somewhat incurved above ventral angle ; of the 15 bristles (text-fig. 5) the 3 upper marginal ones longer than the median antepygidial bristle,

but not quite so stout. Manubrium M of clasper longer than in both previous species, slightly narrowed to apex. Clasper shorter than in *N. sondaica* and *N. avida*; its upper process P^1 much shorter than P^2, the latter narrower than in *N. sondaica* and broader than in *N. avida* and shorter than in both. Top of acetabulum well above two-thirds the distance from lowest point of F to top of P^2. Vertical arm of IX. st. curved backwards, the bay on the posterior side of it evenly rounded; the apex of the vertical arm much less widened than in the two previous species; connection with ventral arm different (but another specimen required for control); ventral arm nearly gradually narrowed to a point from before middle; close to apex 2 small thin spiniforms, near them on outer side a thin longish bristle, from apical fourth to basal fourth 6 long bristles about half the thickness of the long bristles of VIII. st., the longest of them more than half the length of the ventral arm, the 3 proximal bristles the shortest, but on the right side of body the fourth the shortest; distance between fifth and sixth larger than between the others. Size as in *N. avida*.

Hab. South Annam: Dalat, Langbian Province, 1918, off *Rattus bowersi*, 1 ♂, collected by C. Boden Kloss.

SIPHONAPTERA COLLECTED BY MR. F. J. COX IN FRANCE.

By DR. KARL JORDAN.

(With 4 text-figures.)

As we had hardly any specimens of even the commonest fleas from Western France south of the Loire and from Central France, the authorities of the British Museum of Natural History sent Mr. Cox to that country on a collecting expedition for the purpose of trapping mammals and obtaining their Ectoparasites. Mr. Cox spent about six weeks in France, from the second week in August to the end of September 1930, and was successful in finding a dozen species of fleas, among them two new ones. This number may appear small to the uninitiated. It takes, however, a long time to get even half the number of species actually existing in a country, the less common forms either being local or more common at one time of the year than at another. One of the new species represents a new genus allied to *Typhloceras*.

1. **Pulex irritans** L. 1758.

Ruffec, Charente, August, a small series, on *Homo*.

2. **Ceratophyllus fasciatus** Bosc 1801.

Nanteuil, Charente, August, 1 ♀, on *Rattus norvegicus*.——La Bourboule, Puy de Dôme district, 1,200 and 1,700 m., 1 ♂, 1 ♀, on *Apodemus sylvaticus*.

3. **Ceratophyllus turbidus** Roths. 1909.

A series from Poitiers and Crontelle, August, on *Apodemus sylvaticus* and *Evotomys glareolus*.——La Bourboule, Puy de Dôme, 1,200 m., on the same hosts.

4. **Ctenophthalmus agyrtes celticus** J. & R. 1922.

A series from Ruffec and Condac, and Villefagnan near Ruffec, Charente, August, on *Apodemus sylvaticus*, *Mus musculus* and *Evotomys glareolus*.—— Also 1 ♀ from La Bourboule, Puy de Dôme, September, on *Evotomys* spec.

It would be of great interest to know how far south, west and east this subspecies actually occurs. Its known range is very wide, extending to the Shetlands and including Ireland. We have a series of both sexes from Brittany; but whether it is this subspecies that occurs in Normandy, or the Central European one, we do not know. The individual variability does not seem to be so great as in England; but this observation may be due to the number of French specimens compared being so much smaller than the number of British ones.

5. **Ctenophthalmus arvernus** spec. nov. (text-fig. 1).

Closely related to *Ct. agyrtes celticus*, but very distinct in the tail-end of the ♂. Chaetotaxy almost the same as in *Ct. agyrtes*.

♂. The dense striation on the inner surface of VIII. st. less distinct than in

Ct. agyrtes celticus. Ventral margin of clasper much more evenly convex; manubrium (M) shorter, apically more strongly curved upwards; upper process P^1 of clasper shorter, narrower, not being longer than hindtarsal segment IV, with one long bristle, the second long bristle of *Ct. agyrtes* being here represented by a small one which is placed near the bottom of the sinus; P^2 quite different from that process of *Ct. agyrtes*, half as long again as P^1, sublinear, apically slightly dilated, in middle less than half as broad as ventral arm of IX. st.; the acetabular bristle placed at its posterior margin as thin as, and shorter than, the longest bristle of IX. st. Exopodite F more strongly narrowed apicad than

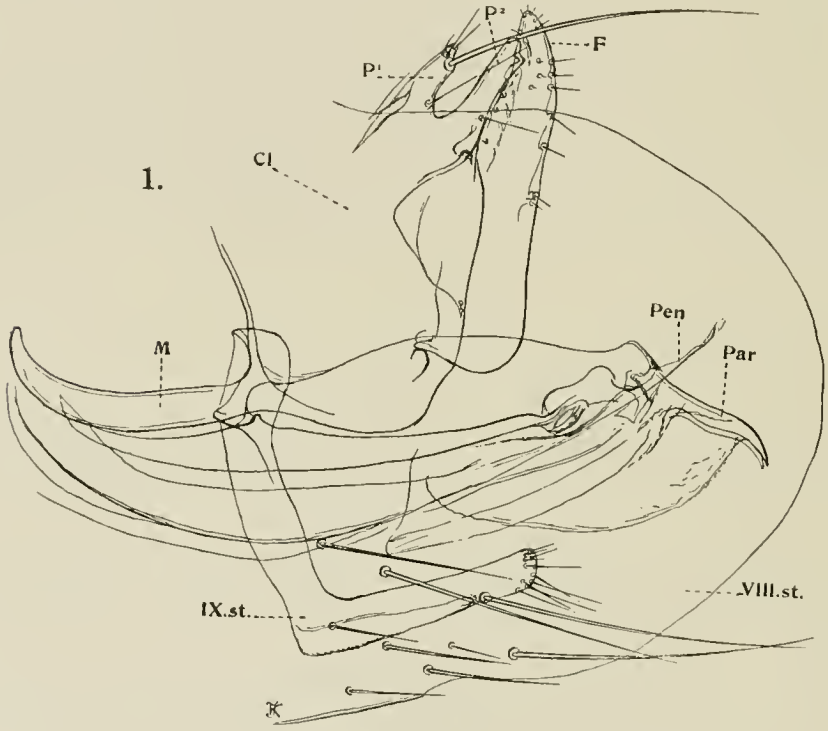


FIG. 1.—*Ctenophthalmus arvernus*.

in *Ct. a. celticus*, its apex slightly curved frontad. The two arms of IX. st. broader than in *Ct. a. celticus*; ventral arm straight, apically obtuse, lower apical angle strongly rounded off, effaced, upper angle less rounded, projecting farther distad, bristles confined to apex. Ventral apical hooks of parameres of penis longer than in *Ct. agyrtes*, the apical portion of parameres above duct (Pen) correspondingly shorter; ventral membrane without the denticulate flap (usually turned up) of *Ct. a. celticus*.

♀. On abdominal tergite VII, as a rule, with fewer bristles in front of the posterior row than in *Ct. a. celticus* from the same places, the numbers being 8 to 12 (average 10·4 in the specimens examined) in *Ct. arvernus*, and 12 to 21 in *Ct. a. celticus* (average 15·3). Narrow subventral apical lobe of VII. st. short, in *Ct. a. celticus* long (but individually variable).

Hab.—Ruffec and places near Ruffec, Charente, August, a series on *Apodemus sylvaticus*, *Mus musculus* and *Evotomys glareolus*.——La Bourboule, Puy de Dôme, and places near, 1,200 and 1,700 m., September, a series off the same hosts. Type from Ruffec ♂.

6. **Rhadinopsylla pentacanthus** Roths. 1897.

La Bourboule, Puy de Dôme, 1,200 m., September, 1 ♀, on *Microtus agrestis bailloni*.

7. **Doratopsylla dasycnemus** Roths. 1897.

Poitiers, August, 1 ♀, on *Crocidura russula*.

8. **Palaeopsylla minor** Dale 1878.

Ruffec and places near, Charente, August, a small series, on *Talpa europaea*.

9. **Leptopsylla segnis** Schoenh. 1816.

Condac near Ruffec, Charente, August, 1 ♂, 2 ♀♀, on *Mus musculus*.——La Bourboule, Puy de Dôme, 1,200 m., September, 1 ♂, on *Evotomys* spec.

10. **Leptopsylla fallax** Roths. 1909.

Puy de Dôme district, 1,700 m., September, one pair, on *Evotomys glareolus*.

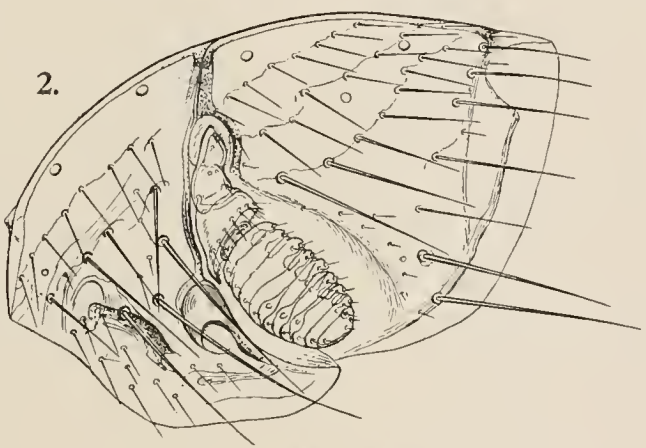


Fig. 2.—*Saphiopsylla nupera*, ♀.

Saphiopsylla gen. nov.

♂♀. Near *Typhloceras* Wagner 1903, but at once distinguished by the absence of the genal comb (text-fig. 2). Eye smaller than in *Typhloceras*; maxillary palpus reaching to trochanter, somewhat longer than proboscis; abdominal tergites I to VI with apical spines, these vestigial combs more dorsal than in *Typhloceras*; stigma-cavity of VIII. t. shorter and apically wider, especially in ♀. Otherwise closely agreeing with *Typhloceras*, apart from the tail-ends.

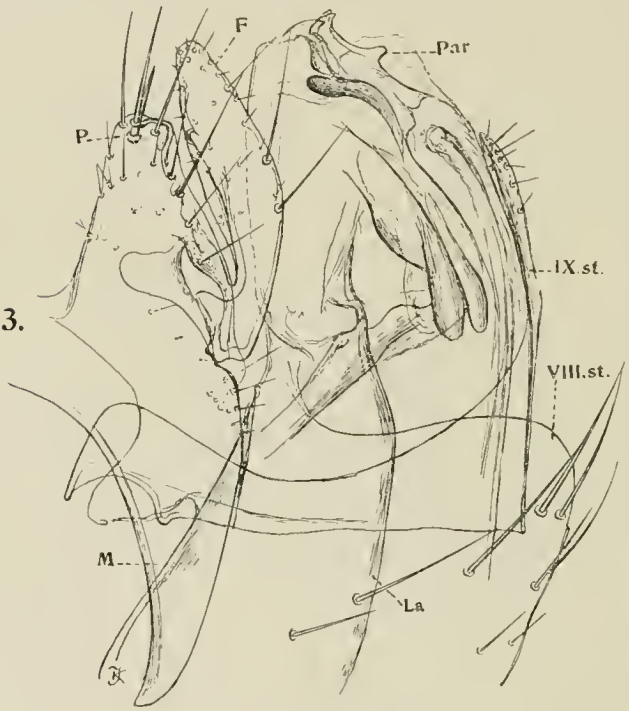
Genotype: spec. nov. here described.

11. **Saphiopsylla nupera** spec. nov. (text-figs. 2, 3, 4).

♂♀. Head.——Frontal tubercle prominent. Three rows of bristles on frons, four on occiput; several small additional bristles obliquely below eye behind the long ones; three long bristles in front of eye, the uppermost close to antennal groove and more forward than the other two; no such long bristle near oral margin.

Thorax.—Pronotum with two rows of bristles and a comb of 21 or 22 spines. Mesonotum with three rows and numerous additional small bristles in front of the rows. Mesopleura in ♂ with 16 or 17 bristles, in ♀ with 21. Metanotum with three rows and in ♀ with some additional bristles. Metepimerum in ♂ with 10 or 11, in ♀ with 16.

Abdomen.——Apical spines on tergites (the two sides together) in ♂ on I 7, II 10 or 15, III 10, IV 7 or 10, V 6, VI 3; in ♀ on I 8, II 11, III 10, IV 10, V 6, VI 2. In ♂ tergites I and II with three rows of bristles, on the other tergites two, with very few additional dorsal bristles, which are more numerous in ♀; numbers of bristles, on the two sides together: in ♂ on III 24 or 26, 15 or 16, IV 20 or 22, 15, VI 14 or 17, 13, VII 12 or 15, 11, in ♀ on III 38, 15, IV 29, 13, VI 17, 11, VII, 12 8. One long bristle of the tergites lower than stigma. Bristles on sternites: in ♂ on III 8 or 9, IV 8 or 10, V 9 or 10, VI 10, VII 10 or 11; in ♀ on III 19, IV 21, V 21, VI 23, VII 39.



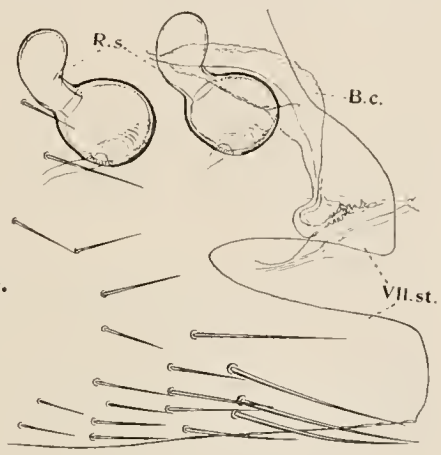
3.

FIG. 3.—*Saphiopsylla nupera.*

Legs.——Inner surface of hindcoxa with small hairs to or a little above middle. Hindfemur with a row of 4 (♂) or 5 (♀) bristles in posterior half. On hindtibia two rows of lateral bristles, together 20 to 26, there being a space between these rows and the subventral bristles. Proportional lengths of tarsal segments: midtarsus in ♂♂ 26, 19, 12, 9, 17 and 28, 20, 12, 8, 18, in ♀ 30, 19, 13, 8, 17; hindtarsus in ♂♂ 45, 33, 22, 11, 18 and 47, 35, 21, 12, 19, in ♀ 53, 36, 20, 12, 19.

Modified Segments.——♂: On VIII. st. (the two sides together) with 19 bristles, two of the long ones on each side being subapical; apical margin strongly rounded ventrally. Clasper almost gradually narrowed to form the manubrium (M); distance from base of exopodite F to tip of manubrium about one-fifth longer than F. Process P of clasper conical, truncate, basally 2½ times as broad as apically, along anterior margin one-sixth longer than it is broad at base; on outer surface of P three long apical bristles, several small lateral ones and a posterior marginal row of 4 or 5, of which the second or third is long, the bristles variable in length; on innerside a short and very stout subapical bristle. Exopodite F four times as long as broad, widest in middle, narrowing

to base and to apex, posterior margin more strongly rounded than anterior, apex rounded, in apical fourth around apex a number of minute marginal bristles, at posterior margin a long slender bristle above middle and another below middle. Anterior vertical margin of IX. st. at a right angle with ventral margin; posterior margin of dilated apex of vertical arm rounded, this arm gradually widening on posterior side, the posterior margin being nearly evenly incurved from near apex to bottom; ventral arm of IX. st. very narrow, slightly lanceolate distally, with about 7 short and very thin bristles on outer surface from three-fourths to apex. Internal lamina of penis (La) very broad, its proximal end broadly rounded.——♀: Apical margin of VII. st. deeply incised, the sinus about three times as deep as broad in middle, its greatest width being equal to the length of midtarsal segment IV; lower lobe rounded, subtruncate, upper lobe with the dorsal margin oblique and rounded, ventral margin nearly straight, the apical angle formed small, but rounded off, not pointed (text-fig. 4). VIII. t. with 17 or 18 bristles on the outer side of the widened ventral area (each side) and 9 on inside, the apical margin of this portion of the segment rounded; above stigma about six short bristles on each side. Pygidium very feebly convex. Stylet cylindrical, a little over twice as long as broad. Anal sternite unlike that of *Typhloceras* without small lateral bristles; on ventral surface proximally of middle a bunch of about 12 bristles (on the two sides together), a solitary long median one and near apex on each side two long bristles. Bursa copulatrix (B.c.) long and broad, gradually narrowing towards both ends, about three times as long as broad, convex dorsally (i.e. on posterior side), possibly divided longitudinally, its width equalling that of the sinus of VII. st. Two spermathecae (R.s.) which are alike; body globular, tail as long as body, a little over half its width, strongly rounded apically, without appendix.



4.

Fig. 4.—*Saphiopsylla nupera.*

Length: ♂ 2·4 to 2·6 mm.; ♀ 2·9 mm.; hindfemur: ♂ 0·45 to 0·48 mm.; ♀ 0·55 mm.

Hab. La Bourboule, Puy de Dôme, 1,200 m., September, 2 ♂♂, 1 ♀, one specimen each on *Evotomys* spec., *Evotomys glareolus* and *Microtus agrestis bailloni*.

12. **Hystrichopsylla talpae** Curtis 1826.

Puy de Dôme district, 1,700 m., September, 2 ♂♂, on *Sorex araneus*.

In one specimen the fourth abdominal comb is represented by 2 spines on one side and by 3 on the other; in the second specimen the numbers are 0 on one side and 2 on the other.

RECORDS OF FLEAS FROM THE AUSTRIAN TIROL AND THE DOLOMITES.

By DR. KARL JORDAN.

(With one text-figure.)

THE weather being on the whole unfavourable, I was not very successful with trapping at Moserboden, a charming high alpine "Moos" above Zell am See, where we stayed nearly a fortnight in spite of rain and snow, in August 1930. I had hoped to discover the male of *Ctenophthalmus nivalis dolomiticus*, peculiar to the Snowmouse, but, as in the Dolomites, I obtained only a few females. There was little on the mice at Moserboden, a large percentage of the mice yielding nothing, even among those caught alive, which was quite contrary to my previous experiences in the Alps. No fleas having been recorded from the Hohe Tauern district, I append here the list of the few species I collected.

After the Zoological Congress of Padova, we remained a week at San Martino di Castrozza in the Southern Dolomites, in mid-September. The place proved to be very favourably situated for trapping, meadows and forests being before your door and a walk of an hour or two, on well-kept paths, taking you above the tree-line. I took the opportunity of putting out some traps, but found that shrews were much too dominant at that time of the year. Even on the Rolle Pass it was the shrew that sprung the traps instead of the Snowmouse for which the traps were intended. The fleas collected are the same as those taken on former occasions in the more northern Dolomites, with two exceptions. In the article on French fleas a new genus is described which Mr. Cox discovered in France in September; a specimen belonging to that genus was obtained by me at the same time at San Martino di Castrozza, a remarkable coincidence.

I. MOSERBODEN, 2,000 m. (MORE OR LESS), AUGUST 1930.

1. **Ceratophyllus penicilliger** Grube 1852.

A small series of both sexes on *Microtus* sp. and *M. nivalis*.——A very common flea at high altitudes, but equally common down to sea-level.

2. **Ctenophthalmus agyrtes impavidus** Jord. 1928.

1 ♂, 3 ♀♀, on the same hosts as above.

3. **Ctenophthalmus nivalis dolomiticus** Jord. 1928.

3 ♀♀, on *Microtus nivalis*.——I obtained 7 specimens of the mouse, with this meagre result. The fleas agree with the examples from the Dolomites.

4. **Ctenophthalmus congener** Roths. 1907.

1 ♀, on *Microtus* sp.

5. **Leptopsylla bidentatus** Kolen. 1863.

1 ♂, on *Microtus* sp.——*L. sobrinus* Roths. 1909 is the same species.

II. San Martino di Castrozza, 1,450 m. (more or less), September 1930.

1. **Ceratophyllus penicilliger** Grube 1852.

A few specimens on *Microtus* sp. and in a mouse nest.——This nest contained no less than 5 species of fleas.

2. **Ctenophthalmus agyrtes impavidus** Jord. 1928.

1 ♂, 3 ♀♀, from mouse nest.

3. **Ctenophthalmus congener** Roths. 1907.

1 ♀, from mouse nest, 1 ♀ on *Sorex araneus*.

4. **Rhadinopsylla casta** Jord. 1928.

1 ♀, in mouse nest.

5. **Doratopsylla cuspis** J. & R. 1915.

A series, on *Sorex alpinus* and *Sorex araneus*.

6. **Palaeopsylla kohauti** Dampf 1910.

A small series, on *Talpa caeca*.

7. **Palaopsylla sorecis** Dale 1878.

A series, on *Sorex araneus*; also below the Rolle Pass at 1,900 m. on the same host.

8. **Leptopsylla fallax** Roths. 1909.

2 ♂♂, on *Evotomys glareolus*.——One of the specimens has on one side three genal spines instead of two. A species new for the Dolomites.

9. **Saphiopsylla nupera palina** subsp. nov. (text-fig. 1).

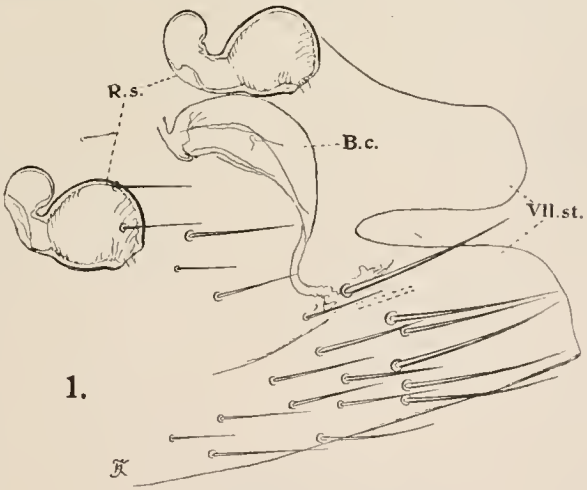


Fig. 1.—*Saphiopsylla nupera palina.*

Close to the ♀ described on p. 229; but evidently representing a different subspecies. The row of bristles in front of eye with an additional longish one placed at the ventral margin. Pronotal comb with 23 spines. Apical spines on abdominal tergites: 9, 13, 11, 7, 5, 2. VII. st. with 48 bristles (the two sides together), upper lobe round at apex, lower lobe more obliquely truncate than in the French specimen. Anal sternite with a bunch of about 15 bristles and on each side a lateral bristle,

besides the two subapical ones. Below stigma of VIII. t. 4 bristles of which one is long, in the French form no bristle or only one small one ; on wide ventral area of this segment (on each side) 25 or 26 bristles on outer surface and 10 on inner. Body of spermathecae distinctly longer than broad.

In mouse nest, 1 ♀.

10. **Hystrichopsylla talpae** Curtis 1826.

1 ♀, on *Erotomys glareolus*.

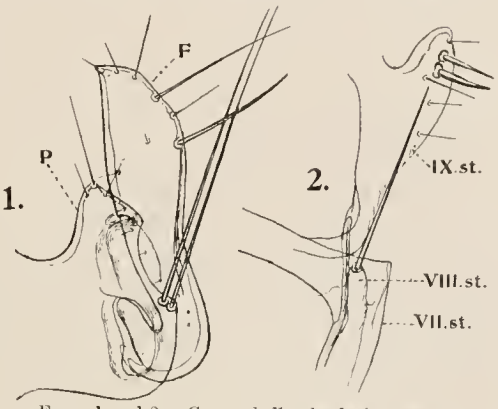
In the garden of the Zoological Institute at Padova I found a ♀ of *Ceratophyllus fasciatus* Bosc 1801, on *Mus musculus*.

ON SOME FLEAS COLLECTED BY MONSIEUR HEIM DE BALZAC IN WESTERN ALGERIA

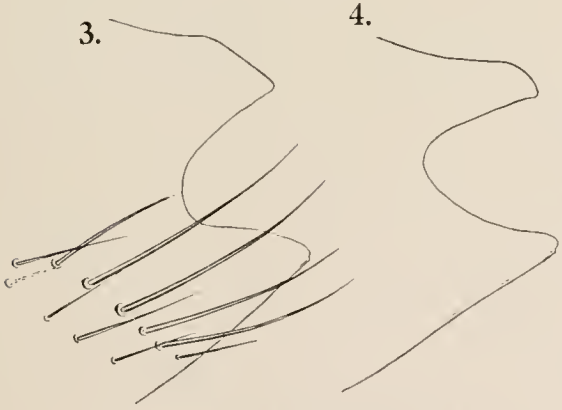
By DR. KARL JORDAN.

(With 4 text-figures.)

WE are much indebted to M. Heim de Balzac for having preserved the fleas he found on mammals in the province of Oran and for having sent them to us. As a rule, neither Ornithologists nor Mammalogists take any notice of the ecological unit consisting of host and its parasites, an exception, therefore, being an agreeable surprise. Apart from the question of the importance of parasites as vectors of disease, the combination host plus parasite is of great interest in the study of the relationship of the host; the parasite frequently being more conservative than the mammal or bird on which it lives, it sometimes affords better evidence of the origin of the host than the modified host itself.



Figs. 1 and 2.—*Ceratophyllus henleyi oranus.*



Figs. 3 and 4.—*Ceratophyllus henleyi oranus.*

1. **Xenopsylla ramesis** Roths. 1904.

Béni Ounif de Figuig, June 1930, on *Gerbillus* sp., 1 ♂, 3 ♀♀; Mechéria, June, on *Mustela numidica* and *Meriones pallidus*, 3 ♀♀.

2. **Ceratophyllus henleyi oranus** subsp. nov. (text-figs. 1 to 4).

♂♀. Close to *C. h. mauretanicus* J. & R. 1912.——♂: Exopodite F much longer, projecting far above process P of clasper; it bears two long bristles, of which the lower one, placed at $\frac{3}{4}$, is shorter and stouter than the upper, much less drawn out, more spiniform. VIII. st. (text-fig. 2) represented by a short cone which bears a bristle nearly as thick as the acetabular bristles, but only as long as the distance from the anterior angle of IX. st. to the apex of the median lobe

of this segment ; in one of the two specimens the bristle accompanied on one side of the body by a small one. In *C. h. mauretanicus* VIII. st. is membraneous and has no definite shape, whereas in *C. h. henleyi* Roths. 1904 it is similar to that of *C. h. oranus*, but with the bristle very small.——♀: Probably not constantly different from that sex of *C. h. mauretanicus* ; VII. st. variable in the shape of the two lobes, particularly the upper one, as illustrated by figs. 3 and 4 ; the number of bristles on this sternite (the two sides together) 22 in one specimen and 26 in the other. Bristles on VIII. t. : below stigma 2 small and 3 large, in the other specimen 3 or 5 small and 4 large ; on widened area (each side) 22 and 23 in one example and 31 and 34 in the other (the larger numbers in the specimen from which fig. 4 is taken).

Rabelais near Orléansville, January, on *Meriones shawi*, 2 pairs.

3. Stenoponia tripectinata Tirab. 1902.

Stenoponia insperata Weiss, *Bull. Soc. Hist. Nat. Afr. Nord*, xxi, p. 65, fig. 1, pls. 4 and 5 (1930) (Carthage, on *Gerbillus campestris*).

Rabelais near Orléansville, January, on *Meriones shawi*, a small series of both sexes, also some larvae.

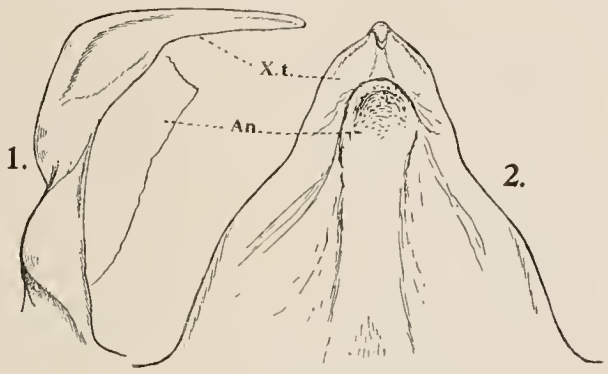
Monsieur A. Weiss redescribed this common Mediterranean species because he was misled by an erroneous statement in *Roubaud, Les Puces des rongeurs*, where Jordan and Rothschild are said to have separated *Stenoponia* on account of the labial palpus consisting of 4 segments and the female having only one spermatheca. In our diagnosis of the genus, however, we state that "the labial palpus consists of only one segment——" (*Proc. Zool. Soc. Lond.* 1911, p. 391). All our specimens from the Azores, North Africa, Italy, Roumania, Palestine and Asia Minor have the labial palpus undivided, a peculiar character on which M. A. Weiss is justified to lay great stress. The two plates accompanying the article by M. Weiss must not be taken as quite accurate ; this flea is not really so formidable as the plates depict it. M. Weiss has been wise enough to abstain from proposing a new generic name, a nomenclatorial abstemiousness for which we are thankful. If I knew the address of M. A. Weiss, I should be pleased to send him some literature on North African Fleas ; one should always consult the original diagnosis.

ON *CYPA DECOLOR* AND SOME ALLIED SPECIES (LEPID., SPHINGIDAE).

By DR. KARL JORDAN.

(With 24 text-figures.)

MAJOR F. B. SCOTT has bred at Shillong, Assam, a series of specimens of a species of *Cypa* which agrees so well in external appearance with *C. decolor* Walk. that it was at first taken to be this species. An examination of the structure of the Assamese insect, however, revealed astonishingly great differences from *C. decolor*. This discovery made it necessary to compare the forms of *Cypa* from other places than Northern India. Unfortunately, only one female each is known from the North-Western Himalayas and Ceylon, and the species has not yet been discovered in Southern India. The following report, therefore, is incomplete and will have to be supplemented and perhaps corrected when adequate material has come to hand from the districts referred to.



Figs. 1 and 2.—*Cypa decolor decolor.*

1. **Cypa decolor** Walk. 1856 (text-figs. 1, 2, 7, 10, 11, 16, 17).

♂♀. Palpus about as long as the distance from its apex to the base of the antenna, segment II and III being about twice as long as broad (inclusive of scaling).

Upperside of forewing: in outer half between the dark shadowy bands a clayish or ochraceous-clay tint, particularly in ♂.——On underside of forewing this pale tint often conspicuous in ♂, almost forming two blotches between R^1 and M^1; termen shaded with blackish brown; terminal area as a whole usually not strongly contrasting with proximal two-thirds of wing, particularly in ♀.

♂. Anal tergite (X. t.) not divided, ending with a simple, long, narrow, subcylindrical process which is curved downward (text-figs. 1 and 2). the narrow portion being almost straight in lateral aspect (text-fig. 1). No anal sternite. Clasper (text-fig. 7) ventrally with two rather strongly swollen tubercles, a sort of condyli (us and ls); from dorsal margin [1] a long subbasal process (ap) projects into the cavity of the clasper, the process being slender, slightly claviform and a little curved, bearing at apex a variable number of teeth; this process arises from a dorsal arch (ar) which distally divides into an anterior low ridge (mr) and

[1] In Revision of Sphingidae (1903), p. 298, tab. 33, fig. 7, the clasper is inverted, the dorsal side of the figure being in reality the ventral side.

a posterior flat process, which widens dorsad and gradually narrows ventrally into a long sharp beak, that sometimes reaches to the ventral margin of the clasper; this process (dp) absent in the allied known species. Penis-sheath (text. figs. 10 and 11) close to apex with a long, transversely directed, smooth process which gradually narrows to a sharp point; no armature on the other side.

♀. In front of the sexual orifice (va, text-fig. 16) a low ridge which is somewhat wrinkled; behind the orifice a large smooth plate (VIII. st.), which has a smooth distal margin, bears an indication of an impressed median longitudinal line and has proximally a slight tubercle at each side of middle line. VIII. t. peculiar (text-fig. 17): medianly divided, a subtriangular cavity being formed which narrows proximally and is large in Indian and Philippine specimens and small in Papuan ones; margin of segment, on apical side of cavity, strongly folded or smooth, the folding being probably due to shrinkage. The contrast between this tergite and the simple one of *C. pallens* (text-fig. 19) is very remarkable.

Hab. India to New Guinea.

In the Revision of Sphingidae we treated *C. ferruginea* Walk. 1856 as a subspecies of *C. decolor*; but the shape of the forewing suggests that it is a distinct species (cf. below, spec. No. 2).

The subspecies of *C. decolor* are not sharply defined, the Malayan specimens being intermediate between the Indian and Papuan forms.

(*a*) C. decolor decolor Walk. 1856.

♂♀. *Smerinthus decolor* Walker, *List Lep. Ins. B.M.* viii, p. 255, no. 19 (1856) (Hindostan.——♂♀ in Mus. Oxon.).

♂. *Cypa incongruens* Butler, *Illustr. Typ. Specim. Lep. Het. B.M.* v, p. 12, tab. 80, figs. 8, 9 (1881) (Darjiling).

The types of *C. decolor* and *C. incongruens* have been compared; the ♂♂ have the simple anal tergite as above described (text-figs. 1 and 2).

Hab. India: Sikkim. I have no specimens from any other district, and I have no means of ascertaining as to whether the specimens recorded from Tavoy and Ponsekai (cf. Revision of Sphingidae) belong to *C. decolor* or some other species.

(*b*) C. decolor manilae Clark 1930.

♂♀. *Cypa decolor manilae* Clark, *Proc. New Engl. Zool. Club*, xii, p. 28 (1930) (Philippines; Sumatra).

The series of specimens collected by Wileman on Luzon exhibits such individual variability that the distinctions of *C. d. manilae* from *C. d. decolor* are almost effaced. The ♂, on the whole, paler than in *C. d. decolor*, the bands on the upperside of the forewing rather more pronounced, the broad postmedian one narrower. ♀ as in *C. d. decolor*.

Hab. Philippine Is., Sumatra, Singapore and Federated Malay States; probably also on Borneo.

(*c*) C. d. euroa R. & J. 1903.

♀. *Cypa decolor euroa* Rothschild and Jord., *Revision of Sphingidae*, p. 299, tab. 17, fig. 11 (genit.) (1903) (Milne Bay).

♂♀. The palest subspecies of *C. decolor*; wings and body above and below (upperside of hindwing excepted) of a buff tint; upperside of forewing with six

darkish bands or lines more or less clearly marked, three in proximal half and three in distal half. In ♂ anal tergite somewhat shorter than in the two previous subspecies. In ♀ the postvaginal plate (VIII. st.) and the dorsal plate (VIII. t.) much shorter than in the other species, the former also broader and less rounded; the apical impression on VIII. t. small and shallow, variable in size.

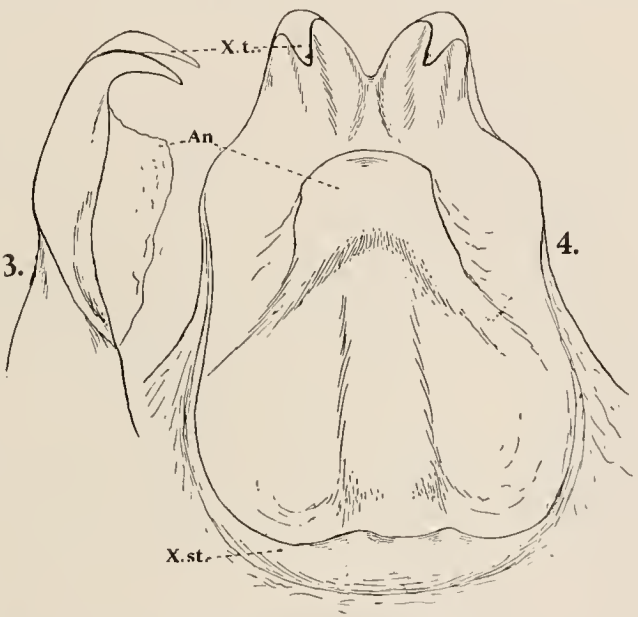
Hab. Duteh, Mandated and British New Guinea, inclusive of Goodenough and Sudest; in Mus. Brit. also from Ceram (Miss Longfield).

2. **Cypa ferruginea** Walk. 1856.

♀. *Cypa ferruginea* Walker, *List Lep. Ins. B.M.* xxxi, p. 42 (1864) (Ceylon.——Genotype of *Cypa*).
♂♀. *Cypa ferruginea*, Moore, *Lep. Ceyl.* ii, p. 8, tab. 79, fig. 3 (1882).

The ♂ not known to me; one ♀ in Mus. Brit. In this specimen the distal margin of forewing somewhat convex in centre, but otherwise with hardly a trace of dentition. Palpus small as in *C. pallens*. Antenna more distinctly incrassate behind middle, slightly constricted at the joints, the segments being somewhat rounded in a ventral aspect.—— The status of this Hawkmoth remains as yet doubtful.

Hab. Ceylon.



Figs. 3 and 4. *Cypa uniformis.*

3. **Cypa uniformis** Mell 1922 (text-figs. 3, 4, 8, 12, 13).

♂♀. *Cypa decolor uniformis* Mell, *Biol. u. Syst. Südchin. Sphing.* p. 168, tab. 35, fig. 14a, b (genit.) (1922) (S. China).

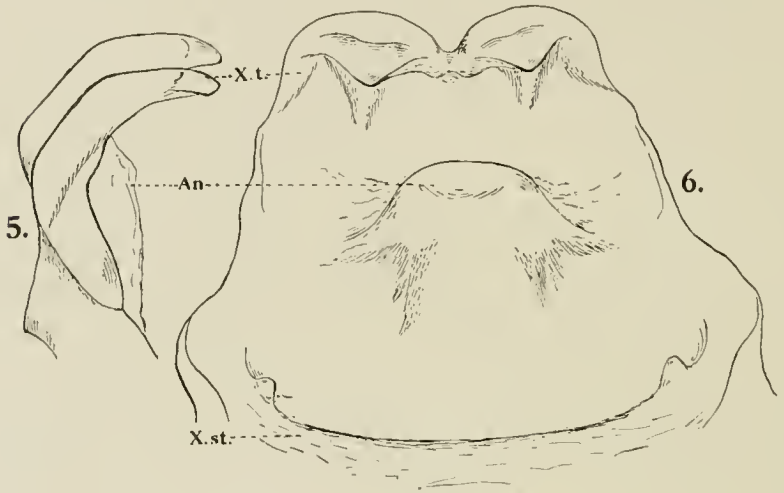
♂♀. Palpus shorter than in *C. decolor*, its distance from base of antenna much longer than the palpus, the second (plus third) segment being about as long as broad, closely appressed to the head.

Upperside of forewing more uniform in colour than in *C. decolor*.—— On underside the terminal area of forewing and the whole hindwing paler, and the tawny smear on abdominal area of hindwing more prominent. Genitalia widely different.

♂. Anal tergite (X. t., text-figs. 3 and 4) broad, divided into two apical hooks which are curved downward and rather sharply pointed. Anal sternite (X. st., text-fig. 4) represented by a low ridge which is somewhat raised on each side of middle. Basal condyloid swellings of clasper (us and ls, text-fig. 8) less elevate than in *C. decolor*; proximal process ap of arch (ar) shorter and stouter,

with heavier teeth ; distal process dp absent, the arch disappearing in the swollen ventral surface of clasper ; above the arch a conspicuous, setiferous, longitudinal fold. Penis-sheath (text-figs. 12 and 13) likewise considerably different from that of *C. decolor* : the left-side process (text-fig. 12) much broader (somewhat foreshortened in the figure), ventrally dentate in its apical two-thirds, also placed less close to apex than in *C. decolor* ; on right side an oblique longitudinal ridge which extends to apex and is dentate on one side (text-fig. 13, in which only the apex of the process of fig. 12 is visible).

♀. In the only ♀ seen the collector has cut the abdomen open and filled it



FIGS. 5 and 6.—*Cypa pallens enodis.*

with cotton wool, accidentally injuring the genital selerites to some extent. The armature is similar to that of the ♀ of the next species (cf. text-fig. 18).

Hab. South China.——Dr. B. Preston Clark has very kindly sent me for examination the type (♂) and a paratype (♀) of this species.

4. **Cypa pallens** Jord. 1926 (text-figs. 5, 6, 9, 14, 15, 18, 19).

♀. *Cypa decolor pallens* Jordan, *Nov. Zool.* xxxiii. p. 380, no. 4 (1926) (Masuri).

As the single ♀ from Masuri agrees in the genital armature fairly well with ♀♀ from Assam, we treat the Assamese specimens and the type of *C. pallens* as belonging to one species ; however, ♂♂ from the Western Himalayas may upset this conclusion.

C. pallens evidently represents *C. uniformis* in India ; but the differences in the ♂-genitalia are so considerable that we must consider these Hawkmoths as having attained a degree of distinctness which we call specific.

♂♀. Palpus as in *C. uniformis*, both sexes being easily differentiated from *C. decolor* by the shortness of the second segment. Colouring likewise as in *C. uniformis*, sometimes more tawny, sometimes more grey.

♂. Anal tergite (X. t.) divided as in *C. uniformis*, but broader, the two apical processes much broader and shorter and obtuse ; the ridge representing the anal sternite (X. st.) with a small tubercuiform projection on each side far away from middle, not near middle as in *C. uniformis*. Clasper (text-fig. 9)

narrower at apex than in the previous species ; above the armature a longitudinal setiferous fold as in *C. uniformis* ; proximal process ap broad, convex on proximal side, concave on distal side, somewhat rugulose in apical half, without teeth ;

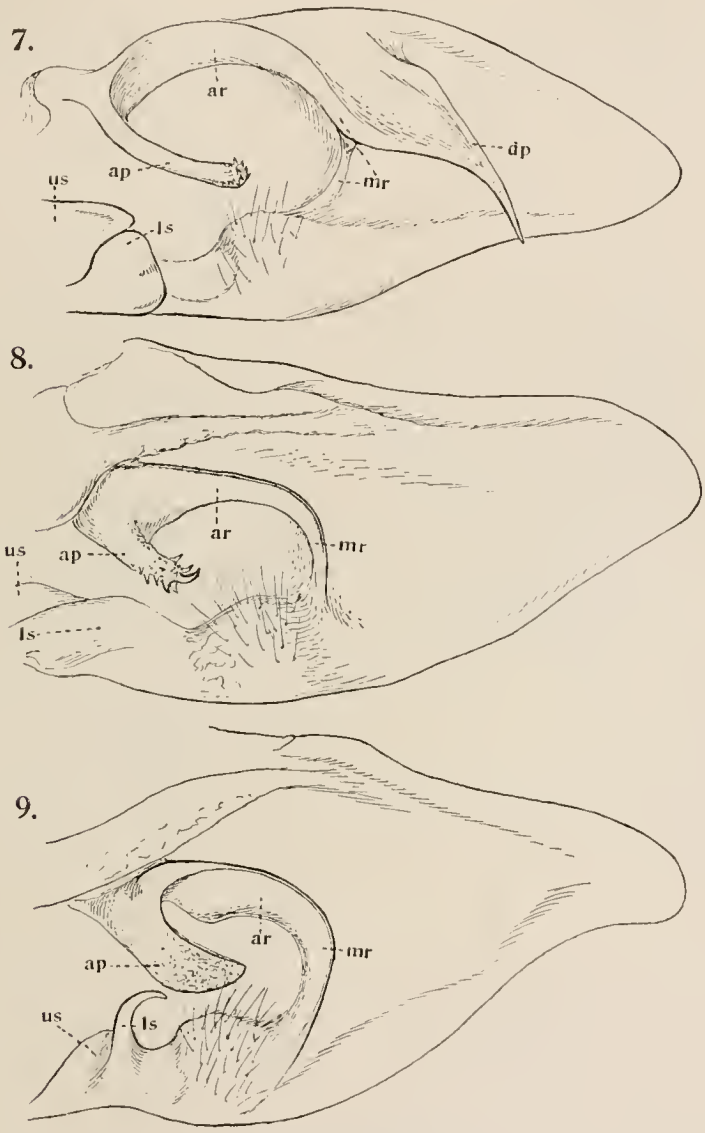
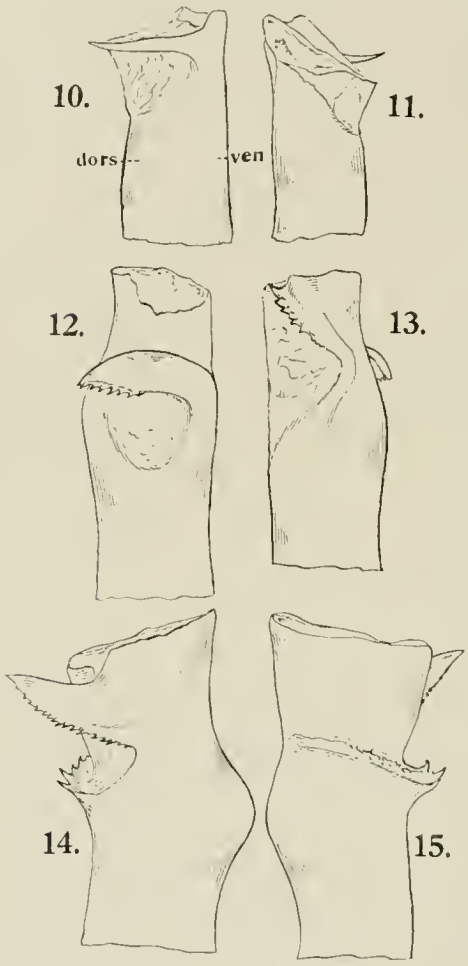


Fig. 7.—*Cypa decolor decolor.*
Fig. 8.—*Cypa uniformis.*
Fig. 9.—*Cypa pallens enodis.*

arch ar ventrally dilated near base ; process dp of *C. decolor* absent. Lower basal conduliform ls produced upwards into a prominent, sharply pointed, hook. Penis-sheath (text-figs. 14 and 15) wider than in both previous species ; on left side a triangular subapical process, sharply pointed, with the frontal margin

dentate from close to base to apex ; the process recalling that of *C. uniformis*, but more apical and different in shape and direction ; on frontal side of process the sheath concave, as it is in the other species, but in contradistinction to them there is at the proximal side of this depression a dentate, transverse ridge which extends across the right side of the sheath (text-fig. 15), probably being homologous to the longitudinal ridge of *C. uniformis*.



FIGS. 10 and 11.—*Cypa decolor decolor.*
FIGS. 12 and 13.—*Cypa uniformis.*
FIGS. 14 and 15.—*Cypa pallens enodis.*

♀. Antevaginal ridge of VII. st. (text-fig. 18) strongly wrinkled, higher than in *C. decolor*. The smooth postvaginal plate of *C. decolor* replaced by a much smaller plate which is divided by a deep median channel into two sclerites (VIII. st.), which are either smooth or more or less rugulose ; behind these sclerites the membranous portion of the segment folded, the folds more or less parallel with the oblique posterior margin of the segment. Tergite VIII (text-fig. 19) transverse, smooth, truncate with the angles rounded off, without median division and without apical cavity or impression.

Hab. North-Eastern to North-Western India.

(*a*) **C. pallens enodis** subsp. nov.

♂♀. As compared with *C. decolor decolor* from Sikkim, this subspecies has the terminal area of forewing b e l o w contrasting by its greyish tint with the tawny area, and the tawny smear along abdominal fold of hindwing long and prominent. U p p e r s i d e clay colour to cinnamon, with a strong drab or fawn bloom in fresh specimens ; u p p e r s i d e of hindwing, basal two-thirds of forewing b e n e a t h (except margins) and a smear in abdominal area of hindwing b e n e a t h tawny. Length of forewing 30 mm. or less, width 12 mm. or less.

Hab. Assam : Shillong (type), a series bred by Major F. B. Scott ; Cachar, 1 ♀.——Sikkim, 1 ♂ (ex coll. Elwes).

(*b*) **C. pallens pallens** Jordan 1926.

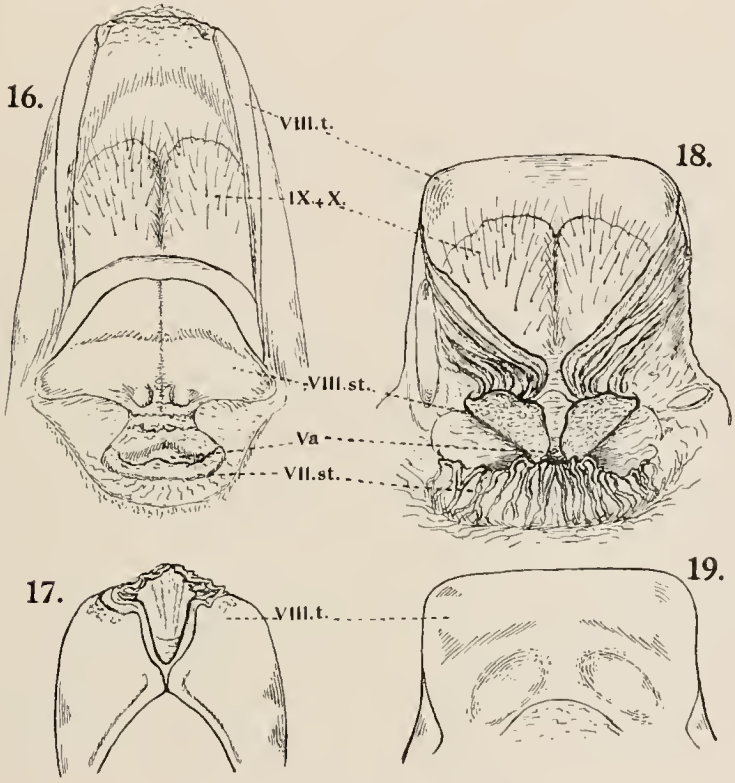
Cf. above, p. 238.

♀. Larger than any specimen of *C. p. enodis*, length of forewing 34 mm.,

width 13·5 mm., paler above and below. Antevaginal ridge and lateral, submembranous, portion of segment VIII, less wrinkled, and the two sclerites of VIII. st. larger, smooth, glossy.

Hab. N.W. India: Masuri, 1 ♀.

The insect described by Wileman in *Entom.* 43, p. 137 (1910) from Formosa as Cypa (?) formosana belongs to *Amorphulus* Mell (1922). It agrees closely width *A. chinensis* R. & J. (1903), but SC^2 and R^1 (= 6 and 7) of hindwing are



Figs. 16 and 17.—*Cypa decolor decolor.*
Figs. 18 and 19.—*Cypa pallens enodis.*

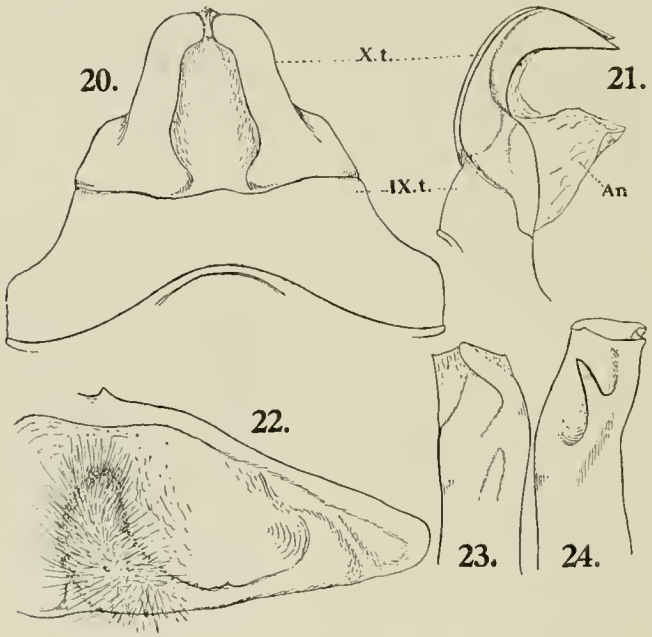
stalked, a character which is probably variable. *Amorphulus* is essentially based on differences from *Cypa* and *Smerinthulus* in the early stages.

5. **Smerinthulus brooksi** Clark 1930 (text-figs. 20–24).

S. brooksi Clark, *Proc. New England Zool. Club*, xii, p. 27 (1930) (Benkoelen, Sumatra).

By some unfortunate oversight I forgot to send to Dr. B. Preston Clark the sketches I had made of the genitalia of the type of this peculiar little Sphingid. As these organs exhibit several points of interest, I take this opportunity of publishing the drawings. Anal tergite (X. t., text-figs. 20 and 21) divided into two pointed hooks, which, in a dorsal aspect of the segment (fig. 20), are just visible as short triangular projections which almost touch each other; the division continued proximad by a broad groove down to the apical margin of

segment IX ; no X. st. Clasper (text-fig. 22) triangular, with a bristly proximal swelling which extends from ventral margin dorsad, but does not reach dorsal margin ; the posterior margin of the swelling continuous with a low longitudinal ridge which is parallel with the ventral margin of clasper and bears two small



FIGS. 20 to 24.—*Smerinthulus brooksi*.

teeth. Penis-sheath (text-figs. 23 and 24) on one side with a smooth longitudinal, oblique, swelling which is not produced into a free process, and on the other side with a subapical depression, from the lateral margin of which projects distad a narrow process which is pointed, smooth, somewhat finger-like, and does not reach apex ; this process absent from the other species of *Smerinthulus* examined (cf. Revision of Sphingidae, p. 299).

ON THE GEOGRAPHICAL VARIATION OF THE PINE HAWKMOTH, *HYLOICUS PINASTRI*.

By DR. KARL JORDAN.

(With 12 text-figures.)

IN the Revision of the Sphingidae (*Nov. Zool.* ix, 1903, Suppl. p. 145) we recognised two subspecies of the Pine Hawkmoth: *Hyloicus pinastri morio*, from Nippon, and *H. p. pinastri*, from Europe. Some specimens from the Ussuri and Amur countries lately received from Messrs. Staudinger and Bang-Haas, have raised the question as to whether these examples represented a subspecies different from the Nipponese *H. p. morio*. Their size being inferior to that of the average Central European *H. p. pinastri*, my attention was arrested by some dwarfed specimens from Algeria, the opposite end of the area of distribution of the species, and, to my great surprise, I found these to be very different in the genital armature of the male from the ordinary Northern Pine Hawkmoth. This discovery made it necessary to inquire into the variation of *Hyloicus pinastri* in the Western European countries. When we wrote the Revision, we had hardly any material from France and none from Spain and North Africa, and for that reason remained unaware of the interesting fact that this Hawkmoth varies geographically in these countries. The following notes being based on the specimens in the Rothschild collection only, they are far from presenting a complete account of the variation of this species; but the results of the investigation are nevertheless noteworthy for diverse reasons: (1) there does not seem to be any outward distinction between the specimens occurring in the countries from Siberia westwards; (2) the differences in the Western geographical races are found in the genital armature, especially in that of the male; and (3) while the area of the central subspecies, *H. p. pinastri*, extends from the Ural to England, in France the species is broken up into four subspecies.

The genus *Hyloicus* Hübn. 1822 (= *Sphinx* auct.) is essentially Nearctic, whence it has extended west: in North America inclusive of Mexico about 20 species are found, in the Pacific districts of Asia (Nippon, China and Siberia east of Lake Baikal) occur 6 species, and only 2 have reached Western Europe and North Africa. We possess no specimens of the genus from between Lake Baikal and the Ural Mts., where 3 species may be expected to occur.

French specimens being more or less different in the genital armature of the male (perhaps with the exception of specimens from the Northern and Rhenish provinces ?) from the Central European individuals, one should have expected the British Islands to be inhabited by a special race of *H. pinastri*. But this is not the case, British specimens agreeing with Central European ones. They have become more numerous in collections of lately, probably as a result of attempts by Entomologists to acclimatise the species, though we must concede the possibility that, with the extension of Pine plantations, the moth may have reached England from the Continent without the help of collectors. However

that may be, the specimens confirm what Tutt says on the question in *Brit. Lep.* iv, pp. 291–294 (1904).

We arrange the subspecies in 3 groups :

I. UPPER AND LOWER PRONGS OF CLASPER ABOUT EQUAL IN LENGTH, BOTH LONG, UPPER ONE WIDEST BEYOND MIDDLE ; APICAL PROCESS OF PENIS-SHEATH SHORT.

1. **H. pinastri morio** R. & J. 1903.

♂. Only one specimen known to us. The black markings of the forewing

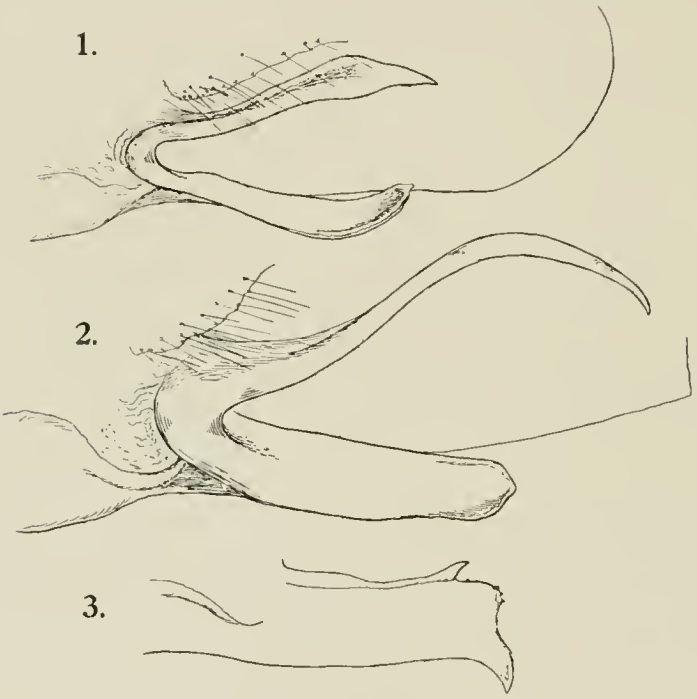


FIG. 1.—*Hyloicus pinastri arestus.*
FIG. 2.—*Hyloicus pinastri pinastri.*
FIG. 3. *Hyloicus pinastri pinastri* (malformation).

very prominent and extended, but probably variable. ♂-armature as in the next subspecies from the Asiatic continent.

Hab. Nippon, 1 ♂ without exact locality.

2. **H. pinastri arestus** subsp. nov. (text-fig. 1).

♂. Black stripe on tegula less broad than in *H. p. morio*, the stripe between it and base of wings duller grey. Upperside of wings : forewing more uniformly grey, the blackish brown shading at posterior margin and on disc less prominent, the two streaks in middle of disc and the one in cell smaller, third streak, below R^1 (= 6), absent or vestigial, oblique apical streak thin, white fringe spots of both wings smaller than in *H. p. morio*. Underside the

blackish brown shadowy discal band of both wings much narrower than the grey marginal area, in *H. p. morio* this band as wide in middle as the marginal area.

The 4 males examined do not present in the aggregate any constant difference in the ♂-genitalia from *H. p. morio*. In both Pacific Palaearctic subspecies X. t. shorter and narrower and the two lobes of X. st. shorter and broader than in *H. p. pinastri*. Clasper more evenly rounded distally and broader. Upper prong of harpe flat, narrowed to a point, its distal half elongate-lanceolate, the upper margin of the prong (except distally) thin and nearly membranous, and this thin area gradually widened basad ; the ventral margin of upper prong vanishing on upper surface of ventral prong ; area at base of the two prongs convex. Apical groove of penish-sheath shorter than in *H. p. morio*.

♀ unknown to me.

Hab. Nikolajewsk, mouth of Amur, 1 ♂ (type) ; Sutschanski-Rudnik, Ussuri, July, 3 ♂♂.

II. Upper Prong of Clasper much Longer than Lower, More or Less Strongly Curved, Subcylindrical in Apical Half (rarely Sublinear, Malformation ?), without Teeth or only with Rudiments of them. Apical Process of Penis-sheath Long.

3. **H. pinastri pinastri** L. 1758 (text-figs. 2, 3, and 11).

♂♀. The most widely distributed subspecies, varying from being uniformly grey, with hardly any markings on the u p p e r s i d e of the forewing, to being dark brown. Judging from the material in collections, one might arrive at the opinion that the variability of the species was greater in Germany and Austria than elsewhere ; but collections can be deceptive. The number of amateur Lepidopterists is so much larger in Germany and Austria than in other Continental countries that many more specimens are collected and bred and the aberrations among them preserved, in consequence of which the abnormally coloured individuals appear to be more abundant than they really are. The examination of a fairly large number of males from different countries has convinced me that they belong to only one subspecies ; specimens from Greece and Italy, however, will perhaps tell another tale. We have no material of this species from there.

♂ : X. t. individually variable in length and width, broader than in the two previous subspecies, and lobes of X. st. longer. The anal segment does not seem to present any reliable differences between this and the following 4 subspecies, and the penis-sheath is likewise the same. But the armature of the clasper (text-fig. 2) is distinctive : upper prong long and narrow, subcylindrical, more or less strongly curved upwards from near base and then downwards, basally flattened and widened and often longitudinally impressed, the apical half smooth or slightly rough with minute granules, or feebly carinate, its ventral margin not continuous with upper margin of lower prong, but vanishing on upper surface of ventral prong ; body of harpe at juncture of the two prongs more strongly convex than in any other subspecies known to me ; lower prong of nearly even width from base to apex, its upperside flattened, distally slightly concave, apex more or less irregularly rounded, often feebly bisinuate.——As in all organs, malformations occur also in the genital armature. For instance, in one of our

♂♂ from the province of Leningrad the right and left harpes are quite different. The harpe of the left clasper is almost normal, except that the upper prong is only one-tenth longer than the lower one ; in the right-side clasper, however, the two prongs are amalgamated into one horizontal sclerite of nearly linear shape (text-fig. 3). The upper margin of this sclerite is rather more strongly chitinised than the rest and corresponds to the upper prong of a normal harpe, ending near the apex of the sclerite with a triangular tooth. The remainder of the sclerite represents the ventral prong : it is obliquely truncate, with the ventral angle produced distad-ventrad into a denticulate triangular lobe ; between this projection and the before-mentioned dorsal tooth several small, but very distinct, triangular teeth, the sclerite resembling a spurred boot.

♀ : In front of the sexual orifice a high rounded ridge, convex on the frontal side and concave on the posterior side (text-fig. 11), the ridge varying from being even to being medianly sinuate or slightly sinuous. On the postvaginal sclerite a prominent median tubercle.

Hab. From the Ural Mts. and Transcaucasia to England, and from the Balkans and South Switzerland to Denmark, Scandinavia and Finland.——We have no specimens of *H. pinastri* from Northern France.

4. **H. pinastri cenisius** subsp. nov. (text-figs. 4 and 5).

♂. Lengths of the two prongs essentially as in *H. p. pinastri* ; but the upper prong proximally much broader, gradually and strongly widened basad, its ventral margin ending near upper margin of lower prong ; harpe less convex at juncture of the two prongs than in the Central European subspecies, an oblique dorso-ventral groove dividing this convex area. The two specimens from La Grave differ in the upper prong being slightly curved (text-fig. 4) in one and much more strongly in the other (text-fig. 5).

♀ not known to me.

Hab. La Grave, Hautes Alpes, 1,500 m., July 1908, at light in front of hotel, 2 ♂♂. We also have 3 ♂♂ from the French Alps without exact locality ; they came from farther south and were obtained at a lower altitude by a French collector whose list of localities did not reach me. In all three the small groove on the convex area of the harpe is absent ; in one specimen the upper prong is in shape about midway between those of the two La Grave examples ; in the other two the upper prong is nearly as narrow basally as in *H. p. pinastri*, but is much shorter, being in one a little less curved than in fig. 4 and in the other nearly as much as in fig. 5 ; the lower margin of the upper prong is in both these specimens continuous (or nearly) with the dorsal margin of the ventral prong. I suspect the last two examples to have been collected nearer the Rhône Valley.

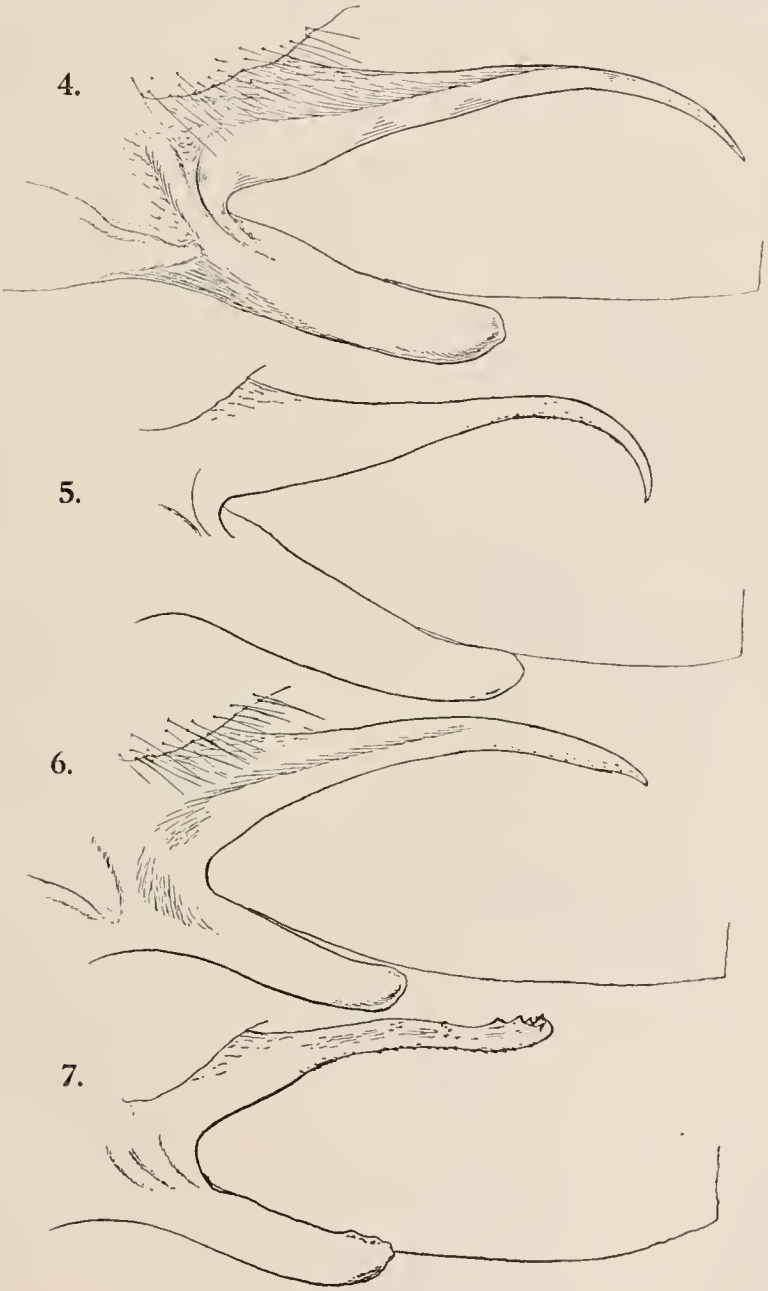
5. **H. pinastri medialis** subsp. nov. (text-figs. 6 and 7).

♂. Both the upper and lower prongs shorter than in *H. p. cenisius*, the upper one broader and flatter in apical half and more distinctly denticulate, this subspecies forming a sort of transition to the next ; in one of the two specimens this prong nearly linear (text-fig. 7), rough with prominent teeth, its tip somewhat different on right and left sides of abdomen (malformation ?).

♀. Ridge in front of aperture as in *H. p. pinastri*.

Hab. Two pairs from the former coll. Sand, who lived near La Châtre,

Indre.——None of the specimens we have from this collection bear any locality labels; but as M. Maurice Sand, Baron Dudevant, was much interested in the



Figs. 4 and 5. *Hyloicus pinastri cenisius.*
Figs. 6 and 7.—*Hyloicus pinastri medialis.*

Lepidoptera of his neighbourhood, we may assume that most of the specimens were collected near La Châtre.

This subspecies probably inhabits all Western and Central France, perhaps inclusive of the Bretagne. It would be interesting to compare material from the Auvergne, the Cevennes and the departments north of the Pyrenees.

III. BOTH PRONGS OF THE HARPE SHORT, UPPER ONE FLAT, DENTATE, ELONGATE-TRIANGULAR, POINTED, PROXIMALLY BROAD.

5. **H. pinastri massiliensis** subsp. nov. (text-figs. 8 and 12).

♂. Lower prong more than half the length of upper one; the latter but slightly variable in length and shape, dentate, its ventral margin continuous with the upper margin of the ventral prong; area proximally of fork flattened.

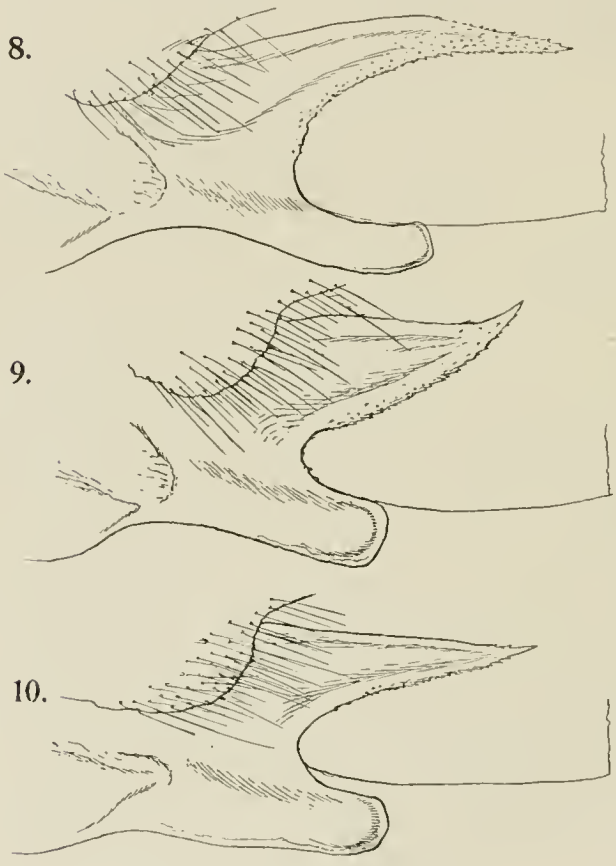


FIG. 8.—*Hyloicus pinastri massiliensis.*
FIGS. 9 and 10.—*Hyloicus pinastri maurorum.*

♀. Ridge in front of sexual aperture (text-fig. 12) distinctly lower than in the previous races.

Hab. Marseille and Ste. Baume, 6 ♂♂, 5 ♀♀.

6. **H. pinastri maurorum** subsp. nov. (text-figs. 9 and 10).

♂. Lower prong shorter and broader than in *H. p. massiliensis*, being in the Pyrenean examples and in the type-specimen from Algeria, as well as in one of the two Spanish ones, less than half the length of the upper prong, which is dentate, setiferous fold above the harpe proximally more strongly widened than in the preceding races. In the second Spanish specimen the harpe as in *H. p. massiliensis* (further material badly wanted from Spain).

♀. As in *H. p. massiliensis*.

Hab. Pyrenees: Luchon and Cauterets, July 1906, 5 ♂♂, 3 ♀♀.—— Algeria: Hammam Rirha and Mt. Zaccar, May and June 1913, 2 ♂♂; Les

Pins, Oran, August 1918, and Sidi-bel-Abbès, Oran, September 1917, 2 ♂♂, 2 ♀♀. ——Spain : [1] San Ildefonso, Segovia, vi-viii. 1906, 2 ♂♂.

Three of the Algerian ♂♂ are dwarfed and have the proportions of the prong somewhat different from the well-developed Hammam Rirha example.

Fig. 11.—*Hyloicus pinastri pinastri.*
Fig. 12.—*Hyloicus pinastri massiliensis.*

In the following Table of Measurements all the males we have from France, Spain and Algeria are mentioned, while only a small selection is given of the specimens of *H. p. pinastri* actually compared.

Forewing. 1 = 1 mm.	Upper Prong. 1 = 0·03 mm.	Lower Prong. 1 = 0·03 mm.	Locality.	Forewing. 1 = 1 mm.	Upper Prong. 1 = 0·03 mm.	Lower Prong. 1 = 0·03 mm.	Locality.
39	97	72	Ural Mts.	35	49	28	Marseille
31	60	42	Leningrad	36	59	32	Marseille
37	90	68	Själland	35	48	27	Marseille
41	95	75	Bad Reinerz	34	56	31	Marseille
39	85	78	Herkulesbad	30	40	29	Marseille
37	100	80	South Tirol	31	45	32	Ste. Baume
42	90	74	Tarasp				
39	82	62	Lausanne	39	46	22	Luchon
37	80	65	Nieder Ingelheim	39	44	22	Luchon
29	75	60	Nieder Ingelheim	41	54	22	Luchon
				37	55	25	Luchon
36	88	52	La Grave	35	45	21	Cauterets
41	75	55	La Grave	37	50	19	San Ildefonso
				36	50	28	San Ildefonso
39	70	50	" French Alps "	37	44	19	Hammam Rirha
37	71	58	" French Alps "	39	32	20	Mt. Zaccar
34	55	40	" French Alps "	30	35	18	Les Pins, Oran
				34	35	22	Sidi-bel-Abbès
39	65	49	Indre				
35	73	40	Indre				

[1] In *Proc. Ent. Soc. Lond.* p. 135, I said that we had no Spanish specimens at Tring ; the above two males were misplaced and have since come to hand.

ON A COLLECTION OF BIRDS MADE BY MR. F. SHAW MAYER IN THE WEYLAND MOUNTAINS, DUTCH NEW GUINEA, IN 1930.

By LORD ROTHSCHILD, Ph.D., F.R.S.

(Plates III and IV.)

MR. SHAW MAYER undertook this collecting trip in the interests of the American Museum of Natural History and the Tring Museum. He succeeded in getting together a very fine collection of mammals, which will be treated of in another article, and the very interesting lot of birds dealt with in the present paper. This collections of birds, though lacking in many of the smaller *Passeres*, contains several novelties, as well as important specimens which clear up certain doubtful points.

The collection was made in the Gebroeders Range, north of the main chain of the Weyland Mts., and on the way up the Siriwo River. Mts. Gebroeders, Derimapa, Sorong, Dewera and Atoe form part of the Range of the Gebroeders.

1. **Chlamydera lauterbachi uniformis** subsp. nov.

Till we unpacked Shaw Mayer's birds it was looked upon as practically certain that the ♀ obtained by the Goodfellow expedition on the Ramura River and the Merauke examples were the ♀♀ of *Chl. lauterbachi*; but the two birds in the present collection are apparently sexed correctly as ♂ and ♀ and consequently are a distinct S. Western subspecies of *lauterbachi* from N.E. New Guinea, and I propose the name of *Chl. lauterbachi uniformis* for them, and the Ramura and Merauke examples.

♂. Differs from *Chl. l. lauterbachi* in the head, cheeks and hindneck being yellowish olive brown, not fiery orange on the head and cheeks and golden olive on hindneck; rest of upperside deeper brown, with more dusky olive edges and tips, not brown, edged distinctly with golden olive; rump more distinctly olive, not brown edged with gold; chin, throat and upper breast less bright yellow and feathers more widely edged with olive brown. Rest of underside bright golden yellow as in *Chl. l. lauterbachi*. Wing 129 mm.; bill 24 mm.; tarsus 34 mm.; tail 115 mm.

♀ similar, but slightly duskier above and more buffy yellow below. Wing 124 mm.

♂♀ bill black; iris dark brown; naked space behind eye dark grey; feet grey. Contents of stomach remains of insects.

Shot at bower; the latter is like the bower of *Ptilonorhynchus violaceus* of Queensland, but without any decorations. The construction and courtship in the bower, together with the swelling ovary and testes prove that this is an adult pair.

Type ♂ No. 22.

♂ and ♀, 15 June 1930, shot at bower, Siriwo River, 45 miles above mouth, S. of Geelvink Bay.

2. Xanthomelus aureus aureus (Linn.).

Coracias aureus Linnaeus, *Syst. Nat.* ed. x, p. 108 (1758) (Asia ! ex Edwards, pl. 112).

1 ♂ ad. Mt. Derimapa, 5,000 ft., 12 July 1930. Iris greenish yellow, feet olive brown, bill black, basal portion horn brown.

1 ♂ ad. Gebroeders, 4,000 ft., 25 July 1930. Iris yellow.

This is a new locality for the species, and one would have expected an intermediate form between this and *aureus ardens*, but both ♂♂ are quite typical. Contents of stomach berries and insects.

3. Amblyornis inornatus mayri Hartert.

Amblyornis inornatus mayri Hartert, *Nov. Zool.* xxxvi, p. 30 (1930) (Karon ; = ? Karoon).

Dr. Hartert, when describing *A. in. mayri*, only applied the name to the trade skins distributed by Renesse Van Duivenbode, saying that in colour he could not separate the Snow Mts. and Weyland Mts. birds from *A. in. musgravei*. Now, in comparing these birds, Arthur Goodson pointed out to me that, like *Pteridophora alberti*, in which fresh Goliath Mt. and Weyland Mts. birds had the buffy yellow breast much paler and more yellow, while the trade skins of Duivenbode had the breast more rusty and darker buff, the rufous foxy colour was confined to trade skins and evidently was due to the birds being dried over smoky fires. The Weyland Mts. birds agree very closely with one of Duivenbode's skins (evidently *not* smoke dried) in the general more olive coloration. In coloration the only difference I can find is the buff chin in *A. in. mayri* and the olive chin in *A. in. musgravei*. On the other hand, a striking difference is the length of the crest which is much longer in *A. in. mayri*. I therefore confine the name of *A. in. musgravei* to the birds from S.E. New Guinea, while I include under *A. in. mayri* all the trade skins and those from the Snow and Weyland Mts.

The present series consists of 5 crested ♂♂, 2 ♂♂ without crests and a ♀. All these in the ♂♂ show a darker, more uniform olive underside and darker, less rufous tail and back than the ♂♀ collected on Mt. Kunupi, Weyland Mts., by the Pratt brothers in 1920, except one ♂ No. 121, which has the underside more rufous ; this is no doubt due to their being more freshly moulted.

5 ♂♂ ad., 2 ♂♂ jun., 1 ♀ ad. Gebroeders, 6,000 ft., 25, 26, 29 June, 2 July, 1 August 1930. Iris brown, upper mandible dark brown to black, lower mandible horn colour, feet olive grey, lead grey or blackish grey. Contents of stomach fruits.

Crest *A. in. musgravei* 64 mm. ; *A. in. mayri* 99 mm.

4. Loboparadisea sericea sericea Rothsch.

Loboparadisea sericea Rothschild, *Bull. B.O.C.* vi, p. xvi (1896) (Trade skins).

Mr. Shaw Mayer obtained 1 adult ♂, and 1 ♀ with a few brown cloudings on the breast, the remains of juvenile plumage .

1 ♂ ad., 1 ♀ juv. Gebroeders, 6,000–7,000 ft., 1 July and 16 August 1930. Bill and feet black, wattle over bill green. Contents of stomach fruits. The ♀ has no bill wattles.

This wonderful bird must now be treated trinomially, as Dr. Ernst Mayr discovered a new subspecies of it in N.E. New Guinea.

5. **Loria loriae** Salvad.

Loria loriae Salvadori, *Ann. Mus. Civ. Gen.* xxxiv, p. 151 (1894) (Moroka).

The present series of 2 adult ♂♂, 1 ♂ juv. and 1 ♀ show no differences from examples from different parts of New Guinea.

2 ♂♂ ad., 1 ♂ juv., 1 ♀ ad. Gebroeders, 6,000–7,000 ft., 26 June, 4 and 24 July 1930. Contents of stomach large berries. The ♂ juv. above is darker than the ♀, the olive green being more suffused with brown.

6. **Paradigalla carunculata brevicauda** Rothsch. & Hart.

Paradigalla brevicauda Rothschild & Hartert, *Nov. Zool.* xx, p. 523 (1913) (Mt. Goliath).

Dr. Ernst Mayr considers this bird a subspecies of *P. carunculata* Less., and I quite agree with him. At first sight the short tail in the adult and different shaped wattles give *brevicauda* a very different appearance, but the much longer tail in the young bird proves that the short tail is a later acquired character, and as they replace one another absolutely geographically I feel that there is no doubt of their being geographical races of a single species.

2 ♂♂ ad., 1 ♀ ad., 4 ♂♂ juv., 1 ♂, 1 ♀ juv. Gebroeders, 6,000 ft., 29 June, 2, 4, 8, 14, 17, 21, 22 July, 15, 17 August 1930. Iris black brown, bill black, feet grey black. Contents of stomach fruits.

7. **Parotia carolae carolae** A. B. Meyer.

Parotia carolae A. B. Meyer, *Bull. B.O.C.* iv, p. 6 (1894) (Trade skins).

Dr. Stresemann has objected to my making 3 species out of the birds included in *Parotia*, viz. *P. sefilata* with the subspecies *lawesi* and *helenae*; *P. carolae* with the subspecies *meeki* and *berlepschi*; and *P. wahnesi* as a species by itself. He says *lawesi* and *helenae* are genetically as widely separated from *sefilata* as *carolae* and *wahnesi*. I cannot quite follow this line, especially as he acknowledges, by treating *sefilata* as a species, 4 distinct species. I myself think Dr. Ernst Mayr's suggestion that all seven forms of *Parotia* are geographical races of a single species, is much more logical, and I am only here treating *carolae* and its two subspecies as a separate species for the time being, as I am uncertain whether these white-flanked forms developed directly from *helenae*, or from *helenae* through *wahnesi*.

6 ♂♂ ad., 5 ♂♂ juv., 3 ♀♀ ad. Gebroeders 6,000 ft., 25, 28, 30 June, 15, 17, 19, 31 July, 6, 11, 14, 17, 18 August 1930. ♂: Iris greenish yellow flecked with red, bill and feet black; ♀: Iris paler, more whitish, feet greyish black. Contents of stomach fruits.

Apparently, judging from the large series of trade skins of *carolae* in the Tring Museum and this fine series from Shaw Mayer, the young ♂ begins to change into the adult plumage on the head and gradually by a series of annual moults puts on the final adult dress. This appears to be the normal procedure among the *Paradisacidae*; but in many of the other genera odd adult feathers or patches of feathers appear elsewhere, as well as on the head and neck, though this may be due to premature loss of juvenile feathering.

8. **Lophorina superba feminina** O. Grant.

Lophorina superba feminina O. Grant, *Jnl. Suppl. Ibis*, 1915, p. 27 (Utakwa River).

A single ♂ is in the collection ; 2 ♀♀ were in the brothers Pratt's collection from the Weyland Mts. and 1 ♀ from the Snow Mts. ; all these 3 ♀♀ have the head very different from those of *L. s. minor*, *L. s. superba* and *L. s. latipennis*. The ♀ of *s. superba* has the entire head of a uniform black brown, as has the ♀ *s. latipennis* ; the ♀ of *s. minor* has the head black, forehead with distinct sprinkling of white, black-edged feathers on forehead, and an irregular band from above the eye meeting as collar at hindneck greyish white ; the ♀ *s. feminina* has the head brown, forehead white, each feather edged with black ; the central shaftlines on top of head golden, sometimes widening into a larger golden patch ; hindneck and lateral bands whitish and dark buff. The ♀ *feminina* has underside brownish buff, the other 3 subspecies have the undersides grey.

1 ♂ Gebroeders, 6,000–7,000 ft., 2 August 1930. Iris brownish black, bill and feet black. Contents of stomach fruits. Native (Yabi) name " Kera."

9. **Pteridophora alberti alberti** A. B. Meyer.

Pteridophora alberti A. B. Meyer, *Bull. B.O.C.* iv, p. xi (1894) (Mts. near Ambernok River).

Shaw Mayer sent 3 adult and 1 young ♂, which agree perfectly with the series obtained on the Weyland Range by the brothers Pratt and with the trade skins imported by Renesse van Duivenbode. In view of the differences in the ♀♀ of subspecies of *Lophorina* I am taking the " bull by the horns " and giving a name to the form collected by Dr. Bürgers on the Schrader Berg.

3 ♂♂ ad. (one with broken plume), 1 ♂ juv. Gebroeders, 6,000 ft., 3, 9, 15, 21 July 1930. Iris brown, bill black, feet grey brown.

Native Yabi name " Petre." The natives report the *Pteridophora* as dancing on a vine, the two plumes being raised above the head forming an angle of 45°. The head is continually bowed forward, and the bird makes a hissing noise. Contents of stomach fruits.

[*Pteridophora alberti bürgersi* subsp. nov.

Only known from ♀♀.

♀ differs from *Pt. a. alberti* ♀ above in being browner, less grey brown ; the throat is suffused with buffy yellow, and the dark markings of the throat are much less distinct, more obsolete ; rest of underside suffused with buff, NOT almost pure white ; the creseentic black marks and bands on the feathers much shorter, not reaching the lateral margins of the feathers at all.

♀ type No. 2064 Shrader Berg, Sepik River district, 6 July 1913 (Dr. Bürgers).]

10. **Epimachus meyeri albicans** (Van Oort).

Falcinellus meyeri albicans Van Oort, *Zool. Meded.* i, p. 228 (1915) (Treub Mts.).

The adult and young ♂ and the adult ♀ sent by Shaw Mayer are most welcome, as they finally decide that there are two species of *Epimachus* occurring side by side in New Guinea west of the Fly River. The typical birds in the Leyden Museum were collected at Treub Camp (2,366 m. = 7,690 ft.), Treub Mts., 30 January and 8 March 1913, by G. Versteeg (Nos. 497 and 630) much farther east than the present locality ; in addition to these, there are in the Leyden

Museum some native "trade" skins, and one legless "trade" skin at Tring brought back by the Pratts from the Weyland Mts., and this was all we knew till the present skins came to hand. As we now have 3 examples killed in the same place as 3 examples of *Epimachus fastosus atratus* Rothsch. & Hart. we must treat *E. meyeri* and *E. m. albicans* as a distinct species occurring alongside *E. fastosus*, *E. fastosus atratus*, and *E. f. stresemanni*. The brothers Pratt assured us in 1921, when they brought the collections from Mt. Kunupi, Weyland Mts., that, although the skin of *E. m. albicans* was a native "Trade" skin, it had been killed in the Weyland Range; but I could not believe this and continued to regard the forms *E. meyeri* and *E. m. albicans* as not yet proved absolutely of a distinct species from *E. fastosus* and its subspecies. The present series, however, settles all doubts; although Shaw Mayer has only sent 1 young ♂ and 2 ♀♀ of *E. f. atratus*, the large series of 13 adult and young ♂♂ and 6 ♀♀ sent by the Pratts must convince everyone that both *f. atratus* and *m. albicans* occur habitually together. The adult ♂♂ are easily distinguished, as the flank plumes are very different in colour and much more plumose, while the bill is much longer, more curved and considerably slenderer. The ♀♀ of *fastosus*, however, do not show so pronounced differences in the bill; but whereas the ♀ *fastosus* has a large amount of bright chestnut on the wings, in ♀ *meyeri* the wings are entirely olive brown. The underside of the ♀♀ of the two *meyeri* forms are more or less suffused with rusty buff, while in the *fastosus* forms the underside has the ground colour white. In the ♂♂ of the two *meyeri* forms there are on the outside of the flank plumes some curious curved brownish feathers more united in the plumules; and the ornamental plumes are much smaller than in *fastosus* (cf. Plates III and IV).

1 ♂ ad., 1 ♂ jun., 1 ♀ juv. Gebroeders, 6,000–7,000 ft., 22, 24, 28 July 1930. Contents of stomach ad. ♂ fruits and a few insects; ♂ juv. and ♀ juv. berries. Iris whitish, bill black, feet blackish grey, olive grey, and dark grey.

Native Yabi name "Deawa."

11. **Epimachus fastosus atratus** (Rothsch. & Hart.).

Falcinellus striatus atratus Rothschild & Hartert, *Nov. Zool.* xviii, p. 160 (1911) (Mt. Goliath, 5,000 ft. and over).

Shaw Mayer only succeeded in getting 1 ♂ juv. and 2 ♀♀, but enough to prove that *fastosus* occurs together with *meyeri* at 6,000–7,000 feet on the Gebroeders.

1 ♂ juv., 2 ♀♀ ad. Gebroeders, 6,000–7,000 ft., 17 July and 17 August 1930. Iris grey, bill black, feet dark grey and bluish black. Contents of stomach ♂ juv. small pandanus fruit and a large grasshopper, ♀♀ cockroaches and other large insects.

Native Yabi name "Deawa."

12. **Astrapia splendidissima** Rothsch.

Astrapia splendidissima Rothschild, *Nov. Zool.* ii, p. 59, pl. v (1895) (Trade skin).

The young ♂♂ show no signs whatever of rufous on the hindneck, but the females have all a more or less prominent dark rufous band on the hindneck.

7 ♂♂ ad. (4 in full moult), 4 ♂♂ juv. (3 with tail moulting), 11 ♀♀ ad. Gebroeders, 6,000 ft., 27, 29 June, 1, 2, 3, 4, 6, 7, 10, 20, 21, 22, 26 July 1930.

Iris blackish, bill black, feet grey. Contents of stomach small fruits and berries.

Native Yabi name "Erei."

13. Cicinnurus regius claudii O. Grant.

Cicinnurus regius claudii Ogilvie Grant, *Jub. Suppl. Ibis*, 1915, p. 16 (Parimau, Mimika River).

1 ♀ Lagare River, 16 miles above mouth, S. of Geelvink Bay. Iris brown, bill horn colour, feet blue.

14. Diphyllodes magnificus chrysopterus Elliot.

Diphyllodes speciosa var. *chrysoptera* Elliot (ex Gould MS.), *Mon. Paradis.* text to pl. 13 (1873) (loc. ign.).

When Dr. Hartert named the bird from the southern slopes of the Snow Mts. *D. m. intermedius* we associated with it a skin obtained by the Pratt brothers in the Wanggar District, south of Geelvink Bay, although it was more brightly coloured; but Shaw Mayer having sent 5 adult ♂♂, 1 ♂ juv. and 2 ♀♀ from Mt. Derimapa, Weyland Range, from 4,000–5,000 ft., I think there is no doubt that the Wanggar bird is identical and that all the birds on the north side of the Central Range are *D. m. chrysopterus*, while those from the flat country and foothills on the south side of the Central Range alone are *D. m. intermedius*. The young ♂ is very interesting, as the wing is longer than any of the fully adult ♂♂ and the whole back and wings have a strong golden gloss.

5 ♂♂ ad., 1 ♂ juv., 2 ♀♀ Mt. Derimapa, Weyland Range, 4,000–5,000 ft., 28, 29 June, 4, 5, 9 July. Contents of stomach large fruits.

15. Paradisaea minor minor Shaw.

Paradisea minor Shaw, *Gen. Zool.* vii, pt. 2, p. 486 (1809) (Arfak; type locality designated by Ernst Hartert).

There are apparently in the adult males birds with deep golden orange ornamental plumes, while others have these plumes yellow. It was formerly thought these yellow plumes were due to fading; but in the light of our fresh material I believe it is due to individual variation.

1 ♂ ad. (orange plumes) Siriwo district, 40 miles inland, south of Geelvink Bay, 500 ft., 19 June 1930; 1 ♂ juv. Gebroeders, 4,000 ft., 26 June 1930; ♀ ad. Mt. Derimapa, 3,000 ft., 28 June 1930. Contents of stomach berries. In ♂ ad. iris yellow, bill and feet grey; in ♂ juv. and ♀ ad. iris greenish yellow, bill grey, feet brownish and purplish grey. The ♀ shows no signs of the brownish red colour below the brown throat or on the flanks, so Hartert's conclusion that this is a sign of youth is corroborated.

16. Phonygammus keraudrenii keraudrenii (Less. & Garn.).

Barita keraudrenii Lesson & Garnier, in Férussac's *Bull. Sc. Nat. et de Géologie*, viii, p. 110 (1826) (Dorey, Arfak, Lesson coll.).

This is an entirely new locality, i.e. northern slopes of the Central Range; the Tring Museum has it from the south slopes of the Snow Mts.

1 ♂ ad. Gebroeders, 3,000 ft., 2 August 1930. Iris orange red, bill and feet black. Contents of stomach berries.

17. **Manucodia chalybata chalybata** (Penn.).

Paradisea chaly'ata Pennant, in Forster's *Zool. Ind. Faunula Indica*, p. 40 (1781) (ex Daubenton, pl. 634, New Guinea).

1 ♂ Mt. Derimapa, about 4,000 ft., 24 July 1930. Iris reddish, bill and feet black. Contents of stomach fruits.

18. **Manucodia jobiensis** Salvad.

Manucodia jobiensis Salvadori, *Ornith. Pap.* ii, p. 502 (Jobi Island).

1 ♂ ad. Siriwo River, 30 miles above mouth, south of Geelvink Bay, 10 June 1930. Iris orange red, bill and feet black.

1 ♂ juv. Lagare River, 16 miles above mouth, south of Geelvink Bay, 7 June 1930.

1 ♂ juv. Gebroeders, 4,000 ft., 26 June 1930.

[Dr. Hartert, in his account of Dr. Ernst Mayr's collections, enumerates 2 ♂♂, 1 ♀ from Hollandia ! and Ifaar. Of these the American Museum has 1 ♂, 1 ♀ from Ifaar, and the Tring Museum has the second ♂, which came from **Hol, not** Hollandia. This specimen, Mayr Coll. no. 1781, is not as Dr. Hartert has said *M. chalybatus orientalis*, but is **M. jobiensis.** As this bird differs slightly from our other *jobiensis*, all except one from the mainland, it is quite possible, if a series came to hand, that after all *M. rubiensis* A. B. Meyer would prove a distinct race.]

19. **Oriolus szalayi** (Mad.).

Oriolus szalayi Madarasz, *Termesz. Füsetek*, xxiv, p. 80 (1901) (Madang, Finschhafen).

When I first compared these 2 skins they appeared much purer grey than those in the Tring Museum, but Dr. Ernst Mayr's examples prove that the brown tinge in the older skins is due to fading.

1 ♂, 1 ♀ Mt. Derimapa, Weyland Range, 28 June, 24 July 1930. Iris red in ♂, brick red in ♀, bill light brown in ♂, olive brown in ♀, feet dark grey. Contents of stomach berries.

20. **Mino dumontii dumontii** Lesson.

Mino dumontii Lesson (1826) (Dorey = Manokwari).

1 ♀ Siriwo River, 35 miles from mouth, south of Geelvink Bay, 11 June 1930. Iris brown flecked with black, naked skin round eye bright orange, bill orange, feet yellow.

21. **Paramythia montium olivaceum** Van Oort.

Paramythia montium olivaceum Van Oort, *Notes Leyden Museum*, xxxii, p. 213 (1910) (Orange and Hellwig Mts.).

This very distinct race differs from *P. m. montium* in the greenish olive, **not** green, back and rump and in the blue, **not** yellow, flanks.

1 ♂, 1 ♀ Mt. Derimapa, 5,000 ft., 26 June 1930 ; 1 ♂ Gebroeders, 6,000 ft., 22 July 1930. Iris brownish black, bill and feet black. Contents of stomach berries (no insects).

The bird from Mt. Derimapa I quote as ♀ was marked as " sex ? ", but the one centimetre shorter wing proves it to be a ♀.

22. **Dicrurus bracteatus carbonarius** Bp.

Dicrourus carbonarius Bonaparte, *Consp. Gen. Av.* p. 352 (1850) (New Guinea).

3 ♂♂, 1 ♀ Siriwo River (1 ♂ 30 miles, 1 ♂ 35 miles, ♂♀ 50 miles above mouth), south of Geelvink Bay, 10, 12, 17 June 1930. Iris ♂ orange, ♀ orange red, bill and feet black. Contents of stomach grubs and large insects.

23. **Artamus maximus** A. B. Meyer.

Artamus maximus A. B. Meyer, *Sitzungsb. Akad. Wissensch. Wien*, lxix, p. 203 (1874) (Arfak Pen., Hattam).

1 ♀ Mt. Derimapa, 5,000 ft., 25 July 1930. Iris brownish black, bill blue grey, tip black, feet black. Contents of stomach insects. Fairly common, sweet song.

24. **Munia tristissima** Wall.

Munia tristissima Wallace, *P.Z.S.* 1865, p. 479 (New Guinea, N.W. extremity = Arfak Pen.).

The single ♂ sent by Shaw Mayer is very much darker than any of the 30 specimens in the Tring Museum collection and 2 also at Tring from Siwi collected by Dr. Ernst Mayr. The upper surface of Shaw Mayer's example is deep chocolate brown with the exception of the straw-coloured rump, and the entire under surface deep black. When we get a series, this will probably prove to be a new subspecies, but it may only be a melanistic aberration, being a single specimen.

1 ♂ Mt. Derimapa, 5,000 ft., 21 August 1930. Iris black, bill and feet steel blue. Contents of stomach small seeds.

Seen in small flocks in the native gardens feeding on grass seeds.

25. **Myzomela cruentata cruentata** A. B. Meyer.

Myzomela cruentata A. B. Meyer, *Sitzungsb. Ak. Wissensh. Wien*, lxx, p. 202 (1874) (Arfak Mts.).

The single ♂ sent by Shaw Mayer is identical with specimens from various other localities in New Guinea.

1 ♂ Mt. Derimapa, 5,000 ft., 12 August 1930. Iris blackish brown, bill black, feet grey black. Contents of stomach small insects.

26. **Melilestes megarhynchus megarhynchus** (Gray).

Melilestes megarhynchus megarhynchus Gray, *P.Z.S. Lond.*, p. 174 (1858) (Aru).

1 ♂ Mt. Derimapa, 5,000 ft., 24 June 1930. Iris orange, bill black, feet grey. Stomach contents insects.

27. **Melipotes fumigatus goliathi** Rothsch. & Hart.

Melipotes fumigatus goliathi Rothschild & Hartert, *Nov. Zool.* xx, p. 515 (1913) (Mt. Goliath).

These examples are even darker than the 3 sent by the Pratts from Mt. Kumpi, but I do not venture to separate them from *M. f. goliathi* until I have seen examples from the big Mt. Weyland itself (the highest of the Weyland Range is 1,000 metres higher than the Gebroeders, = 3,250 ft. higher).

1 ♂ Mt. Derimapa, 24 June 1930; 3 ♂♂ Gebroeders, 5,000 and 6,000 ft., 27 June, 3 July 1930. Iris brown, naked skin round eye in ♂ bright orange, in ♀ bright yellow, feet leaden grey.

28. **Melirrhophetes belfordi joiceyi** Rothsch.

Melirrhophetes belfordi joiceyi Rothschild, *Nov. Zool.* xvxiii, p. 283, no. 21 (1921) (Mt. Kunupi, Weyland Range).

These birds agree perfectly with the 7 specimens obtained by the Pratts on Mt. Kunupi and confirm the pronounced colour difference from *M. b. belfordi*.

2 ♂♂, 2 ♀♀, 1 ♀ juv. Mt. Derimapa, 5,000 ft., 24 and 26 June and 1 August 1930. Iris in ♂ dark brown, in ♀ brown, naked skin behind eye pale blue to blue, bill black, feet dark grey to blackish, underside of toes yellow. Contents of stomach insects !

29. **Meliphaga analoga analoga** (Reichenb.).

Ptilotis analoga Reichenbach, *Icon. Synop. Av.* contin. No. ix, p. 103, pl. ccccl vxii, fig. 3332 (1852 (Oceania).

The single skin sent by Shaw Mayer is the first up to now where the sexing gives rise to doubt ; it is sexed " ♂ oo " and it agrees in all other particulars with our large series of *M. a. analoga*, but in size of **bill and wing** it matches only ♀♀, **our** ♂♂ having larger bills and longer wings. If it is correctly sexed, then it will certainly prove, when a series from the Weyland Mts. comes to hand. to be a new, smaller, subspecies, but as it is so absolutely similar both in size and other respects to ♀♀ of *analoga* from other localities, I cannot help thinking that some error in sexing may have occurred.

1 ♂ ?? Siriwo River, 45 miles above mouth, south of Geelvink Bay, 15 June 1930. Bill dark horn, feet grey.

30. **Xanthotis frenata olivascentior** subsp. nov.

When I listed the collections obtained by the brothers Pratt on Mt. Kunupi I recorded the single skin as *X. fr. salvadorii* ; but on comparing that bird again together with the ♀ sent by Shaw Mayer, with typical *salvadorii* from S.E. New Guinea, I find that they are more strongly washed with olive than in that race. I therefore now give them the subspecific name of *olivascentior*.

♀ similar to *X. fr. salvadorii* Hart., but much more washed with olive ; the rufous cinnamon of the bend of the wing more extended ; underwing coverts and axillaries rufous cinnamon, **not** olive brown ; malar yellow tufts larger and more extended.

1 ♀, type, Mt. Derimapa, 5,000 ft., 29 June 1930. Iris ashy grey, bill black, gape and mouth white, feet bluish grey. Contents of stomach berries ! (Paratype adult Mt. Kunupi, 6,000 ft., Nov.–Dec. 1920 Pratt bros.)

31. **Xanthotis chrysotis mayeri** subsp. nov.

♂. In type the whole upperside much darker brown and the small grey speckles on hindneck much more obsolete than in *X. chrysotis saturatior* ; spots and edges to upper wing coverts and quills wider and much deeper rufous ; underside of tail and undertail coverts much darker ; the ♂ from Mt. Derimapa has the underside less rufescent, more greyish, and the rufous on quills and upper wing coverts more brownish.

1 ♂, Type, Gebroeders, 5,000 ft., 8 August 1930. Iris brown, bill black, feet blue grey. Contents of stomach berries !

1 ♂ Mt. Derimapa, 5,000 ft., 29 June 1930. Iris dark brown, naked skin behind eye dull greenish grey, feet bluish grey. Contents of stomach berries.

32. **Xanthotis polygramma poikilosternos** A. B. Meyer.

Xanthotis poikilosternos A. B. Meyer, *Sitzungsb. Akad. Wiss. Wien*, lxx, p. 112 (1874) (Andai).

The single ♂ has the feathers of the breast more washed with dirty buff than in our examples.

1 ♂ Mt. Derimapa, 5,000 ft., 24 June 1930. Naked skin round eye greenish yellow, bill black, feet grey.

33. **Pristorhamphus versteri meeki** Rothsch. & Hart.

Pristorhamphus versteri meeki Rothschild & Hartert, *Bull. B.O.C.* xxix, p. 36 (1911) (Mt. Goliath).

The two ♂♂ sent agree with our series of *P. v. meeki*.

1 ♂ Mt. Derimapa, 5,000 ft., 15 August 1930.

1 ♂ Gebroeders, 5,000 ft., 21 August 1930. Iris black brown, bill and feet black. Contents of stomach berries.

34. **Zosterops minor** subsp. ?

Shaw Mayer sent a single ♀ *Zosterops* which differs from Jobi examples of *Z. minor minor* in having black brown lores and brownish olive cheeks ; also the head and upperside is much less golden, more grass green. As, however, there are so many *Zosterops* known, I do not venture to describe a new subspecies from a single ♀.

1 ♀ Mt. Derimapa, 5,000 ft., 29 June 1930. Iris red brown, bill black, feet blue grey. Contents of stomach berries.

35. **Pachycare flavogrisea flavogrisea** (A. B. Meyer).

Pachycephala flavogrisea A. B. Meyer, *Sitzungsb. Akad. Wiss. Wien*, lxix, p. 495 (1874) (Arfak).

The single ♀ sent agrees well with Siwi ♀♀ collected by Dr. Ernst Mayr.

1 ♀ Gebroeders, 6,000 ft., 7 July 1930. Iris reddish brown, bill black, feet horn colour.

Shot on nest containing one egg. Shaw Mayer sent some eggs, including this, but although his birds and mammals are marvellously well labelled his eggs have no indications whatever and are useless.

36. **Pachycephala schlegeli schlegeli** Schleg.

(Name ex Rosenberg manuscript) *Nederl. Tijdschr. Dierk.* iv, p. 43 (1873) (Interior Arfak Pen.).

The adult ♂ is somewhat intermediate between *s. schlegeli* and *s. obscurior*, but, as we have in addition only the Pratts' ♂ with a defective breast and a young bird apparently wrongly sexed, I do not venture to separate the Weyland birds.

1 ♂ ad., 1 juv. (in mixed plumage but whole underside very deep yellow) sexed ♀ ?? Mt. Derimapa, 26 June 1930. Bill black, feet olive. Contents of stomach grubs and small insects.

37. Pachycephala griseiceps subflavidior Hart.

Pachycephala griseiceps subflavidior Hartert, *Nov. Zool.* xxxvi, p. 56 (1930) (Cyclops Mts.).

Apparently *g. jobiensis* does not reach inland, while the present form occurs on all the northern slopes.

1 ♀ Mt. Derimapa, 5,000 ft., 29 June 1930. Iris reddish brown, bill black, feet bluish grey. Has lower abdomen very brilliant yellow.

38. Pachycephala hyperethra hyperethra Salvad.

Pachycephala hyperethra Salvadori, *Ann. Mus. Civ. Gen.* vii, p. 932 (1875) (Arfak Mts. and Kapaur).

Shaw Mayer sent an adult ♀ labelled thus: "(♂?)"; it has much more brilliant chestnut edges and outer vanes than any others I have seen, and when we have a series no doubt will prove distinct; but I do not venture to separate it on a single ♀.

1 ♀ ad. Mt. Derimapa, 5,000 ft., 13 August 1930. Iris brown, bill dark horn colour, feet greyish flesh colour.

39. Pachycephala rufinucha niveifrons Hart.

Pachycephala rufinucha niveifrons Hartert, *Nov. Zool.* xxxvi, p. 57, no. 94 (1930) (Wondiwoi Mts., Wandammen).

1 ♂, 1 ♀ ad. Gebroeders, 6,000 ft., 1, 13 August 1930. Iris brownish grey with yellow ring, bill black, feet brownish grey. Contents of stomach small insects. In the ♀ the chestnut nuchal patch is paler and brighter in colour.

40. Pachycephala pectoralis klossi O. Grant.

Pachycephala klossi Ogilvie Grant, *Jub. Suppl. Ibis*, pt. ii, p. 88, 1915 (Utakwa Valley).

1 ♂ ad. Gebroeders, 6,000 ft., 31 July 1930. Iris reddish brown, bill black, feet blackish grey. Contents of stomach insects.

41. Pachycephala poliosoma albigularis subsp. nov.

♂♀ adult differ from *P. p. approximans* O. Grant in the white of the throat being purer, less yellowish, and more extended, and the blue of the underside deeper, less greyish. Type ♂.

1 ♂, 2 ♀♀ Gebroeders, 6,000 ft., 9 August 1930.

42. Pachycephala tenebrosa atra subsp. nov.

Shaw Mayer has sent a fine old ♂, and so we now see that the Pratts' tailless ♂ is a younger bird.

♂ adult differs from *P. t. tenebrosa* in having the upperside and the top of head black, not black brown.

1 ♂ ad., type, Gebroeders, 6,000 ft., 16 August 1930. Iris reddish brown, bill black, feet blackish grey. Though it is a single example I venture to describe it, as all Meek's 9 skins of *P. t. tenebrosa* are identical and dark brown above.

43. Pinarolestes megarhynchus megarhynchus (Quoy & Gaim.).

Muscicapa megarhyncha Quoy & Gaimard, *Voy. Astrolabe, Zool.* i, p. 172, pl. iii, f. 1 (1830) (Dorey).

The *megarhynchus* group of *Pinarolestes* is most puzzling. Hartert & Meise unite the black-billed *melanorhynchus* forms with the typical *megarhynchus*

forms with pale bills, whereas Mathews separates them into two species, *megarhynchus* and *melanorhynchus*, and places these in the genus *Caleya* Mathews, while he restricts *Pinarolestes* Sharpe to the Oceanic forms and makes a new genus *Bowyeria* Mathews for the Australian species *boweri*. I cannot see any necessity for this "genus-splitting" and shall continue to treat all these smaller wood shrikes as *Pinarolestes*. However, the question of the species and subspecies is far from being so easy to settle. Fortunately the question of the specific status of the *melanorhynchus* forms does not arise at the moment, for Shaw Mayer's single ♂ belongs to the pale-billed section. It agrees perfectly with our series from the Snow Mts. and also with Dr. Ernst Mayr's specimens from Siwi and Manokwari.

1 ♂ Gebroeders, 5,000 ft., 2 August 1930. Iris brown, bill horn coloured, feet dark grey. Contents of stomach grasshoppers and other insects.

44. **Pitohui nigrescens bürgersi** Stresem.

Pitohui nigrescens bürgersi Stresemann, *Journ. Ornith.* 70, p. 406 (1922) (Schraderberg).

The forms of *nigrescens* apparently differ from each other much more sharply in the ♀♀ than in the ♂♂, in fact *nigr. meeki* from Mt. Goliath was described from a single ♀. In my paper on the birds obtained by the Pratt brothers on Mt. Kumupi I listed their 2 ♀♀ as *P. n. meeki*, but Dr. Hartert already remarks, in his account of Dr. Ernst Mayr's birds, Nov. Zool. xxxvi. p. 59 (1930), that these two ♀♀ are less bright than the type of *P. n. meeki*. Shaw Meyer has sent a very fine adult ♂ which settles the facts as regards *meeki* being different from the Weyland Mts. birds; but whether ♂♂ from the Kai peninsula will prove different again remains for the future when such come to hand. Anyhow, this ♂ from the Weyland Range is absolutely unicolorous and of the most intense black, whereas the ♂♂ of *meeki* from the Snow Mts. are paler below and generally slate black, not intense black. The two ♀♀ from Mt. Kumupi, as Dr. Hartert has remarked, are less bright than, and not so deep in colour as, *meeki* and agree best with the description of the ♀ of *P. n. bürgersi* Stresem. As the latter only had before him a younger ♂ in moult, it would not be wise to separate the Weyland birds, especially as Stresemann says his ♂ points to the adult ♂ being darker than the typical form. I therefore list the Weyland birds under this form, although the distribution is very strange.

1 ♂ Gebroeders, 5,000 ft., 1 August 1930. Iris brownish black, bill and feet black. Contents of stomach large insects.

45. **Pitohui ferrugineus ferrugineus** (Bp.).

Rhectes ferrugineus Bonaparte, *Compt. Rend. Acad. Paris*, xxxviii, p. 536 (1850) (Lobo, ex Müller in Mus. Lugd.).

Mathews enumerates 5 subspecies of *ferrugineus*, including the nominotypical form, and Stresemann also acknowledges these 5 races; but unless the form inhabiting Mysol cannot be separated from *f. clarus* from New Guinea east of the Fly River, I think it will eventually have to be separated as a sixth form.

1 ♂ Siriwo River, 45 miles above mouth, south of Geelvink Bay, 15 June 1930. Iris pale yellow, bill black, feet grey. Contents of stomach beetles and berries.

46. **Pitohui jobiensis brunneivertex** subsp. nov.

The discovery of *P. jobiensis* on the Weyland Mts. is most remarkable, and the well-marked separation of the more olive grey-brown head from the back goes to prove that *jobiensis* and *meyeri* are two races of one species. There will thus be 4 subspecies of *Pitohui jobiensis*, viz. *P. job. jobiensis* from Jobi Island, *P. job. meyeri* from Takar, *P. job. brunneivertex* from Weyland Mts., and a bird still paler than *meyeri* about to be described by Dr. Hartert from the N.E. coast of New Guinea.

♂ ad. Differs from *job. jobiensis* above by the head being olive rufous brown, NOT fiery rufous chestnut like the rest of the under surface; below the throat and chin an olive shade, and the rest of the under surface is dark orange rufous, not fiery rufous chestnut as in *job. jobiensis*.

2 ♂♂ Mt. Derimapa, 5,000 ft., 24 and 28 June 1930. Iris dark brown, bill and feet horn colour. ♂ no. 42 type. Contents of stomach berries and insects.

1 ♀ Siriwo River, 30 miles above mouth, south of Geelvink Bay, 9 June 1930. This ♀ has the top of the head more rufous, less olive than in the 2 Derimapa ♂♂, but less rufous than in Jobi Island birds.

47. **Pitohui dichrous dichrous** (Bp.).

Rhectes dichrous Bonaparte, *Compt. Rend. Akad. Paris*, xxxi, p. 563 (1850) (Lobo, ex Salomon Müller).

1 ♀ Gebroeders, 4,000 ft., 10 August 1930; 1 ♀ Mt. Derimapa, 5,000 ft., 16 August 1930. Iris reddish brown, bill and feet black. The Gebroeders ♀ no. 296 is sexed "(♂ ?)," but its wing measures 94 mm., while the Derimapa ♀ no. 322 measures 103 mm.; so if the latter is right, as I think it is, both are ♀♀, as a ♂ would have longer wings.

48. **Gerygone palpebrosa wahnesi** (A. B. Meyer).

Pseudogerygone wahnesi A. B. Meyer, *Ornith. Monatsb.* 1899, p. 144 (Bongu, N.E. New Guinea).

It is a great extension to its range finding *G. p. wahnesi* on the Weyland Mts.

1 ♂ Mt. Derimapa, 5,000 ft., 15 August 1930. Iris red, bill black, feet blackish. Contents of stomach small worms (tree) (? = larvae).

49. **Phylloscopus trivirgatus albigula** subsp. nov.

This new race is nearest to *t. mathiae* from St. Mathias Island and *t. ceramensis* from Seran in having a whiter throat and chin, but it differs from both in having a median band on the crown and a pure white, not white and yellow, throat and chin and band behind the eye.

1 ♂, Type, Mt. Derimapa, 5,000 ft., 23 June 1930. Iris dark brown, bill dark horn colour, feet grey.

50. **Microeca griseiceps occidentalis** Rothsch. & Hart.

Microeca griseiceps occidentalis Rothschild & Hartert, *Nov. Zool.* x, p. 471 (1903) (Warmendi, Arfak).

1 ♂ Mt. Derimapa, 5,000 ft., 15 August 1930. Iris blackish, bill, upper mandible black, under mandible horn yellow, feet yellowish. Contents of stomach insects.

51. Microeca flavovirescens Gray.

Microeca flavovirescens Gray, *P.Z.S. London*, 1858, p. 178 (Aru Islands).

1 ♂ Gebroeders, 5,000 ft., 26 July 1930. Iris brown, bill, upper mandible black, under mandible horn yellow, feet blackish yellow. Contents of stomach insects.

52. Paecilodryas cyanus cyanus (Salvad.).

Myiolestes ? cyanus Salvadori, *Ann. Mus. Civ. Gen.* vii, p. 394 (1875) (Hatam).

These birds are slightly darker than Arfak *P. c. cyanus*, but not so dark as *P. c. subcyanus*.

2 ♀♀ Gebroeders, 6,000 ft., 1 and 18 August 1930. Iris brown, bill and feet black. Contents of stomach large insects.

(Dr. Hartert has recorded the Wandammen and Cyclops birds as *subcyanus* ; the head, however, is decidedly blacker than in birds from east of the Fly River, but Snow Mts. birds are mixed.)

53. Poecilodryas cryptoleucus albidior subsp. nov.

♀ ad. differs from *P. c. cryptoleucus* in being larger (wing 85 mm. as opposed to 78·5 mm.) and having the centre of the abdomen almost pure white and the rest of underside much mixed with white.

♀ ad., Type, Gebroeders, 6,000 ft., 26 July 1930. Iris blackish brown, bill black, feet blackish. Contents of stomach insects.

54. Poecilodryas leucops leucops (Salvad.).

Leucophantes leucops Salvadori, *Ann. Mus. Civ. Gen.* vii, p. 921 (1875) (Arfak Mts.).

1 ♀ Gebroeders, 6,000 ft., 15 August 1930. Iris blackish brown, bill black, feet lemon yellow. Contents of stomach insects.

55. Poecilodryas bimaculatus bimaculatus (Salvad.).

Myiolestes ? bimaculatus Salvadori, *Ann. Mus. Civ. Gen.* vi, p. 84 (1874) (Putat, Arfak Pen.).

This ♂ and ♀ have quite as much white as the whitest of Arfak birds, on the abdomen ; but at any rate one of our *P. b. vicaria* from Mt. Cameron shows as much.

1 ♂, 1 ♀ Gebroeders, 6,000 ft., 14 August 1930. Iris brownish black, bill and feet black. Contents of stomach insects and larvae.

56. Monachella mülleriana (Schleg.).

Muscicapa mülleriana Schlegel *Ned. Tijdschr. Dierk.* iv, p. 43 (1871) (Arfak Mts.).

1 ♀ Gebroeders, 6,000 ft., 8 August 1930. Iris brown, bill black, feet blackish. Contents of stomach insects.

57. Peltops blainvillii blainvillii (Less. & Garn.).

Eurylamus blainvillii Lesson & Garnier in Férussac's *Bull. Sc. Nat. et Géol.* xi, p. 302 (1827) (Dorey).

1 ♂ Siriwo River, 30 miles above mouth, south of Geelvink Bay, 9 June 1930. Irish orange red, bill and feet black.

58. **Peltops blainvillii montanus** Stresem.

Peltops blainvillii montanus Stresemann, *Anz. Orn. Ges. Bayern*, No. 5, p. 35 (1921) (Hunsteinspitze).

♂♀ Mt. Derimapa, 5,000 ft., 28 June 1930. Irish reddish brown, feet and bill black. (Pair shot at nest feeding one young one.) Contents of stomach insects

59. **Todopsis cyanocephalus bonapartii** Gray.

Todopsis bonapartii Gray, *P.Z.S. London*, 1859, p. 156 (Aru Islands).

The single ♂ sent agrees best with one of our Snow Mts. birds: so I have listed it under *c. bonapartii*, but without ♀♀ it is impossible to be quite certain. It has white edges to the tail feathers.

1 ♂ Makimi, south of Geelvink Bay, 5 September 1930. Iris brownish black, bill black, feet olive. Contents of stomach insects and a spider.

60. **Monarcha frater frater** Scl.

Monarcha frater Sclater, *P.Z.S. London*, 1873, p. 691 (Hatam).

The single ♂ is nearest to *M. f. frater*, but the grey of the upper surface and of the breast is still paler, more whitish; but until we get a series I dare not separate it.

1 ♂ Gebroeders, 5,000 ft., 26 July 1930. Iris brownish black, bill and feet blue grey. Contents of stomach insects.

61. **Monarcha manadensis** (Quoy & Gaim.).

Muscicapa manadensis Quoy & Gaimard, *Voy. Astrol., Zool.* i, p. 174, pl. iii, f. 3 (1830) (New Guinea).

1 ♂, 1 ♀ Gebroeders, 5,000 ft., 1 and 9 August 1930. Iris brownish black, bill blue grey, tip black, feet blue grey.

62. **Monarcha axillaris ernesti** subsp. nov.

Dr. Hartert, when listing the collections of Dr. Ernst Mayr, already pointed out (Nov. Zool. xxxvi, p. 1930, under no. 151) that probably the Wondivoi birds constituted a new race. The bird sent from the Weyland Mts. confirms this suspicion, as it has quite as much white on the underside as the ♂ from Wondivoi; I therefore name it in honour of Dr. Hartert.

♂ ad. similar to *M. ax. axillaris*, but with very much more white on the sides of the breast and abdomen.

1 ♂ ad. type, Gebroeders, 5,000 ft., 9 August 1930. Iris blackish brown, bill bluish grey, tip black, feet blackish. Contents of stomach small insects.

63. **Monarcha chrysomela aurantiacus** A. B. Meyer.

Monarcha chrysomela aurantiacus A. B. Meyer, *Abh. Ber. Mus. Dresd.* 1890–1891, No. 4, p. 9 (1892) (Kafy and Stephansort).

It is strange that at this new locality, so far west and inland from both the Cyclops Mts. and Stephansort, the example of this species should be indistinguishable from *M. ch. aurantiacus*, though the 2 ♂♂ are very rich in colour.

2 ♂♂ Mt. Derimapa, 5,000 ft., 24 and 28 June 1930; 1 ♀ (or ♂ juv.?) Gebroeders, 5,000 ft., 8 August 1930. Iris blackish brown, bill blue grey, tip black, feet blue grey. Contents of stomach insects (grasshoppers). The black forehead in this supposed ♀ makes me doubt the sexing.

64. **Rhipidura rufiventris gularis** Mull.

Rhipidura gularis S. Müller, *Verh. Land- en Volkenk.* p. 185 (1844) (Lobo = Triton Bay).

1 ♀ Gebroeders, 5,000 ft., 7 August 1930. Iris brownish black, bill black, feet blackish.

65. **Rhipidura rufidorsa rufidorsa** A. B. Meyer.

Rhipidura rufidorsa A. B. Meyer, *Sitzungsb. Akad. Wiss. Wien*, lxx, p. 200 (1874) (Rubi, passim, Jobi).

1 ♀ Mt. Derimapa, 5,000 ft. Iris blackish brown, bill horn colour, feet grey.

66. **Rhipidura albolimbata albolimbata** Salvad.

Rhipidura albolimbata Salvadori, *Ann. Mus. Civ. Gen.* vi, p. 312 (1874) (Hatam).

1 ♂ Gebroeders, 5,000 ft., 9 August 1930. Iris blackish brown, bill, upper mandible black, lower horn colour, feet blackish. Contents of stomach small insects.

67. **Malurus alboscapulatus aida** Hart.

Malurus alboscapulatus aida Hartert, *Nov. Zool.* xxxvi, p. 78, no. 167 (1930) (Haar, Hollandia).

It is strange that on the northern slopes of the Central Range *M. a. aida* should occur, while on the southern slops *a. lorentzi* is found.

1 ♀ Mt. Derimapa, 5,000 ft., 20 August 1930. Iris brownish black, bill black, feet greyish.

68. **Crateroscelis murinus** (Scl.).

Brachypteryx murina Sclater, *Journ. Linn. Soc. London*, ii, p. 158 (1858) (Lobo).

Dr. Hartert and Mr. Mathews make no subspecies of *murina*, but all our S.E. New Guinea examples and those from Waigiou and Mysol have the upper surface grey brown or deep umber brown, whereas Siwi and Cyclops Mts. birds have the head deep black brown and the back dark brown, and the single ♀ ad. sent by Shaw Mayer has the head deep black and the back brown black. I will, however, await further material before separating any of these.

1 ♀ Mt. Derimapa, 5,000 ft., 16 August 1930. Iris brown, bill dark horn colour, feet light horn colour.

69. **Eupetes leucostictus mayri** Hart.

Eupetes leucostictus mayri Hartert, *Nov. Zool.* xxxvi, p. 87, no. 186 (1930) (Wondiwoi).

This example marked by the collector ♀ juv. is quite typical of the subspecies.

1 ♀ (juv. ?) Gebroeders, 5,000 ft., 31 July 1930. Bill black, feet blackish.

70. **Eupetes caerulescens caerulescens** Temm.

Eupetes caerulescens Temminck, Pl. Col. ii, pl. 274 (1835) (New Guinea).

The blue of the underside is brighter than in Doherty's Takar ♀ and Ernst Mayr's Cyclops Mts. example; but though all 3 ♀♀ show a black throat line much reduced in width, in the present example the ring is uniform and entire, whereas in the Takar and Cyclops specimens it is broken and almost absent in front.

1 ♀ Siriwo district, 500 ft., 40 miles inland, south of Geelvink Bay, 19 June 1930. Iris brownish black, bill black, feet dark horn colour.

71. **Pomareopsis bruijnii** (Salvad.).

Grallina bruijnii Salvadori, *Ann. Mus. Civ. Gen.* vii, p. 929 (1875) (Arfak Mts.).

In all 3 examples the bills are rather long.

1 ♂, 2 ♀♀ Nadimo River, 3,000–4,000 ft., 31 July and 2 August 1930. Iris blackish brown, bill and feet lavender. Stomach contained insects.

72. **Pomatorhinus isidori calidus** subsp. nov.

P. isidori isidori is so widely spread all over New Guinea and varies so little that it appears very risky indeed to break it up into 2 subspecies on the evidence of one example only; but the difference is so striking and the colour so many degrees richer on underside and deeper above than any of the 31 specimens of *isidori isidori* in the Tring Museum, that I venture all the same to separate the bird from the Siriwo River. Probably also when we get this species from Wandammen we shall find it to be *isidori calidus*. I have compared this bird with 3 ♂, 3 ♀♀ from Andai, 1 ? Momi (in the Arfak Peninsula), 2 ♂, 1 ? from Dorey (Arfak typical locality), 5 ♂♂, 3 ♀♀ from Takar, 1 ♂ from Sorong, 2 ♂♂, 1 ♀ from Misol, 1 ♂, 5 ♀♀ from Snow Mts. (Setekwa River), 1 ? Brown River, 2 ♂♂ Mt. Cameron (both S.E. New Guinea), and I find it strikingly different.

♂ adult differs from *P. is. isidori* on the upperside: the top of the head and back deep brownish chocolate rufous, **not** cinnamon rufous; primaries and tail deep chestnut rufous, **not** bright ferruginous rufous as in *P. i. isidori*; throat and breast deep ferruginous rufous, **not** cinnamon; lower breast, abdomen, and thighs deep rufous chestnut, **not** ferruginous rufous as in *P. i. isidori*; wing 114 mm. as against 104 mm. in *i. isidori*; bill basal half black, apical half orange, **not** basal one-quarter blackish, rest yellow as in *i. isidori*.

1 ♂, Type, Siriwo River, 45 miles above mouth, south of Geelvink Bay, 14 June 1930. Iris dark brown, bill orange on apical half, black on basal half, feet leaden black.

[*Graucalus versus Coracina.*

The name *Graucalus* was proposed for certain members of the family *Campephagidae* by Cuvier in *Règne Animal*, vol. i, in April 1816, whereas Vieillot in his *Analyse* in December 1816 published the name *Coracina* for the same birds. Mathews, in his *Systema Avium Australasiarum* rejected the name *Coracina* because of **Coracinus** Pallas, *Zoographia* 1814, and uses *Graucalus* instead. It has, however, been settled by the Commission that with a few exceptions such as *coerulea* and *caerulea* names already published differing only in termination **a** or **us** or in a single letter are different words and should not therefore be rejected; the Commission, however, strongly urges all workers **not** to create in the future names differing only in one letter or in the termination.]

73. **Coracina papuensis papuensis** Gm.

Corvus papuensis Gmelin, *Syst. Nat.* i, p. 371 (1788) (Nova Guinea, ex Latham & Daubenton).

As birds in the eighteenth century certainly only came from N.W. New Guinea, we cannot go wrong in making the darkest race the typical form.

1 ♀ Siriwo River, 35 miles above mouth, south of Geelvink Bay, 11 June 1930. Iris dark brown, bill and feet black.

[The birds from the Snow Mts. are exactly intermediate between *C. p. papuensis* from N.W. New Guinea and *C. p. meekiana* from S.E. New Guinea; so I propose to call the race found on the south side of the Central Range.

Coracina papuensis **intermedia** subsp. nov.

Type ♂ no. 4406, Upper Setekwa River, 21 July 1910, A. S. Meek coll.]

74. **Coracina coeruleogrisea strenua** (Schleg.).

Campephaga strenua Schlegel, *Ned. Tijdschr. Dierk.* iv, p. 44 (1871) (Jobi and Arfak Pen.).

The young bird differs from the adult in having the inner webs of the secondaries with the basal half almost white and the outer half more or less bordered with white; also the rectrices are pointed, not round and edged with white, the outer 2 pairs having broad white ends.

1 ♂, 2 ♀♀ Mt. Derimapa, 5,000 ft., 26 June and 9 and 17 July 1930; 1 ♂ ad., 1 ♀ juv. Gebroeders, 4,000 and 5,000 ft., 28 July and 11 Aug. 1930. Iris brownish black, feet and bill black. Contents of stomach large insects (beetles and cockroaches).

75. **Edoliosoma montanum montanum** (A. B. Meyer).

Campephaga montana A. B. Meyer, *Sitzungsb. Akad. Wiss. Wien*, lxix, p. 386 (1874) (Arfak)

1 ♂ (a few grey feathers still on breast) Gebroeders 5,000 ft., 12 August 1930. Iris blackish, bill and feet black. Contents of stomach berries and caterpillars.

76. **Edoliosoma melan melan** (Less.).

Lanius melas Lesson, *Man. Ornith.* i, p. 128 (1828) (Dorey).

1 ♂ Mt. Derimapa, 5,000 ft., 8 July 1930. Iris, bill and feet black.

77. **Melampitta lugubris** Schleg.

Melampitta lugubris Schlegel, *Ned. Tijdschr. Dierk.* iv, p. 47 (1871) (Arfak Pen.).

1 ♂ Gebroeders, 6,000 ft., 11 August 1930. Iris red, bill and feet black. Stomach contained insects. (Collector's note "rare (difficult to obtain)".)

78. **Collocalia esculenta esculenta** (Linn.).

Hirundo esculenta Linnaeus, *Syst. Nat.* ed. x, i, p. 191 (1758) (China err., vere Amboyna ex Rumphius).

2 ? collector's sexing "? juv." Mt. Derimapa, 5,000 ft., 20 August 1930. Iris blackish, bill black, feet flesh colour, claws black.

79. **Hemiprogne mystacea mystacea** (Less.).

Cypselus mystaceus Lesson, *Voy. Coquille, Zool.* p. 647, p. 22 (1827) (1830) (New Guinea).

1 ♂ Gebroeders, 5,000 ft., 28 July 1930. Iris dark brown, bill black, feet blackish. Stomach contained insects.

80. **Aegotheles insignis insignis** Salvad.

Aegotheles insignis Salvadori, *Ann. Mus. Civ. Gen.* vii, p. 916 (1875) (Hatam).

The two ♂♂ sent by Shaw Mayer are most welcome; they confirm Dr. Hartert's opinion that the bird sent by the Pratt brothers from Mt. Kumupi and identified by myself as *A. insignis pulcher* Hartert is really *insignis insignis*.

These two show a wing measurement of 158 and 161 mm.

2 ♂♂ Gebroeders, 5,000–6,000 ft., 19 July and 18 August 1930. Iris light brown, bill horn colour, feet pale flesh colour. Stomach contained large insects (beetles) (stomach (i.e. crop?) very large for size of bird).

81. **Aegotheles wallacei gigas** subsp. nov.

I am inclined to consider this very fine form a distinct species, but all the *Aegotheles* are so variable individually that it is safer to treat it for the present as a very distinct subspecies. ♂ differs in its much browner (rufous) head, less black, more grey back and much larger buffish white patches on the sides of back and tertiaries; below it is strikingly different, all the lower breast and abdomen being buffish white and rufous streaked and spotted with black; lower flanks and under tail coverts streaked and banded dark grey and white. Wing 130 mm. ♀ differs in the central black head-stripe and in the much greater extent of the rufous, white, and black bands all over the under surface. Wing 133, 135, 135, 136, 136, 137 mm.

1 ♂, Type, Mt. Derimapa, 5,000 ft., 17 July 1930; 1 ♂, 5 ♀♀ Gebroeders, 5,000 ft., 24, 26, 29 July, 7, 17 August 1930. Iris brown, bill, upper mandible dark horn, lower mandible light horn colour. Stomach contained insects (chiefly beetles). Type ♂ ad. no. 188 Mt. Derimapa.

Wing of *A. wall. wallacei* 111 and 115 mm. On p. 95, no. 218, Dr. Hartert lists an *Aegotheles* from Wondivoi with a wing 138 mm., but the markings of *albertisi*.

82. **Podargus papuensis papuensis** Quoy & Gaim.

Podargus papuensis Quoy & Gaimard, *Voy. Astrolabe, Zool.* i, p. 207, Atlas, p. 13 (1830) (Dorey).

When first I examined the 6 skins sent by Shaw Mayer, I thought I had a quite new subspecies, because 5 out of the 6 were above of a deep chestnut brown colour with the tertiaries varying from orange buff to ferruginous rufous, but on getting out the series in the Tring Museum from New Guinea, consisting of 38 skins, I found so much variation that colour proved useless to separate them by. Then the series proved that the brown and red examples were ♀♀. I proceeded to look at the Weyland Mts. birds and at once the matter became clear: the 4 brown birds were ♀♀ and the single grey bird was a ♂. I still believe that if we got series of ♀♀ from the various localities we might separate the New Guinea birds into several races, but at present we have too few ♀♀ to do so, and those we have vary so much in one and the same locality that it would be folly to attempt to define subspecies.

1 ♂, 2 ♀♀ Gebroeders, 5,000 ft., 27 and 28 July 1930. Iris red, bill and feet horn colour. Stomach contents large insects (grasshoppers) and gravel.

2 ♀♀ Mt. Derimapa, 5,000 ft., 15 and 22 July 1930.

1 ♀ Mt. Sorong, 5,000 ft. 20, July 1930. Stomach contained remains of a small mammal.

83. **Podargus ocellatus ocellatus** Quoy & Gaim.

Podargus ocellatus Quoy & Gaimard, *Voy. Astrolabe, Zool.* i, p. 208, Atlas, pl. xiv (1830) (Dorey).

The series sent consists of 10 adults and 1 downy chick. Of these 4 ♂♂ and 4 ♀♀ show their usual pale underside and paler back in the ♂♂ and the deep rufous coloration in the ♀♀; 1 ♂ and 1 ♀ have this coloration reversed. 1

have compared these with 40 adult and 4 chicks in the Tring Museum and find they agree perfectly with all the specimens except those from N.E. New Guinea (Kumusi and Mambaré Rivers and Collingwood Bay), which sooner or later must be separated.

4 ♂♂, 4 ♀♀ Gebroeders, 4,000–5,000 ft., 26, 28, 31 July, 3, 10, 16 August 1930. Iris brown, bill brownish horn colour, feet varying from pale flesh colour to light horn colour.

1 ♀ ad., 1 ♂ pull. Mt. Derimapa, 5,000 ft., 7 July and 8 August 1930.

1 ♂ ad. Siriwo River, 35 miles from mouth, south of Geelvink Bay.

Stomachs all contained insects (beetles and grasshoppers).

84. **Ceyx lepidus solitarius** Temm.

Ceyx solitaria Temminck, *Pl. Col.* 595 (1836) (Lobo Bay).

The bird from Siriwo has some pale azure blue streaks on its back.

1 ♀ Siriwo River, 45 miles from mouth, south of Geelvink Bay, 15 June 1930; 1 ♂ Mt. Derimapa, 4,000 ft., 1 August 1930. Iris yellow, bill black, feet orange.

85. **Syma torotoro megarhyncha** Salvad.

Syma megarhyncha Salvadori, *Ann. Mus. Civ. Gen.* xvi. p. 70 (1896) (Owen Stanley Range).

S. megarhyncha and its Northern race *sellamontis* are the high mountain forms of *torotoro* and its various subspecies; they are conspicuous by their much larger size.

1 ♂ and ♀ ad. Mt. Derimapa, 4,000 and 5,000 ft., 14 and 19 July 1930. Iris blackish brown, bill bright yellow, ridge black, feet yellow. Stomach contained insects.

86. **Melidora macrorhina jobiensis** Salvad.

Melidora jobiensis Salvadori, *Orn. Pap. & Moluce.* i. p. 502 (1880) (Jobi Island).

1 ♀ Siriwo River, 45 miles above mouth, south of Geelvink Bay, 14 June 1930. Iris dark brown, bill, upper mandible black, lower mandible horn colour, feet greenish yellow

87. **Sauromarptis gaudichaud** (Quoy & Gaim.).

Dacelo gaudichaud Quoy & Gaim., *Voy. Uranie, Zool.* p. 112, pl. xxv (1825) (New Guinea).

The ♂♂ have the tail blue, the ♀♀ chestnut.

1 ♂, 1 ♀ Siriwo River, 45 miles from mouth, south of Geelvink Bay, 14 and 15 June; 1 ♀ Gebroeders, 4,000 ft., 3 August 1930. Iris brown to brownish black, bill in ♂ greenish grey, ridge black, in ♀ light horn colour, ridge dark horn. Stomach contained large insects (grasshoppers).

88. **Cacomantis castaneiventris arfakianus** Salvad.

Cacomantis arfakianus Salvadori, *Orn. Pap. e Mol., Aggiunte*, i. p. 49 (1889) (Arfak and W. Papuan Islands).

1 ♂, 1 ♀ Mt. Derimapa, 5,000 ft., 19 July 1930. Iris brownish, skin round eye yellow, bill black, feet yellow. Stomach contained insects.

The ♂ has the throat grey, the ♀ almost like the rest of the underparts.

89. **Microdynamis parva** (Salvad.).

Eudynamis parva Salvadori, *Ann. Mus. Civ. Gen.* vii, p. 486 (1875) (Tidore ! probably Arfak).

1 ♂ (apparently not quite adult, as breast shows shadowy cross bars), Gebroeders, 5,000 ft., 20 July 1930. Iris crimson, bill black, feet blackish grey.

90. **Domicella lory rubiensis** (A. B. Meyer).

Lorius erythrothorax rubiensis A. B. Meyer, *Abh. Ber. Mus. Dresd.* No. 3, 1892–1893, p. 10 (1893) (Ruby, south of Geelvink Bay).

These 3 examples are all very small and confirm the difference from *L. l. erythrothorax* from east of the Fly River; ♂ wing 147 and 151 mm.; ♀ wing 143 mm.

1 ♂, 1 ♀ Mt. Derimapa, 4,000–5,000 ft., 22 and 26 July 1930; 1 ♂ Gebroeders, 27 July 1930. Iris yellow, bill orange, feet black. Stomach contained pollen and small insects.

91. **Oreopsittacus arfaki major** O. Grant.

Oreopsittacus arfaki major Ogilvie Grant, *Bull. B.O.C.* xxxv, p. 11 (1914) (Utakwa River).

The measurements of the wing of these 10 examples vary between 78 and 85 mm., whereas *O. a. arfaki* varies between 68 and 75 mm.

6 ♂♂, 3 ♀♀ adult Gebroeders, 6,000 ft., 28 and 30 June, 1, 2, 14 July, 18 August 1930. Iris brown, bill, upper mandible black, lower horn colour, feet dull grey. In addition to these there is a young bird with the breast patch very slight and a few red feathers in the crown which is sexed ♀. Shaw Mayer has written as follows on the back of the label: "Very carefully sexed this bird on account of red frontal feathers. Ovaries very small, but well formed." Possibly gynandramorph ?

92. **Neopsittacus muschenbroeki muschenbroeki** (Schleg.).

Nanodes muschenbroeki Schlegel, *Ned. Tijdschr. Dierk.* iv, p. 34 (1871) (Arfak Mts.; Dr. Hartert quotes 1873).

2 ♂♂, 2 ♀♀ Gebroeders, 5,000–6,000 ft., 28 and 30 June, 1 July, 13 August 1930. Iris orange, bill yellow, feet grey. Stomach small hard seeds, crop white berries.

93. **Neopsittacus pullicauda** Hart.

Neopsittacus pullicauda Hartert, *Nov. Zool.* iii, p. 17 (1896) (Owen Stanley Range).

Dr. Hartert lately came to the conclusion that *pullicauda* was the high mountain representative of *muschenbroeki* and sank it to the rank of a subspecies. This is erroneous, as proved by Shaw Mayer procuring both *pullicauda* and *muschenbroeki* at 6,000 ft. on the Gebroeders. For the present I am quoting these under *pullicauda* Hart., but from these 2 and the Mount Goliath example, when compared with 3 or 4 others from S.E. New Guinea, I feel sure when we get larger series the birds from west of the Fly River will prove distinct from those from east of the Fly River and that *alpinus* O. Grant will have to be reinstated.

2 ♂♂ Gebroeders, 6,000 ft., 28 June, 4 July 1930. Iris orange, bill orange yellow, feet dark grey.

94. Glossopsitta goldiei (Sharpe).

Trichoglossus goldiei Bowdler Sharpe, *Journ. Linn. Soc. Zool.* xvi, pp. 318 and 426 (1882) (Astrolabe Mts.).

1 ♀ Gebroeders, 5,000 ft., 30 June 1930. Iris blackish brown, bill black, feet greenish grey.

95. Charmosyna josephinae josephinae (Finsch).

Trichoglossus josephinae Finsch, *Atti Soc. Ital. Sc. Nat.* xv, p. 427, pl. 7 ♀ (1873) (hab. ? subsequently Arfak Mts., A. B. Meyer).

4 ♂♂, 6 ♀♀ Gebroeders, 5,000–6,000 ft., 23 and 26 June, 1, 3, 22, 24 July, 2 August 1930. Iris, bill and feet orange. Stomach pollen and flower buds. (Mostly in full moult.)

96. Charmosyna stellae goliathina Rothsch. & Hart.

Carmosyna stellae goliathina Rothschild & Hartert, *Nov. Zool.* xviii, p. 160 (1911) (Mt. Goliath).

The large series of 16 ♂♂ and 9 ♀♀ shows a slightly different proportion of the melanic form *atrata* : the Pratt brothers series consists of 8 normal birds and 4 *atrata*, whereas Shaw Mayer's series consists of 21 normal and 4 *atrata*. This at first sight appears an enormous difference, but when analysed proves less startling ; the Pratts' series contained 5 ♀♀, 3 ♂♂ normal and 1 ♂, 3 ♀♀ *atrata* ; Shaw Mayer's series consists of 16 ♂♂ normal, 4 ♂♂ *atratus* and 9 ♀♀ normal. Thus the Pratts' series showed a proportion of 1 in 3 *atratus* in an evidently picked series ; while Shaw Mayer's series of non-picked (many in moult) contains 20 ♂♂, of which 4 = $\frac{1}{5}$ are of *atratus*, a proportion probably the more real one in nature.

1 ♂ Mt. Derimapa, 5,000 ft., 26 June ; 2 ♀♀ Mt. Dewera, 6,000 ft., 25 June ; 10 ♂♂ ad., 1 ♂ juv. normal, 4 ♂♂ *atrata*, 4 ♀♀ ad., 2 ♀♀ juv. normal, Gebroeders, 5,000–6,000 ft., 25, 27, 28, 29 June, 1, 2, 3, 6, 10, 20, 24 July 1930. Iris orange, bill orange red, feet orange. Stomach contents pollen, very small seeds and flower buds. Yabi native name for normal form " Wesay " or " Wisay " ; of the *atratus* form " Jo-Ro-Ah." The natives declare that one black bird might be seen in a small flock of normal plumaged birds, or one paired with a normal bird, but they had never seen a black one paired with a black one.

97. Charmosynopsis pulchella pulchella (Gray).

Charmosyna pulchella G. R. Gray, *List Psitt. Brit. Mus.* p. 102 (1859–1860) (Arfak).

1 ♂, 1 ♀ Gebroeders, 6,000 ft., 20 and 30 July 1930. Iris in ♂ greenish yellow, in ♀ yellow, bill in ♂ light orange, in ♀ orange, feet of ♂ brownish flesh colour, of ♀ dull yellow.

98. Probosciger aterrimus goliath (Kuhl).

Psittacus goliath Kuhl, *Consp. Psitt.* p. 92 (1820) (in India Orientali).

1 ♂ Mt. Atoe, 2,000 ft., 22 July 1930. Iris dark brown, cheeks reddish flesh colour, bill and feet black. Stomach contents remains of nuts.

99. Loriculus aurantiifrons batavorum Stresem.

Loriculus aurantiifrons batavorum Stresemann, *Journ. Ornith.* 61, p. 602 (1913) (Snow Mts.).

1 ♀ Gebroeders, 5,000 ft., 12 August 1930. Iris blackish brown, bill black, feet yellowish brown. Stomach remains of flower buds.

100. Psittacella brehmii intermixta Hart.

Psittacella brehmii intermixta Hartert, *Nov. Zool.* xxxvi, p. 107 (1930) (Mt. Goliath).

One ♀ has the whole underside much more brilliant yellow than any of the 4 ♀♀ from Mt. Goliath and the ♀ from the Pratt brothers in the Tring Museum, and the black cross bars are narrower ; above this specimen (no. 157 Shaw Mayer) is also brighter yellow. I have compared Shaw Mayer's 4 ♂♂ and 2 ♀♀ with the Tring series of 5 ♂♂, 4 ♀♀ from Mt. Goliath (A. S. Meek) and 2 ♂♂, 1 ♀ from Mt. Kunupi (Pratt brothers), and with the exception of the ♀ mentioned above they agree perfectly. Unfortunately in my article on the Pratt brothers collection (NOV. ZOOL. xxviii, pp. 280–294 (1921)) I listed the 3 *Psittacella* under the wrong identification of *P. brehmii pallida* Meyer, which latter afterwards (1930) was discovered to be different and only to occur east of the Fly River. I have compared the above 18 specimens of *b. intermixta* (9 from Mt. Goliath and 9 from the Weyland Mts.) with 20 specimens of *b. pallida*, viz. 1 ♀ Ori-Ori Distr., Brit. N. Guinea, 2 ♂♂ Eafa Distr., Brit. N. Guinea, 5 ♂♂, 1 ♀ Mt. Cameron, Owen Stanley Range, 1 ♂, 1 ♀ Upper Aroa River, 2 ♂♂, 2 ♀♀ Owgarra, Angabunga River, 2 ♂♂, 3 ♀♀ Bihagi, Mambaré River, and the differences are quite constant.

2 ♂♂ ad., 2 ♂♂ jun., 2 ♀♀ ad. Gebroeders, 5,000–6,000 ft., 25 and 26 June, 1, 6, 11 July, 13 August 1930. Iris adult orange, young yellow, bill bluish grey, feet blackish grey. Stomach contents small hard seeds and berries.

101. Alisterus amboinensis stresemanni Neum.

Alisterus amboinensis stresemanni Neumann, *Ornith. Monatsb.* 35, no. 1, p. 17 (1927) (Lordberg).

Professor Neumann's Revision of the Genus *Alisterus* in the Proceedings of the VI Ornithologieal Congress is very exhaustive and the keys are very easy to work with. Shaw Mayer's 3 birds from north of the main range do not differ from Meek's Snow Mts. birds from the south side of the range.

1 ♂ ad., 1 ♂ fere ad., 1 ♂ juv. Gebroeders, 6,000 ft., 3, 28, 29 July 1930. Iris yellow, bill, basal half upper mandible orange red, apical half black, lower mandible black, feet blackish. Stomach small seeds and berries.

102. Ninox theomacha (Bp.).

Spiloglaux theomacha Bonaparte, *Compt. Rend. Acad. Sci. Paris*, xli, p. 654 (1855) (Triton Bay).

Mathews (*Syst. Av. Austr.* i. p. 273), under *Spiloglaux theomacha*, divides the species into two subspecies : *theomacha* B. and *terricolor* Ram. In looking up the 2 birds of Shaw Mayer's I compared them with the Tring Museum series of 14 skins from Waigeou, Arfak, Ambernoh River and various places in S.E. New Guinea. They are all alike, reddish chocolate above, rufous brown below, variegated on thighs and lower abdomen with yellowish cinnamon cloudings. One of Shaw Mayer's birds, no. 226, is also identical ; but the other, no. 202, has a much darker, more blackish, upperside and the breast is deep chocolate. Neither, however, nor the Tring series, agrees with Ramsay's *terricolor*, as that

is described as having wing and tail bars. I therefore continue to treat *theomacha* as an undivided species.

2 ♂♂ Mt. Derimapa, 5,000 ft., 21 and 25 July 1930. Iris golden yellow, bill greenish horn colour, tip pale horn, feet hairy greenish yellow. Stomach insects, beetles.

103. **Ninox dimorpha** (Salvad.).

Athene dimorpha Salvadori, *Ann. Mus. Civ. Gen.* vi, p. 308 (1874) (Sorong).

1 ♀ Gebroeders, 5,000 ft., 8 August 1930. Iris yellow, bill bluish horn colour, tip dark horn, feet yellow. Stomach large worm and remains of small mammal.

104. **Accipiter cirrhocephalus papuanus** Rothsch. & Hart.

Accipiter cirrhocephalus papuanus Rothschild & Hartert, *Nov. Zool.* xx, p. 482 (1913) (Snow Mts.).

The single ♂ sent has a very broad complete rufous collar on the hindneck, and is remarkably pale and grey below.

1 ♂ Mt. Derimapa, 5,000 ft., 26 July 1930. Iris bright yellow, bill black, cere greenish yellow, feet yellow.

105. **Ieracidea berigora novaeguineae** (A. B. Meyer).

Hieracidea novaeguineae A. B. Meyer, *Journ. Orn.* xlii, p. 89 (1894) (Eastern New Guinea).

1 ♂ Mt. Derimapa, 5,000 ft., 4 July 1930. Iris black brown, bill dark horn colour, naked skin round eye greenish yellow, feet greyish white.

106. **Henicopernis longicauda** (Garnot).

Falco longicaudus Garnot, *Voy. Coquille, Zool.* pl. x (1828), p. 588 (1829) (Woods of New Guinea; Type Dorey).

Shaw Meyer sent 3 very fine examples; they appear blacker than the dozen or so at Tring, but I believe the browner tinge is due to change from age of the skins.

1 ♂ Mt. Derimapa, 5,000 ft., 24 July; 2 ♀♀ Gebroeders, 5,000 ft., 2 and 21 August 1930. Iris bright golden yellow, bill light horn colour, tip dark horn, feet white, claws black. Stomach contained insects including ants and grasshoppers. Rare, one seen swooping low backwards and forwards over native gardens.

107. **Zonerodius heliosylus** (Lesson).

Ardea heliosylus Lesson, *Voy. Coquille, Zool.* pl. xliv (1828), p. 722 (1830) (New Guinea).

1 ♂ Siriwo River, 45 miles from mouth, south of Geelvink Bay, 14 June 1930. Iris yellow, naked space round eye greenish yellow, bill yellowish green, feet greenish yellow.

108. **Ptilinopus superbus superbus** (Temm.).

Columba superbus Temminck, in Temminck & Knip's *Pigeons*, p. 75, pl. xxxiii (1810) (Otaheiti errore ! !).

The two ♂♂ are remarkably different in coloration; in the Siriwo bird the hindneck and upper back are crimson saturated with purple and the black central spots of the scapulars and tertiaries are large and conspicuous, while

in the Mt. Derimapa bird the hindneck and upper back are fiery orange and the black central spots of the seapulars and tertiaries are much smaller and less distinct. Our Admiralty series are all like this latter, but birds from S.E. New Guinea show both colorations.

1 ♂ Siriwo River, 35 miles above mouth, south Geelvink Bay, 12 June; 1 ♂ Mt. Derimapa, 5,000 ft., 26 June 1930. Iris yellow, bill greenish grey, feet dark red.

109. **Ptilinopus rivoli bellus** Sel.

Ptilinopus bellus Sclater, *P.Z.S. London*, 1873, p. 696, pl. lvii (Hatam).

1 ♂ Mt. Derimapa, 5,000 ft., 19 July 1930. Iris orange, bill greenish yellow, feet maroon. Stomach fruits.

110. **Megaloprepia magnifica interposita** Hart.

Megaloprepia magnifica interposita Hartert, *Nov. Zool.* xxxvi, p. 114 (1930) (Wandammen).

The wing of this single ♂ measures 160 mm.

1 ♂ Siriwo River, 30 miles above mouth, south of Geelvink Bay. Iris orange red, bill greenish yellow, deep purple above nostrils, feet greyish green.

111. **Ducula chalconota** (Salvad.).

Carpophaga chalconota Salvadori, *Ann. Mus. Civ. Gen.* vi, p. 87 (1874) (Hatam).

The two females sent by Shaw Mayer are rather different, the one, no. 141, has the breast, chin and throat cinnamon in strong contrast to the bright rufous abdomen: while the other, no. 215, is much darker, the grey of head, neck and shoulders being much darker and the cinnamon of the breast being so dark as to be almost equal to the rufous of the abdomen: none of the specimens of the two drawers full we have at Tring are like this latter.

2 ♀♀ Mt. Derimapa, 5,000 ft., 4 and 24 July 1930. Iris reddish brown in no. 215, purplish red in no. 141, bill black, feet purplish red. Stomach large berries and fruits.

112. **Ducula zoeae** (Desm.).

Columba zoeae Desmarest, *Dict. Sci. Nat.* ed. Levrault, xl. p. 314 (1826).

1 ♀ Gebroeders, 5,000 ft., 26 June 1930. Iris red, bill dark horn, feet dark red.

113. **Columba (Gymnophaps) albertisi albertisi** Salvad.

Gymnophaps albertisi Salvadori, *Ann. Mus. Civ. Gen.* vi. p. 86 (1874) (Andai).

1 ♂ Gebroeders, 5,000 ft., 27 July 1930. Iris red, bare skin round eye red, bill whitish, region of and around nostrils red, feet pinkish.

114. **Macropygia nigrirostris** Salvad.

Macropygia nigrirostris Salvadori, *Ann. Mus. Civ. Gen.* vii, p. 972 (1876) (Arfak).

1 ♀ Mt. Derimapa, 5,000 ft., 21 July 1930. Iris yellow, bill brownish black, feet blackish red. Stomach hard berries and gravel.

115. Reinwardtoena reinwardtsi griseotincta Hart.

Reinwardtoenas reinwardtsi griseotincta Hartert, *Nov. Zool.* iii. p. 18 (1896) (Mailu District).

2 ♂♂, 1 ♀ ad. Gebroeders, 6,000 ft., 17, 29, 27 July 1930. Iris whitish with black and red circles, bare skin round eye crimson, bill maroon, tip horn colour, feet dark red. Stomach small hard seeds and gravel.

116. Gallicolumba jobiensis jobiensis (A. B. Meyer).

Phlegoenas jobiensis A. B. Meyer, *Mitth. Zool. Mus. Dresd.* i, p. 10 (1875) (Jobi Island).

1 ♂ Mt. Derimapa, about 4,000 ft., 12 July 1930. Iris dark brown, bill black, feet pinkish red. Stomach seeds.

117. Gallicolumba rufigula rufigula (Jacq. & Puch.).

Peristera rufigula Jacquinot & Pucheran, *Voy. Pôle Sud*, iii, p. 118 (1845) (New Guinea).

I have treated the 2 ♂♂ sent by Shaw Mayer as both belonging to the typical race, but they are so different that I feel sure, when we can compare a series from the Weyland Mts., we shall find that the bird from there represents a distinct race.

The bird from the Siriwo River has the chin, throat and abdomen white, the breast buffish yellow, lower flanks pale cinnamon, and a wing measurement of 123 mm. The bird from Mt. Derimapa has chin and upper throat buffish cinnamon, whiter in the centre and on chin, the whole breast and upper abdomen bright orange golden, lower abdomen and flanks cinnamon, wing 132 mm. I should have separated the latter now, but among our series at Tring is one somewhat intermediate in colour and several have wings over 130 mm.

1 ♂ Siriwo River, 40 miles above mouth, south of Geelvink Bay, 13 June 1930. Iris dark brown, bill reddish, tip horn colour, feet brick red. 1 ♂ Mt. Derimapa, 4,000 ft., 1 August 1930. Iris brown, feet purplish. Stomach hard seeds. Shot on ground.

118. Goura cristata cristata (Pall.).

Columba cristata Pallas, in Vroeg's *Catal. Adumbr.* p. 2 (1764) (Banda !).

The names given by Pallas in Vroeg's *Catalogue* are now generally accepted by ornithologists. Therefore I quote the single ♂ sent by Shaw Mayer under the name of *cristata* instead of the familiar *coronata* of Linnaeus.

1 ♂ Siriwo River, 35 miles inland, 500 ft., south of Geelvink Bay, 16 June 1930. Iris red, bill grey, tip horn colour, feet reddish purple. Stomach contained large hard seeds and a granite stone 1 inch by ½ inch.

119. Rallicula rubra klossi O. Grant.

Rallicula klossi Ogivie Grant, *Bull. B.O.C.* xxxi, p. 104 (1913) (Utakwa River).

When the late Mr. Ogilvie Grant described *r. klossi* he had no *r. rubra* in the British Museum for comparison and therefore compared it with *r. forbesi*. When therefore I was listing the Mt. Kunupi, Weyland Range, birds of the Pratts and found I had a ♀ *r. klossi*, on comparing the figure of ♂ *klossi* with *r. rubra* ♂, I came to the conclusion they were the same and that the ♀ *klossi* was the unknown ♀ of *r. rubra*. When Dr. Hartert was writing the list of Dr. Ernst Mayr's birds last year we still were of opinion that *r. rubra* and *r. klossi* were one and the same bird; but on going into the question again with Shaw Mayer's ♀ I have

changed my opinion. When Dr. Ernst Mayr was here three weeks ago, he saw Shaw Mayer's bird and mentioned that he had come to the conclusion that *r. klossi* was not identical with *r. rubra* and that the ♀ of *r. rubra* was still unknown. On thoroughly comparing the Pratts 1 ♂, 1 ♀ and Shaw Mayer's ♀ with the 2 Arfak ♂♂ of *r. rubra*, I find differences and must reinstate *r. klossi* as a valid subspecies of *r. rubra*.

♂ differs from *r. rubra* ♂ in the almost obsolete white patches on the inner webs of the primaries, which are large and conspicuous in *r. rubra*. The two females of *r. klossi* show no differences *inter se*.

1 ♀ Adimo River, 4,000 ft., Gebroeders, 10 August 1930. Iris brownish yellow, upper mandible black, lower horn colour, feet blackish.

120. Talegallus jobiensis jobiensis A. B. Meyer.

Talegallus jobiensis A. B. Meyer, *Sitzungsb. Ak. Wiss. Wien*, lxix, p. 74 (1874) (Jobi Island).

1 ♂ ? pull. Mt. Derimapa, 5,000 ft., 25 July 1930. Iris brownish, bill, upper mandible black, lower orange, tip horn colour, feet dark orange.

In concluding this list of one hundred and twenty distinct species and subspecies, I must heartily congratulate Mr. Shaw Mayer on the admirable labelling and very full data of both his birds and mammals.

PLATE III.

Length of bill measured in a straight line from the anterior margin of the nostril to the apex of the bill.

Fig. 1. *Epimachus fastosus stresemanni* (type), Schrader Berg ; bill 66 mm.
,, 2. *Epimachus fastosus fastosus*, Arfak (E. Mayr coll.) ; bill 58 mm.
,, 3. *Epimachus fastosus fastosus*, trade skin ; bill 60 mm.
,, 4. *Epimachus fastosus atratus*, Wandammen (Shaw Mayer coll.) ; bill 57 mm.
,, 5. *Epimachus fastosus atratus*, Weyland Mts. (Pratt Bros. coll.) ; bill 59 mm.
,, 6. *Epimachus meyeri albicans*, Weyland Mts. (Shaw Mayer coll.) ; bill 79 mm.

(In the specimen of *E. meyeri meyeri* figured on Plate IV the bill measures 74 mm.)

PLATE IV.

Fig. 1. *Epimachus fastosus atratus* (type), Mt. Goliath.
,, 2. *Epimachus meyeri meyeri*, Mt. Victoria, Brit. New Guinea.

To show the difference in the size of the ornamental breast plumes, the anterior features being much larger in *E. fastosus* than in *E. meyeri*.

In *Ep. meyeri meyeri* and *Ep. m. albicans* it is thus shown that in the adult ♂♂ the bills are much longer and thinner than in any of the races of *Ep. fastosus*. Among the birds referred by Dr. Hartert and myself to *Ep. fastosus atratus* the ♀♀ and ♂♂ juv. from Mt. Goliath, the type locality, have the outer webs of the primaries rust red and the secondaries entirely olive brown, while those from the Weyland Mts. have the outer webs of the secondaries also rust red. I should not hesitate to separate the Weyland birds, but in 3 ♀♀ from Wandammen the amount of rust red is variable ; therefore I prefer to await further Weyland material before going definitely into the question.

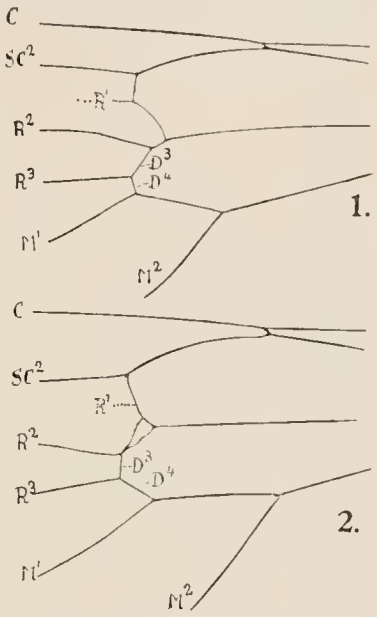
TWO NEW ZYGAENIDAE (LEPID.).

By DR. KARL JORDAN

(With 4 text-figures.)

1. **Araeocera prasina** spec. nov. (text-fig. 1).

♀. No yellow or white colour on body and wings, excepting the tongue, which is pale buff with a brown median line (i.e. inner side of each half of tongue brown). Body and upperside of antenna and of forewing metallic greenish blue, not spotted; upperside of hindwing and underside of both wings blackish olive, slightly purplish, dull, on forewing the costal edge and the distal veins metallic.

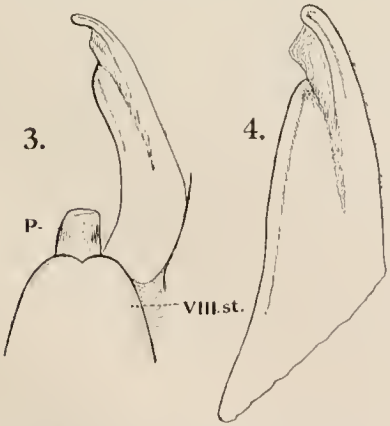


Antenna filiform, very faintly widened before apex, segments of proximal half at most as long as broad, of distal half broader than long; in *A. compta* Jord. 1907 from Flores the segments of proximal half longer than broad. Spur of foretibia arising on proximal side of middle, not at basal third as in *A. compta*. Forewing sublanceolate, a little more than two and one-half times as long as broad, tornus very strongly rounded, the angle almost effaced.

Neuration.—Forewing: all veins from cell, M^1 somewhat bent down beyond its middle, here much nearer to M^2 than to R^3. Hindwing: all veins from cell, R^1 vestigial, indicated at cell, farther distally represented by a fold, M^1 from lower angle of cell, cross-vein D^1 oblique, D^4 transverse.—For comparison we give a diagram of the hindwing neuration of *A. compta* (text-fig. 2): here M^1 much before apex of cell, D^1 transverse and D^4 oblique.

Length of forewing: 9·7 mm.

Hab. Java: Ardja Sari, 1,000 m., xii. 1929 (A. W. Paine), 2 ♀♀ bred from larvae on bamboo; type in Brit. Mus., paratype in the Rothschild Museum.



2. **Procris levantina** sp. nov.
(text-figs. 3 & 4).

Belongs to that group of species which, in the structure of the antennae, is intermediate between the *globulariae*- and *statices*-groups: 3 or 4 segments preceding the small terminal one dentate or

emarginate in ♂, the other segments pectinate, but the branches of the distal segments short and broad ; in ♀ the antenna widest near apex, dentate.

♂♀. Body and upperside of forewing blue or green, base of forewing and thorax glossy (coppery in discoloured examples). Hindwing brownish black like underside of wings, in flown specimens semitransparent in consequence of loss of scales.

♂. Abdominal sternite VIII (text-fig. 3, ventral aspect) longer than broad, projecting as a rounded lobe, which is incised in middle. Clasper (text-figs. 4, lateral aspect) broad at base, gradually narrowed to apex, both the ventral and dorsal sclerites of clasper without armature, distally separated by a membranous area. Aedeagus (P) large.

Length of forewing : 9–12 mm.

Hab. Syria : Akbès and Beyrout ; also on Cyprus. A series ; type labelled Syria.

TWO NEW MALAYSIAN SUBSPECIES OF BIRDS.

By F. N. CHASEN and C. BODEN KLOSS

1. **Anuropsis malaccensis feriatus** Chasen & Kloss, subsp. nov.

Above like *A. m. malaccensis*, but the crown chestnut and thus contrasting with the mantle. The whole of the underparts from chin to vent, except the centre of the abdomen, tawny ochraceous. Mantle without the greyish tinge obvious in *A. m. poliogenys* (examples from North Borneo).

In *A. m. saturata* of Sarawak the crown is earthy and the underparts, where not white, are bright rusty. From all these the type of *A. m. feriatus* is immediately separable by its ochraceous throat.

Type.—Adult (unsexed), collected on Gunong Mulu, North Sarawak, Borneo, in March 1898, by J. Waterstradt.

Wing 75 mm., tarsus 30 mm., bill from gape 23·5 mm.

Remarks.—This is the only example of the species we have seen in which the chin and throat are not white, and it is so different from any skin in the good series of the various Malaysian races in our possession that we feel sure it represents a distinct mountain race, and venture to describe it from a single specimen.

We have recently discussed the Bornean races of this bird in *Bull. Raffles Mus.*, 4, 1930, p. 77.

2. **Orthotomus ruficeps rubicundulus** Chasen & Kloss, subsp. nov.

Orthotomus ruficeps Hartert, *Nov. Zool.* 1. 1894, p. 469.

Like typical *ruficeps* Less., of Sumatra, but more washed with creamy buff on the underparts.

Type.—Adult male collected on Sirhassen Island, South Natuna Islands, on 23rd September 1893, by A. Everett. Wing 55 mm.

Specimens examined.—Four, including the type, all from the type locality.

Wings.—♂ 54, 55; ♀ 50·5, 53 mm.

Remarks.—The Malaysian races of *O. ruficeps* are not very well marked, but the material before us exhibits in series differences sufficient to justify the recognition of three subspecies.

O. r. sericeus Temm., of North Borneo and Sarawak, averages less buffy on the underparts and rather clearer grey on the mantle than does *O. r. ruficeps* of Sumatra and the Malay Peninsula. The underparts of the four specimens from Sirhassen Island are more highly coloured than in any other examples of this species we have seen.

Our thanks are due to Lord Rothschild for allowing us to describe this material, which is in the Museum at Tring.

John Bale Sons & Danielsson, Ltd. London

CASUARIUS PAPUANUS ROGERSI Rothsch., type, as described in 1928.
(From living bird, H. Grönvold, April 1928).

CASUARIUS PAPUANUS ROGERSI Rothsch., type.
(From living bird, Zoological Gardens, London; H. Grönvold, July 1930).

Hilda Jordan photo.

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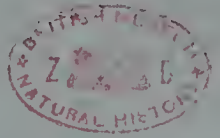
NOVITATES ZOOLOGICAE.

A Journal of Zoology.



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NOVITATES ZOOLOGICAE

Vol. XXXVI. SEPTEMBER 1931. No. 3.

ANTHRIBIDAE VERSUS *PLATYSTOMIDAE*.

By DR. KARL JORDAN.

IN a paper recently published in the *Proc. of the U.S. National Museum*, vol. 77, Art. 17, Mr. W. Dwight Pierce classifies the North American *Anthribidae* under the name of *Platystomidae* (Mr. Pierce makes the family a superfamily, which does not affect the nomenclatural question) and states that the name *Anthribidae* has to be transferred to the family hitherto called *Nitidulidae*. If Mr. Pierce were right, *Meligethes* would become an Anthribid and *Araecerus* a Platystomid. Is this upsetting of nomenclature justified by the evidence and arguments Mr. W. D. Pierce brings forward ?

The reproach has been addressed to the International Commission on Zoological Nomenclature that the Commissioners, in rendering an opinion, depend too much on the evidence presented by the person who brings a case before the Commission, the evidence being sometimes incomplete or even inaccurate ; a serious censure. In order to be as much as possible on the safe side, the Commission has adopted the practice of submitting any special question to the authors working at the particular group in which the case has arisen. If Mr. W. D. Pierce had followed this sound procedure, he would have been saved from falling into the error of basing his conclusions on an incomplete and partly inaccurate statement of the case and from arriving at a result not warranted by Rules of Nomenclature and common sense. I am, of course, writing this protest as a Coleopterist interested in *Anthribidae*, not as a member of the Commission on Zoological Nomenclature. When I took up this family of rhynchophorous beetles as a side-line in 1893, I accepted the family name *Anthribidae* because the authors who had dealt with the family on a broad basis had adopted that name : Schoenherr, Jekel, Pascoe, Lacordaire, etc. I confess that I was wrong in neglecting to inquire into the history of the name more closely, and therefore feel grateful to Mr. W. D. Pierce for the opportunity he gives me to examine with him the past history of the name *Anthribus* from which the designation *Anthribidae* is derived. Let us then look at Mr. W. D. Pierce's statements and at the literature relative to the case of *Anthribus* versus *Platystomos*.

" The oldest valid name in the superfamily is *Platystomos* (Hellwig) Schneider (1791)," says Mr. W. D. Pierce, " and hence it gives its name to the family in which it is to be placed and also to the superfamily." . . . This statement sounds dictatorial, but is only meant as a summary of what follows on the next page. It refers, however, to a rule which the Code of Rules of Zoological Nomenclature does not recognize, namely, that the family names must be derived from the oldest included valid generic name. Some Entomologists have lately adopted such a rule,

and in consequence have managed to replace old family names by new ones; but it is hardly likely that any committee with a sense of responsibility will countenance a rule which creates chaos. We have been given to understand that the Code of Rules of Zoological Nomenclature is paramount in the United States of America, and that its provisions can be enforced in the public institutes. The present case, therefore, is of some interest from that point of view. Disciplinary pressure, however, is not to be recommended in science. There should be freedom, though freedom tempered by self-restraint. One can approach questions of Nomenclature with a disregard of the rules adopted by the majority; but if one claims for oneself this liberation from the shackles of a Code, one must in justice concede to the majority the right to ignore in the same way one's own rules. We will, therefore, pass on, and in doing so will only remark that the quotation of *Platystomos* should read *Platystomos* Hellwig (1792), not as above.

On p. 2 Mr. Pierce continues:

"The group so long known as Anthribidae involves some difficult nomenclatorial problems.

"After a thorough search of the literature I have found the following history applying to the nomenclature of the families:

"*Anthribus* Geoffroy, 1762, Hist. Abr. des Ins., vol. 1, pp. 306–309.

"Only one species satisfies the binomial requirement. Species No. 4 is definitely referred to Linnaeus, Fauna Suecica (first edition), No. 370, which is *Dermestes pulicarius*. This work is pre-Linnean (1746), but its second edition appeared in 1761, and furthermore the Systema Naturae, tenth edition (1758), also contains this species. In the twelfth edition (1767), p. 574, Linnaeus refers this species to *Silpha* and quotes *Anthribus* 4 Geoffroy as a synonym. Bradh (1769) cites *Anthribus* as equal to *Silpha*. The obvious conclusion is that *pulicarius* must become type of *Anthribus* and the genus must pass out of the Rhynchophora.

"Hence *Anthribus* Geoffroy, 1762, with *pulicarius* Linnaeus as type, takes the place of *Brachypterolus* Grouvelle (1913), the subfamily Anthribinae takes the place of Cateretinae, and family Anthribidae of Nitidulidae."

These passages contain a number of different points which it is necessary to discuss seriatim:

(*a*) "Only one species satisfies the binomial requirement." . . . It is evident that Mr. W. D. Pierce considers as valid the names of only those authors who employ names for species as well as for genera, an interesting opinion in view of the discussion which took place at the Zoological Congress at Padova last year when all the Americans present at the meeting of the Section opposed this opinion. Considering that Geoffroy does nowhere employ a name for a species in 1762, Mr. W. D. Pierce ought to have rejected him as non-binomial, if the expression "binomial requirement" has any meaning. Although Geoffroy, in *Hist. Abr.*, 1762, praises the work of Linnaeus and quotes the tenth edition of *Systema Naturae*, he carefully avoids applying the binary method of naming in which the tenth edition differs [1] from former editions of the *Systema Naturae* and from the *Fauna Suecica* of 1746. For him a name stands for a genus, and a differentia (or diagnosis) for a species; that was the system of nomenclature then in vogue: "A l'aide d'un ordre méthodique . . . on pourra trouver le *nom* & *l'espèce* d'un insecte inconnu auparavant," says Geoffroy, l.c. p. xii.

[1] i.e. in the consistent application of the binary principle in nomenclature.

He still looked upon all the so-called species as intergrading from man to the minerals and plants and therefore not requiring names.

(*b*) "Species No. 4 is definitely referred to Linnaeus, Fauna Suecica (first edition), No. 370, which is *Dermestes pulicarius*." . . . I have read this sentence and those following it (quoted above) again and again in order to find out the guiding principle that led Mr. W. D. Pierce to say that "the obvious conclusion is that *pulicarius* must become type of *Anthribus*." I am still at a loss. At first I thought that Mr. W. D. Pierce wished to emphasize the opinion that, if there is anything in an original description of a genus which points definitely to one of the included species, this fact must be taken into account in the subsequent selection of the genotype. But I now consider it to be more likely that a rule of Nomenclature as yet unborn lies concealed in those sentences, a rule to the effect that, if an author proposes a new genus for a number of species the oldest described species becomes ipso facto the genotype. This would be a sister-rule to the one (not accepted) which postulates that the oldest (i.e. first described) genus of a family is the type-genus, and would also agree with the provision of the International Code that the first described subspecies is typical for the species. A logical, mechanical sequence. The mechanization of Nomenclature, however, would lead to its destruction, as mechanization does in other branches of life. Whatever may have been the process of his reasoning, we are faced by the fact that Mr. W. D. Pierce uses the qualifications *definitely* and *obvious*. The treatment of *Anthribus* by Geoffroy must decide whether there is in it something "definite" which leads to an "obvious" conclusion. But before looking at Geoffroy's text, let us be clear on this point that the enquiry has the object of ascertaining which of the 7 species placed by Geoffroy under *Anthribus* is the genotype. A condensation of Mr. W. D. Pierce's statement would essentially be as follows: "As Linnaeus quotes in 1767 *Anthribus* 4 Geoffroy as a synonym of *Silpha pulicaria*, this species 4 of Geoffroy 'obviously' becomes the type of *Anthribus*." Would it not have been more "obvious" to conclude that species 4 was no longer available as type because Linnaeus had taken it out of *Anthribus* and placed it in *Silpha*, leaving the 6 other species untouched in *Anthribus*? However, the action of Linnaeus is not really relevant, because Linnaeus did not deal with *Anthribus* as a genus. That "Bradh (1769) cites *Anthribus* as equal to *Silpha*" is likewise irrelevant; moreover, the statement is not correct, as Mr. W. D. Pierce will see if he looks again at p. 154 of *Amoen.* vii, where a list of "*Synonyma* novorum generum Auctorum" and a list of "*Auctorum nova genera*" are given, *Antribus* being in the latter series. No authors are mentioned in these lists; but as Bladh refers to Geoffroa (as he spells the name) on pp. 134 and 135, we may assume that he took the name *Antribus* from Geoffroy's *Hist. Abr.* 1762.

In consulting the *Histoire Abrégée*, we find that in the table of classification facing p. 59 the name is spelt without *h* as by Bladh: *Antribus*, in conformity with the spelling of the French version *antribe*. We may look upon it as a slip of the pen. No derivation of the name is given; but as Geoffroy says on p. 306 that he has called these beetles *anthribus* because they gnaw flowers to bits, his name *Anthribus* may be an error for *Anthotribus*, as other authors have explained.[1] I accept *Anthribus* as a legitimate contraction.

On pp. 306–309 Geoffroy gives descriptions of *Anthribus* and of 7 species,

[1] Illiger suggests another derivation of *Antribus* in Magaz. i, p. 127, and says that, if his suggestion was right, the name ought to be *Antriptus*.

to none of which latter he applies a specific name, dealing with them in this way:

1. ANTHRIBUS ovatus, niger, elytris striatis, rubro nigroque marmoratis. Then follow the French name (L'antribe marbré), the dimensions and a fairly explicit description.

Species No. 1 and No. 3 are figured on pl. V, with enlargements of the antennae and one leg and, in the case of No. 1, of a tarsus. On p. xviii of the introductory *Discours Préliminaire* Geoffroy says that, for the better understanding of the work, he has added to the descriptions the figure of an insect of each genus (rarely two or three), accompanied by the parts which constitute the character (i.e. of the genus). It is therefore obvious that a subsequent author who accepted *Anthribus* Geoffroy as valid was bound to select the genotype in accordance with this definite statement by Geoffroy. The shape of the tarsus being one of the principal distinctions given by Geoffroy, species No. 1, of which the tarsus is figured, is obviously the one to be selected, and I select it herewith. However, Mr. W. D. Pierce prefers No. 4, because there is under No. 4 a reference to a Linnaean species. As said above, the existence of that reference is not relevant. Moreover, the Linnaean species, even if it may have turned out later on to be the same as Geoffroy's No. 4, cannot be made the type of *Anthribus* Geoffroy; for Geoffroy's French texte accompanying the differentia and literature, apparently not consulted by Mr. W. D. Pierce, reads as follows:

"4. ANTHRIBUS *niger, elytris abdomine brevioribus.*

Linn. faun. suec. n. 370. Dermestes niger oblongus, abdomine acuto.

Act. Ups. 1736, p. 16, n. 7. Scarabaeus minimus ater, florilegus.

Raj. ins. p. 108, n. 29. Scarabaeus antennis clavatis, clavis in annulos divisis.

L'antribe des fleurs.

Longueur 1 *ligne. Largeur* ½ *ligne.*

"Cette petite espéce (thus spelt by Geoffroy) est noire partout. Sa forme est ovale, un peu quarrée. Ce qui la rend très-aisée à reconnoître, c'est que ses étuis sont plus courts que son ventre, & n'en recouvrent que les deux tiers; mais le bout de son ventre n'est pas en pointe, comme le dit M. Linnaeus, ce qui me feroit presque douter que ce fût cette espèce qu'il eût voulu désigner. On trouve ce petit animal en très-grande quantité sur les fleurs, sur-tout sur les plantes en ombelles."

Geoffroy expressing a doubt as to the identity of No. 4 with Linnaeus's insect, this species is a *species inquirenda* and according to the Rules not available for selection as genotype.

Is there a definite valid type-designation for *Anthribus* Geoffroy after 1762?

Müller 1764 mentions the name *Anthribus*, but gives no species. De Geer 1775 describes one species, which is not among the original seven. Müller 1776 mentions one species, which is not one of Geoffroy's. Fourcroy, *Ent. Paris.* 1785, is essentially the same as Geoffroy 1762, except that the species bear nomina trivialia and that some species are added.

Schaeffer 1766, Sulzer 1774, Fuessly 1775 and Goeze 1777 refer to a species (or a composite species) under *Anthribus* or under *Silpha*. None of these authors are relevant; they did not select a genotype.

In 1771 Forster published in London a booklet entitled *Novae Species* Insectorum. *Centuria I.* Mr. W. D. Pierce erroneously says of this work that "Forster follows Geoffroy, but adds two new species, *fasciatus* and *nebulosus*, neither of which can be made type of *Anthribus*, as they were not originally included."

The facts are these: Forster refers Anthribus to Geoffroy, but gives a diagnosis of his own and adds a footnote on p. 10 to the effect that he separates *Anthribus* from *Dermestes* on account of the plainly different antennae and the singular shape of the body; *Dermestes* being a highly intricate genus, he considers it best to remove from it this special genus *Anthribus*. He describes two species, as stated by Mr. W. D. Pierce. The trivial names of these species are new, but not the species. Under the first, *A. fasciatus*, we find the correct reference to *Geoffr. ins.* i. p. 306, t. 5. f. 3. Forster's second species, *Anthribus nebulosus*, is Geoffroy's No. 2, but is not referred by him to Geoffroy. If Geoffroy 1762 is set aside as non-binominal (or anti-binominal), Forster's *Anthribus* with *A. fasciatus* as type (reference to a figure) will take its place. The common-sense genotype being the same in both cases, this solution is satisfactory. However, for those who accept Geoffroy 1762 as available under the Rules, the matter is not closed with Forster 1771.

Anthribus Olivier 1789 is a mixture of Nitidulids and Rhynchophora, all three Rhynchophora of Geoffroy 1762 being there, and does not bear on the question of type-fixation. In 1790 Fabricius described *Anthribus* without referring the generic name to Geoffroy. He includes four species, of which one is Geoffroy's No. 3. As Fabricius does not select a type and does not say anything about the other six species of Geoffroy's *Anthribus*, the description of the genus, moreover, being new and not taken from Geoffroy, the matter remains as before.

Fabricius 1792 (*Ent. Syst.* i. 2, p. 375) definitely restricts his *Anthribus* to the Rhynchophora; the three Rhynchophora of Geoffroy 1762 are here as *A. latirostris*, *A. scabrosus* and *A. varius*, and several other species are added. Fabricius does not mention Forster, who has priority. It is this publication of Fabricius which settled the meaning of *Anthribus* for his generation and the next. However, since he did not fix a genotype—an idea which was as yet unborn—, our generation does not consider Fabricius's restriction of the name to Rhynchophora as having any bearing on the nomenclatorial point in question. The Code demands a selection of the genotype, rigorously construed.

Hellwig 1792 (in Schneider, *Neuestes Mag. Liebh. Entom.* p. 393) is not satisfied with Fabricius retaining the name *Anthribus*; he says:

"4. Platystomos.

"*Curc. Albinus, latirostris* und Consorten waren mir unter den Curculionen schon lange anstössig, und ich trennte sie von ihnen unter dem oben angeführten von πλατης (breit) und στομα (der Mund) hergeleiteten Namen. Herr Prof. *Fabricius* war von der Notwendigkeit dieser Trennung durch die Anatomie der Fresswerkzeuge auch überzeugt, legte ihnen aber den schon von *Geoffroi* gebrauchten Gattungsnamen *Anthribus* bey, der mir jedoch aus dem Grunde nicht gefiel, weil *Geoffroi* unter diesem Namen noch andere Käfer vereinigt hatte, die gar nicht dahin gehören."

This *Platystomos* Hellwig 1792 accordingly is another name for what Fabricius

preferred to call *Anthribus*. Neither the type of *Platystomos* nor that of *Anthribus* is fixed by Hellwig (spelled Helwig by Fabricius). Among the species of *Anthribus* of Fabricius 1792 there is one which belongs to another family (*A. planirostris*). This species is removed by Herbst 1797 into the new genus *Makrostoma*, so that now for the first time *Anthribus* contains nothing but the then known Anthribids (in the sense of Forster, Schoenherr, etc.). But, again, Herbst does not select a genotype.

Fabricius 1801 (*Syst. Eleuth.*) has no genotype; species of *Makrostoma* = *Rhinosimus* are still included.

Walckenaer 1802 (*Fauna Paris.* i. p. 231) restricts *Anthribus* to the rhynchophorous species of Geoffroy and adds one species. No genotype is selected.

Latreille 1804 (*Hist. Nat. Crust. Ins.* xi. p. 32), referring to "Anthribe; *anthribus*" of Geoffroy, says: "Cet illustre entomologiste, n'ayant égard qu'à la réunion de quelques caractères, a placé dans ce genre plusieurs insectes qui ne lui appartiennent certainement pas, comme les espèces 4 à 7 inclusivement. Mais quels sont donc les insectes auxquels nous devons conserver le nom *d'anthribe*? Il est naturel de prendre ceux qui sont figurés pour types. Or, les deux anthribes représentés par Geoffroy sont du genre qui porte ce nom dans Schaeffer, dans Fabricius; c'est pour cela que nous nous sommes vus forcés de rejeter la dénomination de *macrocéphale* . . . Olivier nomme *anthribe* les espèces 4, 5, 6 de Geoffroy; ils seront pour nous des phalacres."

Here, as far as I know, the word type in the nomenclatorial sense appears for the first time in taxonomic Entomology. As two species (Nos. 1 and 3 of Geoffroy) are involved, this type designation does not absolutely satisfy the strict Rule of the Code.

Latreille 1807 (*Gen. Crust. Ins.* ii. p. 237) does not contain anything helpful.

Latreille 1810 (*Cons. Gén.* pp. 421–444) indicates under the genera a species "qui leur sert de type." According to Opinion 11 of the Commission on Zoological Nomenclature "the 'Table des genres' should be accepted as designation of types of the genera in question." The Opinion being expressed in the conditional, we must interpret it as meaning that the type-fixation in that table also is conditional. In most instances Latreille gives as an example only one species; in many cases two or more species. For instance, under Nymphalis he gives *Dido, aceris, populi, Achilles*; under Satyrus the string of types consists of *Teucer, Phidippus, Sophorae, Piera, Galathaea, Maera*; under Arctia we find *salicis, russula, purpurea, caja*, etc.; Limonia contains "les tipules de Fab.: *picta, scx-punctata, erioptera*, etc."; under Hydroporus (p. 415) we find "*D. planus, rufifrons, lituratus, trifidus, confluens*, etc." In these and numerous other cases no species is specified as TYPE. Therefore Opinion 11 is applicable at most to those genera of the Table des Genres under which only one species is mentioned.

Under *Anthribus* one example is given: *A. latirostris* of Fabricius, which is one of the two species figured by Geoffroy 1762. The *Anthribus* of Latreille is the *Anthribus* of Fabricius; *Platystomos* Hellwig 1792 being another name for *Anthribus* Fabricius, its genotype is ipso facto the same as that of *Anthribus* Fabricius. Mr. W. D. Pierce, following Bedel, and the (rejected) first species rule, accepts *Curculio albinus* L. as type of *Platystomos*, contrary to Article 30, f., of the Rules.

Schoenherr 1823 makes *Curculio albinus* L. type of *Anthribus*, a species

neither included in anti-binominal Geoffroy 1762, nor in binominal Forster 1771. Schoenherr based his nomenclature on Fabricius, which explains his selection of *albinus* as genotype.

On p. 3 of his paper, Mr. W. Dwight Pierce repeats the assertion that Geoffroy's spec. 4 is *pulicarius* of Linnaeus and is the only one available for type, and, referring to Latreille's designation of *latirostris* as type of *Anthribus*, expresses the opinion that it is impossible to accept this interpretation of Latreille's, because "the name *Anthribus* has been correctly used otherwise by Geoffroy (1762), Forster (1771), De Geer (1775), Müller (1776)." The last two authors are not relevant, because they mention only one species, and this is not among Geoffroy's seven; Forster under *Anthribus* describes two of Geoffroy's rhynchophorous species, his action being just the opposite from what Mr. Pierce's remark implies.

Summary.

(1) The change of names introduced by Mr. W. Dwight Pierce is unnecessary. The evidence upon which he bases his conclusion is incomplete and partly erroneous, and his argumentation is contrary to the International Rules of Zoological Nomenclature.

(2) If the generic names of Geoffroy are accepted as from 1762, the first action which can be construed as selection of genotype is that of Latreille 1810, who, after having restricted the name in 1804 to the two species figured by Geoffroy, selects one of these two as an example of an *Anthribus*, the selected species being *A. latirostris* Fab. (=Geoffroy No. 3).——In this case *Platystomos* Hellwig 1792, as another name for *Anthribus* Fabricius, and *Platyrhinus* Clairville 1798, as having the same genotype (selected by Schoenherr in 1823), would be synonyms of *Anthribus*.

(3) If Geoffroy 1762 is rejected as being anti-binominal, we have *Anthribus* Forster 1771, which has priority over *Anthribus* Fabricius 1790, and *A. fasciatus* Forster 1771 must be accepted as genotype, being of the two species the one of which there existed a figure, to which Forster refers.——In this case *Platystomos* Hellwig 1792 takes the place of *Anthribus* Fabricius 1790, with *A. latirostris* Fab. as genotype, *Platyrhinus* Clairville 1798, also with *latirostris* as type, becoming a synonym of *Platystomos*.

(4) The common-sense solution would be to agree on *A. fasciatus* Forster 1771 (=Geoffroy No. 1) as genotype of *Anthribus* Geoffroy and of *Anthribus* Forster, and to reject Latreille's action of 1810 as not being a strict type-selection.——In this case *Platyrhinus* with *latirostris* (= *resinosus* Scop., which has priority) as genotype and *Platystomos* with *albinus* as genotype could be employed. Incidentally, this nomenclature would be in conformity with that in the Catalogue of Gemminger and Harold, except that in this Catalogue the pre-occupied name *Macrocephalus* is used and *Platystomos* (spelt *Platystomus*) placed as a synonym of it.

Whatever solution is preferred, the name *Anthribus* remains valid in the rhynchophorous family Anthribidae.

ANTHRIBIDAE COLLECTED BY F. C. DRESCHER ON THE ISLAND OF JAVA.

By DR. KARL JORDAN.

(With 4 text-figures.)

THE collection of *Anthribidae* submitted to me by Mr. F. C. Drescher is one of the best I have ever received. It contains such a large number of species and subspecies new to science, or new for Java, that when all of them have been worked out and described, we shall know from Java twice as many Anthribids than have hitherto been recorded from that rich island. Among Mr. Drescher's discoveries is a species, described and figured under No. 47, which I consider the most interesting one in the whole family on account of the development of a pair of horns on the head, recalling the Indian Cetonid *Dicranocephalus wallichi* Hope 1831 (and the American Pronghorn Antelope).

The present paper is a first instalment in which some of the novelties are described and species new for Java, or requiring comment, are enumerated. The publication of the remainder of the novelties, many of them represented by single specimens, being postponed in the hope that Mr. Drescher will succeed in discovering additional examples of the new species.

Mr. Drescher has most kindly allowed me to retain the types as well as further specimens when available, and I take this opportunity of thanking him for his great generosity.

1. **Physopterus alboguttulatus** Jord. 1894.

G. Tangkoeban Prahoe, Preanger, 4–5,000 ft., I.IX.X.XI., 1 ♂, 5 ♀♀.—— Dots white, in one ♀ faintly yellow.

2. **Acorynus dicyrtus** Jord. 1912.

G. Tangkoeban Prahoe, Preanger, 4–5,000 ft., VII.X.XI.XII., 3 ♂♂, 1 ♀; Batoerraden, G. Slamat, I.VII.VIII.XI., 2 ♂♂, 2 ♀♀.——Described from a single ♂ from the Preanger. The ♀ is like the ♂, apart from the sexual distinctions usual in this group. The subbasal hump of the elytrum is very distinct.

3. **Acorynus lineolatus slamatus** subsp. nov.

♂♀. Similar to *A. lin. coalitus* Jord. 1926, from Engano, but the markings of pronotum and elytra ashy grey (instead of drab grey) and smaller, the black antemedian spots of elytra united into a transverse band, the grey occupying in posterior two-thirds of elytra rather less space than the black.

Batoerraden, G. Slamat, IV.X., 3 ♂♂, 2 ♀♀.

4. **Acorynus cludus** Jord. 1895.

Batoerraden, G. Slamat, VIII., 1 ♀; Noesa Kambangan, VIII., 1 ♂.—— Described from Perak; we have it also from Sumatra and Borneo.

5. **Litocerus miles** Jord. 1926.

Noesa Kambangan, VIII.IX., 5 ♂♂, 3 ♀♀.——We have this species also from Sumatra, Malay Peninsula and Borneo. Markings somewhat variable. Segments of ♂-antenna slenderer than in *L. histrio* Gyllh. 1833.

6. **Litocerus figuratus notalis** subsp. nov.

♂♀. Similar to *L. fig. chorispilus* Jord. 1926, from Sumatra and Perak; differs in the luteous lateral patch of the pronotum being more extended, the black subapical spot within it entirely isolated, and in the pygidium somewhat shorter.

Noesa Kambangan, VIII., type, and Batoerraden, G. Slamat, II.IV.VI. VII. X., a small series.

7. **Litocerus virgulatus** Jord. 1915.

Noesa Kambangan, VI.VIII., 2 ♂♂, 4 ♀♀.——In these specimens, as well as in the single one we have from Sumatra, the linear markings on the elytra are broader than in our series from Perak, and in the middle of each elytrum a fairly large space is left bare of grey or luteous streaks. Our material represents possibly three subspecies, the third occurring on Borneo.

8. **Litocerus scutellaris** Jord. 1894.

Batoerraden, G. Slamat, IX., 1 ♀.——Not before recorded from Java.

9. **Litocerus vestitus** Jord. 1915.

Noesa Kambangan, II.IV.XI.XII., 2 ♂♂, 2 ♀♀.——Originally described from a single ♂ from Java. In three of the present specimens the angle of the pronotal carina is 90°, in the fourth it is rounded.

10. **Litocerus xenopus** spec. nov.

♂♀. Speciei *L. histrio* Gyllh. 1833 dictae similis, pronoto latiore, vitta lata mediana completa in forma crucis griseae ornata, elytris dorso a basi ad apicem declivem luteo-ochraceis, hac plaga magna in medio elytrorum fortissime constricta, pedibus viridescentibus griseo-pubescentibus.

Long. (cap. excl.) 5·5 mm.

Noesa Kambangan, VIII., 3 ♂♂, 1 ♀.

Antennae as in *L. histrio*, in ♂ segment III a little shorter. Proboscis somewhat more convex in basal half, which is specially noticeable in a lateral aspect. Eyes less close together. Pronotum broader and somewhat shorter, quite different in markings: a broad grey median stripe with a definite lateral projection at the posterior side of the transverse groove, the apical portion of the vitta more or less ovate, in black lateral area of disc a narrow grey stripe somewhat constricted or interrupted in middle and connected along carina with a lateral stripe which follows the curve of the lateral carina; these lateral markings somewhat shaded with clay-colour. Scutellum, and extreme basal margin as well as shoulder angle of elytra, grey, clayish ochraceous area extending from shoulder to shoulder and reaching to near apical declivity, the black colouring

of the sides penetrating to or near sutural line of punctures, above shoulder a spot at base and another behind base, and a sutural spot between subbasal swellings black, at apex a luteous ochreous elongate-triangular spot along margin, pointed anteriorly, in black lateral area 4 luteous or greyish spots, of which the fourth is often connected with the posterior portion of the dorsal yellowish area, and three dots on apical declivity of each elytrum. Pygidium luteous grey, broader at base than long, shorter than in *L. histrio*.

Underside pubescent grey, the pubescence not dense except on side of abdomen, where it is somewhat yellowish. Legs thinly pubescent like breast, tip of tibiae and of tarsal segment I and the entire segments II and III black, no grey or luteous ring on tibiae.

11. **Hucus cherulus** Jord. 1926.

Batoerraden, G. Slamat, V.VIII., 2 ♀♀.——Described from Sumatra.

12. **Hucus inclinans** Jord. 1895.

Batoerraden, G. Slamat, VII., 2 ♂♂.——Described as a *Litocerus* from Perak.

13. **Hucus concinnus** spec. nov.

♂♀. *H. orino* Jord. 1912 similis, singulo elytro quatuor lineis griseis et maeulis linearibus lateralibus atque inter lineas ante et post medium maeulis parvis griseis in duas faseias transversas dispositis notato. ♂: antennae segmentum nonum duobus sequentibus aut longius aut aequilongum.

Long. (eap. exel.) 3·7–4·9 mm.

Batoerraden, G. Slamat, II.IV.V.VII.VIII., a series (including type); Djeroeklegi, Zuid-Banjoemas, I., 1 ♀; Noesa Kambangan, I. XII., 1 ♂, 1 ♀.

Compared with a considerable series of *H. orinus* from Sumatra. Proboscis somewhat longer and a very little narrower and less convex; the earinae of one side converging with those of the other as in *H. orinus*. In ♂♂ with long antennae segment IX longer than X and XI together, in *H. orinus* both IX and X short; in ♂♂ with short antennae IX at least much longer than X; in ♀ IX as long as XI, in ♀ of *H. orinus* IX shorter than XI. Angle of pronotal earina aeute as in *H. orinus*; anteseutellar spot of median stripe broader than in *H. orinus*. On elytra the sutural impressed line distinet, the others indistinet, in sutural line and in third, fifth, and seventh a narrow grey stripe, usually extending from base to or to near apex, a similar stripe in posterior half of ninth, in the interspaees oeeasionally linear spots, as a rule there are spots only in the antemedian depression (whieh is feeble) and behind middle, as well as in anterior half of limbal area; the transverse band formed by the posterior spots oblique, being more forward at suture than at side, the anterior band either parallel with it or less oblique.

14. **Androceras lepidus** Jord. 1911.

Batoerraden, G. Slamat, IX., 1 ♂, 1 ♀.——In this ♂ segments VI to VIII of the antenna are thinner than in the ♂♂ from Sumatra; we have no ♂ from Perak, whence the speeies was originally described.

15. **Mucronianus rufipes** Jord. 1894.

Batoerraden, G. Slamat, I.II.XI.XII., 5 ♂♂, 1 ♀.——The specimens belong to the form in which the apex of the tibiae and the greater portion of the tarsi are black. We possess this species from the Solomons, Woodlark, various districts of New Guinea, Louisiades, North Australia, Aru, Batjan, South Celebes, Borneo, Sumatra, and Assam. The legs and antennae vary from pale rufous to dark brown and black, with intergradations. The pygidium of the ♀ bears occasionally a hump, the shaft of the antenna of the ♂ is sometimes strongly compressed and somewhat widened, and the grey markings vary in size. All such differences (inclusive of those given for *M. tibioclaratus* Wolfrun 1925, from N. Guinea) seem to be of an individual nature. The specimens from the Philippines, on the other hand, differ at least in the ♂ in the pygidium being broader (likewise the hypopygidium) and the blackish patch on the metasternum sharply defined : this is *M. philippinensis* Heller 1925.

16. **Directarius signatus** Jord. 1894.

Batoerraden, G. Slamat, I.VII.IX., 3 ♂♂, 1 ♀.——Only known from Burma. In the ♂ the head is produced upwards dorsally between the eyes into a sort of transverse ridge, which is notched in the middle. The antenna of the ♂ reaches beyond the pygidium.

17. **Zygaenodes wollastoni** Pasc. 1859.

Noesa Kambangan, II., 1 ♂, 1 ♀.——New for Java.

18. **Zygaenodes phodinus** Jord. 1912.

Batoerraden, G. Slamat, IV.V.VII., a series ; Noesa Kambangan, III., 1 ♂. ——Described as a *Directarius* ; it belongs to the group of *Zygaenodes* in which the eye-stalk is barely indicated.

19. **Zygaenodes lituratus** Jord. 1912.

Batoerraden, G. Slamat, I.IV.VIII., 3 ♂♂, 1 ♀.——Somewhat smaller than the type specimen

20. **Zygaenodes rectimargo** sp. nov.

Near *Z. latipes* Jord. 1912, but apical margin of rostrum quite straight, and segments II and III in midtarsus of ♀ not broader than in hindtarsus.

♂♀. Eye of ♂ pointed above and below, non-sinuate, that of ♀ rounded above, pointed below, with a shallow oblique sinus on frontal side, in both sexes the eye much longer than broad ; eye-stalk varying according to size of specimen, in type (♂) as long behind as the eye is long in frontal aspect, in ♀ shorter than the eye is long. Face white, with a minute brown central dot ; apical margin of rostrum not incurved in middle and towards sides, straight. Occiput convex in between eye-stalks, more strongly in ♂ than in ♀, the swelling divided by a median depression.

Pronotum pubescent luteous, variegated with white, a broadish median stripe almost white, triangularly dilated laterad behind middle of disc, on each side of this stripe two antemedian blackish spots more or less confluent with two larger spots which extend across carina to near basal margin.

Scutellum white. Elytra depressed before middle, subbasal swelling not tuberculiform, being but slightly raised ; pubescence lutcous, alternate interstices spotted with white and blackish brown, behind middle of interspace III a larger linear elevate blackish spot, no conspicuous spot on subbasal swelling. Pygidium longer than broad, with abbreviated, white, elongate-triangular, median stripe.

Sides of abdomen to a great extent blackish, with luteous pubescence at the margins and in between the dark spots, and with small white dots. Tips of tibiae brown ; segment I of tarsi about as long as claw-segment.

Length ♂ 4 to 5·7 mm., ♀ 4·1 mm.

Batoerraden, G. Slamat, IV.VIII.XI., 3 ♂♂, 1 ♀.

21. **Zygaenodes leptipus** sp. nov.

Differs in the eyes from all species known to me ; they are stalked in both sexes and much longer than broad, and in ♂ are rounded at both ends and in ♀ sinuate at lower end towards antennal groove, not on the frontal side of lower end. Pygidium broad, with white median stripe.

♂♀. Rufescent brown, covered with a greyish white pubescence, pronotum and elytra variegated with brown. Face white ; proboscis slightly curved forward from below antennal grooves, at apex about one-fourth narrower than between antennae, distance from apex to dorsal base of stalk of eye equalling the width between antennae (♀) or being a little shorter (♂). Eye in ♂ almost twice as long as broad (19 : 10), elongate-elliptical, both ends rounded, posterior margin slightly incurved ; in ♀ one-third longer than broad, shorter than in ♂ and more rounded, lower end symmetrically emarginate. Eye-stalk (inclusive of eye) in ♂ very little longer than the eye (the latter measured in dorso-ventral direction), in ♀ as long as the eye is broad. Antenna reaching about to middle of elytra in ♂, shorter in ♀, segment III nearly as long as IV + V, IV longer than V, V = VI = VII or nearly, VIII shorter than VII ; in ♂ VIII a little longer than IX, in ♀ a little shorter than IX, X shorter and XI longer than IX. Occiput convex between eye-stalks, but not divided in middle, there being no median groove.

Pronotum with an interrupted white median line, accompanied by a broad brown stripe.

Scutellum white. Elytra without tubercles, depressed before middle, subbasal swelling slightly raised, with two brown linear spots, shoulder area for the most part grey mixed with clayish pubescence, rest of elytra brown spotted with greyish white in the alternate interspaces, or grey spotted with brown, some white linear conspicuous spots in third space. Pygidium with abbreviated white median stripe ; in ♂ rounded, one-half broader than long, in ♀ one-fifth broader at base than long, being nearly as broad as one elytrum measured from scutellum to farthest lateral point of shoulder.

Underside grey, without spots. Segment I in all tarsi longer than the other segments together.

Length ♂♀ 3·8–4·1 mm.

Batoerraden, G. Slamat, IV.V.X., 2 ♂♂, 2 ♀♀.

22. **Uncifer hapalus** spec. nov.

♂♀. Brevis, brunneus, grisco pubescens, sericeus, antennarum basi atque pedibus rufis. Pronotum late brunneo-bivittatum. Elytra macula dorsali

subbasali, altera humerali, tertia sublaterali antemediana, quarta anteapicali sublaterali, quinta apicali vel subapicali, atque vitta vel macula elongata suturali submediana brunneis notata.

Long. (cap. excl.) 2·5 mm., lat. 1·2 mm.

G. Patoeha, Preanger, IX., 1 ♂, 3 ♀♀.

Nearest to *U. basalis* Jord. 1925, from Sumatra ; differs in colour and pattern, as well as in the longer club of the antenna.

Frons in ♂ about as broad as the second segment of antenna, in ♀ somewhat broader than segment III is long. Eye but slightly convex, obliquely transverse, anteriorly faintly incurved, almost straight. Antenna pale rufous at base as far as segment IV or V, rest rufescent brown, III to V about equal in length, VI and VII a little shorter, VIII still shorter, in ♂ VIII less than half as long as IX, in ♀ one-half of IX, rough with setae in ♂ (like club), IX three times as long as broad in ♂, a little longer than X, XI as long as IX. Pronotum practically smooth, the minute reticulation visible under a high power only ; lateral carina vestigial. Elytra strongly punctate-striate, the interspaces convex. Hindtarsus in ♂ one-fourth longer than hindtibia, in ♀ as long as tibia or very nearly.

The brown patches of elytra sometimes enlarged and partly confluent.

23. **Mallorrhynchus laetus** Jord. 1925.

G. Patoeha, Preanger, 4–5,000 ft., IX., 1 ♂ ; G. Goentoer, IX., 1 ♂.—— Described from a single ♂ from Perak ; no other specimens have come to hand.

24. **Nessiara longicollis hortulana** Jord. 1928.

Batoerraden, G. Slamat, II.V., 1 ♂, 1 ♀.——New for Java ; described from Sumatra.

25. **Nessiara cognata** spec. nov.

♂♀. Ochracea. Rostro lateribus subrectis, carina mediana ab apice ad basin instructo. Antenna clava laxa, pallide testacea. Pronoto dorso utrinque ad medium duobus signis brunneo-nigris *Hippocampo* subsimilibus notato. Elytris nonnullis lineolis brunneo-nigris medianis dorsalibus plus minus confluis atque in interspatiis alternis multis guttis griseis et brunneo-nigris ornatis. ♂ : tibia media mucrone apicali acuto instructa. ♀ : segmento anali ventrali utrinque carinato.

Long. 8–9 mm. ; lat. 4–4·5 mm.

Batoerraden, G. Slamat, V.VI., 2 ♂♂, 5 ♀♀.

Allied to *N. sellata* Jord. 1894 and *N. sellifera* Jord. 1895, from which it differs in many ways, being easily distinguished from them by the carina of the proboscis not being continued to occiput, by the blackish sutural patch of the elytra not being solid, but composed of short lines, by the spiniform midtibial mucro of the ♂ and the bicarinate anal sternite of the ♀, etc.

Rostrum one-half broader than long, with the sides very slightly rounded, rugosely punctate, median carina ending at base ; underside with two parallel grooves between which a broad carina that is not raised much above the level of the lateral margins of the grooves. Frons rugate, subcarinulate, in ♂ one-third as broad as the proboscis, in ♀ two-fifths. Antenna pale throughout, segments IX and X triangular, IX a little longer than broad, X a little shorter, XI elliptical.

Proportions and surface structure of prothorax as in the allied species ; on each side of middle of pronotum a blackish brown oblong spot from base to three-sevenths (about), rather more than twice as long as broad, the interspace between the two spots as broad as the spots, from anterior inner angle of each projects forward a narrow line somewhat resembling the figure 3 open outwardly, with the anterior end dilated somewhat in the shape of a crested bird's head, from this head to apical margin near its middle a diffuse brown smear, which is continued on the occiput as a linear spot ; on lateral surface a longish spot from basal angle obliquely forward, half-way between this spot and apex a rounded impressed dot, and above apex of lateral carina a third spot, all more or less diffuse and brown, another spot, rounded, at base a short distance from angle.

Alternate interspaces of elytra luteous grey dotted with blackish brown, two limbal spots in anterior half deeper brown, in middle of suture and adjacent interspaces a short blackish brown line, these lines either more or less confluent or remaining separate, the species being intermediate in this colouring between the tessellated forms like *N. cethis* Jord. 1911 on the one hand and the species with well-defined black sutural spot on the other.

Pygidium of ♂ a little longer than basally broad, transversely depressed in middle, centre of apical area convex, the swelling almost tuberculiform, apical margin broadly rounded ; in ♀ a little broader than long, gradually rounded-narrowed, evenly rounded at apex, along middle brownish and convex.

Underside blackish brown, except sides ; legs pale testaceous, with brown mark in middle and at apex of femora. ♂ : midtibia with pointed mucro ; on each side of metasternum, not far from middle line, a rather oblique cariniform tubercle, the ridge somewhat curved and about half as long as the mesosternal intercoxal process is broad ; lobes of modified hypopygidium (below pygidium) long and apically broad. ♀ : anal sternite laterally impressed, the apical lateral tubercle present in allied species here continued frontad as an obtuse carina to near base of segment, which it does not reach.

26. **Apatenia viduata promota** subsp. nov.

♂♀. Black patch of elytra placed more forward than in *A. v. viduata* Pasc. 1859 from Borneo, Sumatra, and Malay Peninsula, and third interspace more strongly elevate behind this patch.

A small series : Batoerraden, G. Slamat, V.X.XI. (type XI.) ; G. Goentoer, XII. ; G. Tongkoeban Prahoe, Preanger, 4–5,000 ft., VII.——In Mus. Tring also from other places in Java ; 17 specimens compared with 12 of *A. v. viduata*.

27. **Oxyderes frenatus frenatus** Jord. 1897.

2 ♂♂. Noessa Kambangan, II.III.——The specimens are not in good condition. They probably represent a Javan subspecies, the grey colouring at the sides of the elytra being reduced and the proboscis somewhat shorter. I have no other specimens from Java to compare.

28. **Hypseus fumatus** Jord. 1928.

Noesa Kambangan, III.VI., 2 ♂♂.——The median spot at the base of the pronotum is small and grey.

29. **Hypseus cyphus** spec. nov.

♂♀. *H. fumato* persimilis, minor, angustior, oculis multo magis approximatis, angulo carinae pronotalis minore, tarsis gracilioribus.

Long. (cap. excl.), 5 mm.

Batoerraden, G. Slamat, VII.IX., 1 ♂, 1 ♀.

In ♂ the frons one-sixth the width of the proboscis, in ♀ less than one-third (2 : 7). Lateral angle of pronotal carina less than 90°. Tarsi much slenderer than in *H. fumatus*, especially the hindtarsus. In colour and the distribution of the elytral tubercles the same as *H. fumatus*, but the yellow basal spot of the pronotum larger, and the elytra slightly more distinctly variegated with grey.

30. **Hypseus scaphidius** spec. nov.

♀. Pallide rufus et niger, pube grisea et lutea et nigra variegatus. Rostrum longitudine duplo latius, apice bisinuatum, carina mediana abbreviata deplanata nitida instructum. Frons praeter propter trienti rostri aequilata. Pronotum dimidio latius quam longius, leviter tri-gibbosum, medio depressum, angulo laterali carinae acuto, macula antescutellari lutea transversa ad carinam lata. Elytra pustulosa, pone basin sat fortiter gibbosa, interspatio tertio a medio ad apicem quatuor pustulis notato quorum prima postice alba. Pedes griseo et nigro annulati.

Long. (cap. excl.) 4·7 mm.

Batoerraden, G. Slamat, IV., 1 ♀, type ; G. Tongoeban Prahoe, Preanger, 4–5,000 ft., XI., 1 ♀.

The frons is a trifle broader in the type than in the second specimen.

On frons a grey anguliform spot ; on occiput two brownish black triangular ones. Pronotum coarsely punctate, uneven, constricted before angle of carina ; transverse depression somewhat curved forward laterally ; in front of the two discal swellings (one each side) an oblique black spot, third main swelling placed before carina in middle also blackish, half-way to sides a further blackish mark widened behind carina, a short median subapical streak whitish grey, other grey markings, very diffuse and partly contiguous with the blackish spots, form two interrupted arcs open behind ; the yellowish spot placed in front of scutellum not very conspicuous, strongly narrowing behind, expanding at carina and penetrating a little beyond it. Elytra rather strongly depressed before middle, the depression oblique, subbasal callosity high, but round, covered with clay pubescence like the other tubercles ; suture with a chain of small grey and black dots, black diffuse spots scattered over the elytra, along antemedian depression a black oblique line when looked at from behind ; in third interspace a prominent tubercle in middle (bearing a white spot behind), another at beginning of apical declivity, a third near apex, but separate from margin, in fifth interspace a tubercle behind middle, smaller tubercles farther back in this interspace, and others indicated in seventh and ninth.

Underside with black lateral patch on metasternite and small black lateral diffuse spots on abdomen. Femora pale rufous, broadly black in middle ; tibiae with grey ring before and behind middle, these rings narrower than the blackish median ring, the postmedian grey ring particularly narrow. Tarsi slender, first segment grey at base and apex.

There is no described species of *Hypseus* known to me which this new species resembles.

31. **Hypseus axillaris** Jord. 1895.

Noesa Kambangan, L., 1 ♂.——Described from Perak; new for Java.

32. **Phaulimia priva** Jord. 1895.

Batoerraden, G. Slamat, VII.VIII.X., 4 ♂♂.——They differ from Malayan and Sumatran ♂♂ in the frons being one-third the width of the proboscis instead of one-fourth or one-fifth. Further material may prove this difference to be unreliable.

33. **Phaulimia lineosa** spec. nov.

♀. *Ph. rufescenti* Jord. 1894 colore et statura similis, minus convexa, carina pronoti ad marginem basalem magis approximata, elytris longioribus, ante medium et ad suturam fortius depressis.

Long. (cap. excl.) 3·5 mm.; lat. 1·8 mm.

G. Tongkoeban Prahoe, Preanger, 4–5,000 ft., XI., 3 ♀♀.

Twice as long as broad. Grey markings of pronotum less definite than in *Ph. rufescens*, from Perak and Singapore, the conspicuous triangular grey spot situated in that species before carina half-way to sides replaced by diffuse spots or by a diffuse patch, this pubescent grey area more or less connected across middle of disc with the corresponding patch of the other side, no dorso-lateral subapical grey isolated spot. On elytra the depression behind and in between the subbasal swellings quite distinct; a grey antemedian transverse band extending along suture to scutellum, and a postmedian transverse band, much as in *Ph. rufescens*, but the interstices of the lines of punctures more numerously streaked with grey, less spotted.

34. **Sintor floridus** spec. nov.

♂♀. Pube pallide scarlatina et grisea et nigra variegatus. Rostrum basi impressum, carina abbreviata instructum. Antennae segmentum tertium in utroque sexu secundo brevius. Elytra convexa, ante medium paululo depressa, interspatiis alternis tessellatis. Tibiae brunneo-trimaculatae.

Long. (cap. excl.) 4·7 mm.; lat. 2·0 mm.

Noesa Kambangan, VIII.XI., 1 pair.——Likewise a pair sent by Dr. L. G. E. Kalshoven obtained at Samarang, the ♂ bred from Teak, the ♀ caught.

The pale scarlet pubescence is especially conspicuous on head, shoulders, apex of elytra and pygidium, this colour being liable to fade into a dingy ochraceous buff. Proboscis minutely but densely irrorated with black; behind middle of each elytrum an oblique black patch extending from third or fourth interspace backwards to near outer margin.

In ♂ the basal impression of proboscis continued as depression on each side of the median carina; the latter absent at base, but vestigial at apex; no distinct carina from upper margin of antennal groove to eye; puncturation coarse. Antenna very pale in ♂, club somewhat narrower than in *S. vethi* Jord. 1912, to which the new species is related. Pronotum slightly depressed each side of middle, the centre being raised as a faint hump; lateral carina quite short. Elytra punctate-striate, very slightly depressed before middle, evenly convex

from middle to apex, antemedian dorsal area and greater portion of sutural interspace chequered with grey. Tibiae with three conspicuous brown spots.

35. **Sintor suturalis** Jord. 1895.

Batoerraden, G. Slamat, VIII., 1 ♀.——Known to me only from Assam and Cambodia. This Javan ♀ differs in the two blackish brown dorsal stripes of the pronotum almost being effaced by the extension of the ochreous-buff tomentum, and in the ochreous-buff median line being very thin.

36. **Sintor obliquus** Jord. 1922.

Batoerraden, G. Slamat, VIII., 1 ♀.——Only one specimen known from Banguey.

37. **Sintor vethi** Jord. 1912.

G. Patoeha, Preanger, 5,000 ft., II., 1 ♀, and G. Tongkoeban Prahoe, Preanger, 4–5,000 ft., III., 1 ♀.——Larger than the unique type (from Bangoewangi, Java), measuring 5 mm.; derm almost black, likewise the markings of the upperside, the transverse subbasal patch and the oblique postmedian lateral patch of the elytra being particularly conspicuous. The type-specimen evidently was collected before it had attained full coloration.

38. **Cleorisintor drescheri** spec. nov.

♂. Magis elongatus quam *Cl. glaucus* Jord. 1923, pygidio abdomineque nigro-piceis, pronoto diffusim quadrivittato, elytris bruneo-nigro limbatis; segmento anali ventrali in medio dente armato.

Long. (cap. excl.) 2·7 mm.

Batoerraden, G. Slamat, VIII.IX.X., 4 ♂♂ (type IX.).——Tji Solak, Wynkoopsbaai (Grelak), 1 ♂.

Pubescence bluish grey or greyish blue, much less bright blue than in *Cl. glaucus* from Tonkin. Four broad stripes on pronotum (of which two are lateral) blackish, more or less strongly diffuse and obsolescent, the two dorsal ones continued along suture; lateral margin of elytrum with another dark stripe. In *Cl. glaucus* the pygidium and abdomen are pale orange-buff like the femora and tibiae, in the present species they are dark like the thoracic sterna. The ♂ of *Cl. glaucus* has a broad, flattened ridge in middle of abdomen from segments I to IV; this ridge absent in the new species, in which segment V bears a small but quite distinct tooth at apical margin in middle.

39. **Habrissus rugiceps** Jord. 1903.

Batoerraden, G. Slamat, II.VII., 2 ♀♀.——New for Java; described from Perak.

40. **Dendrotrogus hypocrita** Jekel 1855.

Noesa Kambangan, I.XI., 1 ♂, 3 ♀♀.——The first specimens I have seen from Java.

41. **Xylinades nodicornis** Weber 1801.

Batoerraden, G. Slamat, VII.VIII.IX., 3 ♂♂, 1 ♀.——Many years ago Dr. Sjöstedt very kindly sent me for comparison a Schönherrian specimen of "*Xylin-*

ades westermanni," which I took to be the type on which the original description was based. The specimen belonged to one of the two closely allied species common in Java, one of which I described later as *X. vicinus* Jord. (Nov. Zool., 1903, p. 172). I now see that I described the true *X. westermanni*, i.e. the species with lateral spots on the abdomen, not rings. The supposed type-specimen I compared was the example mentioned by Gyllenhal under *X. westermanni* as var. *β*. The corrected synonymy is as follows :

X. nodicornis Weber 1801,
= *X. westermanni* Gyllenhal 1833 var. *β*.
X. westermanni Gyllenhal 1833, nec var. *β*,
= *X. vicinus* Jordan 1923.

42. **Xylinades armatus** Jord. 1895.

Batoerraden, G. Slamat, VI., 1 ♂, 3 ♀♀ ; G. Tongkoeban Prahoe, Preanger, 4–5,000 ft., II.X., 1 ♂, 1 ♀.——In the second ♂ the second foretarsal segment is simple, the apical pointed tooth normally present on the inner side of the segment being absent.

43. **Exillis luteus** Jord. 1925.

Batoerraden, G. Slamat, V.VIII., and Noesa Kambangan, I.XII., a series.

44. **Exillis carinatus** Jord. 1925.

Noesa Kambangan, VII., 1 ♀.——Both sexes received from Dr. Kalshoven.

45. **Phloeobius facilis** spec. nov.

♂♀. Parvus, cylindricus, supra luteo pubescens, nigro et albo variegatus, subtus griseus. Frons lata, nec carinata nec sulcata. Antennae breves, prothoracis basin haud attingentes, segmento ultimo brevi. Pronotum antice angustum, carina dorsali in medio concava, utrinque convexa. Pygidium longitudine paulo latius. Processus intercoxalis mesosternalis rotundatus, angulis haud prominentibus. Pedes tomento brevi obtecti.

Long. 5·3–6 mm., lat. 2·1–2·5 mm.

Batoerraden, G. Slamat, I.IV.XI.XII., 2 ♂♂, 3 ♀♀.

A very distinct species, remarkable for the shortness of the antenna in both sexes. In the ♂ the last segment is somewhat longer than broad, in the ♀ a little broader than long, club compact, but flattened, shaft rufescent, segment II about twice as long as broad, III, IV and V about the same in length as II, but narrower, VI, VII and VIII somewhat shorter.

Eye rather shorter (transversely) than is usual in this genus. Proboscis and frons rugate-punctate ; middle of head without (type) or with diffuse white median stripe. Pronotum almost exactly as long as broad in the ♂, somewhat broader in ♀, narrowed from middle to apex, the sides not projecting at apical margin : nearly evenly convex, with two white dots each side of middle, the anterior one slightly the larger, farther laterad indications of other white spots : dorsal carina distinctly curved back in middle. Elytra : suture slightly raised at scutellum ; alternate interspaces, especially III and V, with black and white linear spots, less distinct in two specimens (inclusive of type) than in the others ;

subbasal swelling indicated. Pygidium luteous or white, longer than is usual in *Phloeobius*, not much shorter than broad.

Prosternum medianly depressed, the depression continued along apical margin. Mesosternal process rounded off, the lateral angle not projecting. Abdomen of ♂ broadly depressed medianly.

46. **Basitropis nitidicutis** Jekel 1855.

Batoerraden, G. Slamat, I.V.VIII.IX.XII., 2 ♂♂, 5 ♀♀; Patimocan, Zuid-Preanger, XII., 1 ♀; Noesa Kambangan, III.VIII.IX., 1 ♂, 2 ♀♀; Djeroeklegi, Zuid-Banjoemas, VII., 1 ♀.——This common Indo-Malaysian species was not known from Java.

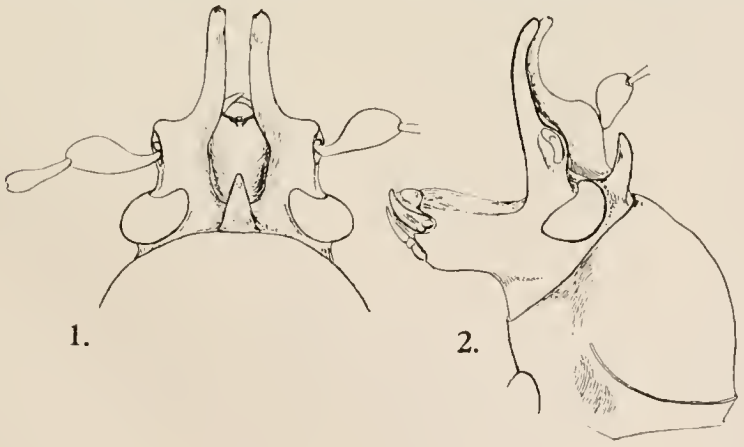
Adoxastia gen. nov.

Occiput tuberculo alto armatum. Rostrum breve, subperpendiculare, apice dilatatum, pone basin mandibulae angulatum. Fossa antennalis dorsalis, margine dorsali elevato, tuberculiformi vel corniculato. Oculus parvus, grosse granulatus, sinuatus, subdorsalis, sed oculi valde distantes. Antenna maris corpore longior, feminae brevior, segmento I baseos angusto, dimidio apicali incrassato, III primo fere acquilongo, IV et V longitudine tertii (♂) vel brevioribus (♀), clava laxa haud compressa. Pronoti carina antebasalis, gradatim arcuata; carinulae obsoletae. Elytra cylindrica, margine basali concavo. Tarsi breves. ——Genotypus: *A. drescheri* spec. nov.

Near *Protaedus* Pasc. 1860. Distinguished from all *Anthribidae* by the horned head. The carina of the pronotum extends a little beyond the middle of the side.

47. **Adoxastia drescheri** spec. nov. (text-figs. 1, 2).

♂. Atra, sparsim griseo pubescens, albo variegata. Rostrum latitudine longius, subplanatum. Tuberculum scrobis longissimum, porrectum, capite



inter hos cornua concavo. Cornu occipitale postice subplanatum, apice subacuto. Antenna rufescens. Pronotum fere rotundum, parum latius quam longius, fortissime rugose punctato-reticulatum, vitta diffusa mediana interrupta alba ornatum. Elytra cylindrica, fortiter punctato-striata, ante medium de-

pressa, in hac depressione atque ante apicem albo variegata. Pygidium griseum, rotundatum, longitudine multo latius.

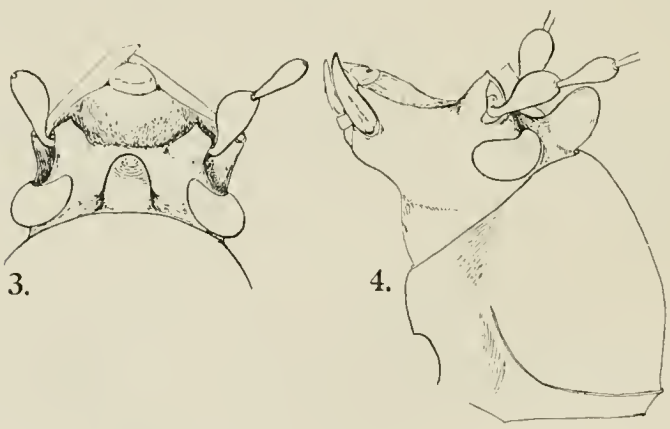
Long. 2·5 mm., lat. 1·2 mm.

Batoerraden, G. Slamat, VIII., 1 ♂.

The antenna is inserted on the horn, which becomes abruptly narrower beyond the antennal groove, the apical two-thirds (approximately) being less than half as wide as the basal portion of the horn, and slightly curved upwards at apex; a small, but distinct median sinus, at the sides of which the apical margin is sharply angulate. Antennal segments I, III, IV and V about equal in length, the others shorter, IX as long as VIII, a little longer than X, which is as long as XI, IX and X conical, XI elongate-elliptical, subacuminate, pale at apex. Pronotum slightly depressed in front of centre, bearing indications of lateral white spots besides the interrupted median diffuse stripe. Elytra emarginate at base, in posterior half evenly convex. Sides of under surface more densely pubescent white than rest of body. Legs evenly covered with short pubescence; tarsi somewhat pitchy, segment II much shorter than broad; hindfemur reaching to near end of abdomen.

48. **Adoxastia trux** spec. nov. (text-figs. 3, 4).

♀. Rufo-brunnea. Tuberculum scrobis breve. Cornu occipitis latum, tumidum. Elytra baseos truncata, inter scutellum et humerum lineola longitudinali alba notata. Segmentum II tarsorum latius quam in specie praecedente.



Long. 3·5 mm., lat. 1·4 mm.

Noesa Kambangan, III.VI., 2 ♀♀; Zuider Geb., Babakan, I., 1 ♀.

Pubescence somewhat coarser than in *A. drescheri*; upperside with scattered grey hair-scales, a basal stripe in third interspace of elytra conspicuous, other concentrations of the light pubescence before the middle of the elytra and towards their apex indistinct and diffuse.

Proboscis shorter than in *A. drescheri*. The tubercle formed by the upper margin of the antennal groove prominent, rounded, the bottom of the groove on a level with the surface of the proboscis. Segment III of antenna longer than any of the other segments, III to VIII almost gradually decreasing in length, IX a little longer than VIII and than X, XI as long as IX, elongate-elliptical, pale

at apex. Tubercle of occiput broader than in *A. drescheri*, its apex rounded. Pronotum one-seventh broader than long, very coarsely punctate-reticulate, with two small depressions before centre and two before carina. Elytra less distinctly depressed before middle than in *A. drescheri*. Legs rufescent, grey pubescence of tibiae scattered.

49. **Apolecta javanica** Jord. 1894.

G. Tongkoeban Prahoe, Preanger, 4–5,000 ft., I.IX., 1 ♂, 1 ♀; Batoerraden, G. Slamat, VII.IX., 1 ♂, 1 ♀.——The pair from the first locality is large, with greyish white dots; the pair from G. Slamat is smaller and slenderer, with yellowish dots. We already had both forms in the collection. As I have found no other differences, I doubt that the specimens represent two species.

50. **Misthosima badia** spec. nov.

♂♀. Rufo-brunnea, subtus grisea, supra griseo variegata. Antenna segmentis I et II pallide rufis, III paulo longiore quam IV, VIII nono longitudine aequali (♂) vel parum breviore. Pronotum confertissime reticulatum, maculis octo brunneis plus minus coniunctis, angulo carinae rotundato. Elytra griseo variegata, area basali magna brunnea, scutello atque macula parva suturali scutello contigua griseis. Mas: tibia et tarso anticis infra villosis, tibiis antica et media inermibus.

Long. (cap. excl.) 2·6 mm., lat. 1·2 mm.

G. Patoeha, Preanger, 5,000 ft., IX., 3 ♂♂, 1 ♀.

Differs from the species (known to me) with reticulated pronotum and rounded angle of the pronotal carina in the proportions of the antennal segments and the unarmed apex of the fore- and midtibiae.

A little over twice as long as broad (at the shoulders). Pubescence of head and pronotum slightly clayish; on pronotum 4 brown spots behind apical margin and 4 before carina, more or less connected with each other, the anterior lateral ones sometimes isolated, sometimes quite small, the anterior central ones separated from each other by a grey line, which is sometimes missing (erased ?). On elytra a large basal triangular area, widest at base, bare of grey spots, or nearly, apart from a grey spot which covers scutellum and extreme base of suture, rest of elytra spotted with grey, the pubescence forming in one of the ♂♂ an oblique band from near shoulder to middle of suture.

Knees rufous, this colour extending more or less far down the tibiae. Foretarsal segment I a little shorter than the three others together; in ♂ the tip of the foretibia very slightly curved.

Epidysnos gen. nov.

♂♀. Ab genere *Dysnos* Pase. 1859 dicto differt clava antennarum lata, segmentis nono et decimo cordiformibus, undecimo elliptico, petiolatis, carina pronotali antebasali, atque oculis lateralibus in utroque sexu valde distantibus. ——Genotypus: *E. procer* spec. nov. Here also belongs *Dysnos sericeus* Jord. 1925.

51. **Epidysnos procer** spec. nov.

♂♀. Magnus, nigro-piceus, nitidus, densissime reticulato-punctatus, pube aureo-sericea sparsissime vestitus; pronoto vermiculatim profunde impresso,

carina dorsali medio interrupta, angulo laterali obtuso, angulo vero prothoracis recto ; elytro punctis grossissimis, fossis profundis atque cavis irregularibus valde scabro ; maris tarsorum quatuor posticorum segmento primo dente apicali ventrali instructo.

Long. 4·5–6·5 mm., lat. 2·0–3·0 mm.

Batoerraden, G. Slamat, VII.X., 5 ♂♂, 1 ♀.

The largest known species of the group of genera allied to *Choragus* Kirby 1818. Pitchy black, base of antenna and segments III and IV of tarsi usually more rufescent. Proboscis with small apical median sinus, the margin being depressed around the sinus, at base a median groove, which is short and deep and continued to apical margin as a shallow depression. Frons between upper portions of eyes about one-third narrower than proboscis, very little wider in ♀ than in ♂. Antenna not reaching to base of pronotum ; segment I longer than II, this longer than III, III to VIII slightly decreasing in length ; club flat, the stalks shorter in ♀ than in ♂, IX in ♂ about as long as III, X and XI pale, the widened portions of IX and X wider than long, XI longer than broad.

Pronotum one-third broader than long, in posterior half nearly three-fourths broader than the head inclusive of eyes, strongly narrowed from middle to apex, very coarsely rugate-punctate-reticulate, on each side with about 10 impressions which more or less run into one another, the surface being very uneven, a raised median line at least indicated in apical half ; dorsal carina interrupted in middle, lateral angle obtuse, rounded, lateral carinula horizontal, not directed obliquely downward, the angle it forms with the basal margin about 90°. Elytra cylindrical, very coarsely punctate, the punctures enlarged into pits and partly merged together to form grooves, fewer than 20 in a row, interspaces convex, very uneven, besides the subbasal swelling there is a hump in middle of third interspace and another sublaterally before middle, the anterior portion of the declivous apical area also being swollen, the elytra recalling a badly ploughed field. Pygidium densely punctate, gradually narrowing, much broader than long, apically evenly rounded, apically slightly narrower in ♀ than in ♂.

Underside very densely punctate. Mesosternal process tuberculiform. Metepimerum with a grey silky reflection in certain lights. First tarsal segment less than twice as long as the tibia is broad at apex. ♂ : Ventral tooth of second segment longer in mid- than in hindtarsus ; abdominal sternites I to III flattened in middle.

TWO NEW ORIENTAL ANTHRIBIDAE.

By DR. KARL JORDAN.

1. Zygaenodes kalshoveni sp. nov.

NEAR *Z. horni* Jord. 1901; broader, proboscis more strongly narrowing apicad, tubercles of elytra less distinct.

♂. Rufescent brown, the derm of the white-coloured parts more or less pale rufous. Head greyish white, occiput with two large brown patches separated by a thin grey line; rostrum flat, depressed laterally above and below raised margin of antennal groove, at apical margin (measured between extreme lateral bases of mandibles) a very trifle (less than one-tenth) over half as wide as between antennae and one-fifth narrower than long (the length measured from apical margin to lowest point of depression between eye-stalk and occiput); occiput rather strongly convex, but not divided by a longitudinal depression as is the case in *Z. antiallus* Jord. 1911, *Z. latipes* Jord. 1911 and a few other species; eye-stalk short, distinct only in a dorsal view, measured behind the eye about half as long as the eye is wide. Antenna reaching beyond pygidium, pale rufous, club darker, segments III to VII nearly the same in lengths, VIII shorter, IX two-thirds of VII, X two-thirds of IX, XI as long as IX.

Pronotum sparsely pubescent grey, with interrupted thin white median line as continuation of the occipital line, laterally of this line an oblique brown spot before carina, and an indistinct brown apical square, further laterad an elongate brown spot before carina and a large brown space from lateral carina to apical margin, these brown markings rather diffuse.

Scutellum white, broader than long. Elytra in dorsal aspect one-ninth longer than broad, oblong, flattened above, depressed before middle and posteriorly at suture, stripes of punctures not deep, interstices feebly convex, in third interspace an elongate spot behind base and another in middle distinctly elevate, both brownish black; general colour of pubescence grey mixed with brown, shoulder angle nearly black, an indistinct triangular patch from lateral margin to median raised spot brownish, widest at lateral margin, alternate interspaces (1, 3, 5, 7, 9) with some brown dots.

Pygidium greyish white, with an oblique brown basal spot on each side bounding a greyish white triangular median basal area.

Legs rufescent, knees and a median spot on tibiae brown.

Length 3·3 mm., width 1·8 mm.

British India, intercepted in port at Java, 2 ♂♂ (Dr. L. G. E. Kalshoven).

2. Araecerus conabilis sp. nov.

Near *A. simulatus* Gylh. 1833, but broader, more convex at the base of the elytra, frons narrower, legs darker rufous brown, angle of pronotal carina smaller, foretibia and -tarsus of ♂ similar to those of ♀, not long-hairy; pygidium of ♀ sharply pointed.

♂♀. Black-brown, rufescent in parts (immature specimens pale rufous, of

course), pubescent silky grey, slightly yellowish. Upperside of head silky grey, on occiput two large brown spots confluent behind, often a brown dot in middle of frons ; a short central carina on frons more or less indicated ; width of proboscis between antennal grooves three-fifths of frons. Antenna blackish brown, rufescent at base, practically alike in ♂ and ♀, club nearly symmetrical, IX slightly longer and broader than X, about one-third longer than broad, one-sixth shorter than III.

Pronotum convex, not depressed in middle from apex to base, in ♂ nearly the whole central area from apical margin to carina silky grey, with few brown spots, in ♀ brown spotted with grey ; angle of carina smaller than 90°, extreme tip rounded off ; side of pronotum distinctly incurved in front of angle, the lateral carina therefore rather strongly flexed.

Elytra two-fifths longer than broad, rather strongly convex at base, but not humped, punctate-striate, the stripes more distinct laterally than dorsally; diffusely grey, alternate interstices spotted with grey and brown, the spots more conspicuous in ♀ than in ♂.

Pygidium of ♂ one-fourth to one-third broader than long (measured from transverse carina), rounded ; in ♀ triangular, as long as broad, tip pointed and turned up.

Sides of abdomen with a row of large punctures at bases of segments I, II and III, otherwise punctate and granulate, IV rather strongly granulose, but without distinctly impressed punctures ; in ♂ the middle faintly flattened.

Legs rufescent brown, often the knees and the middle and apex of tibiae darker, but not spotted ; forelegs not essentially different in ♂ and ♀, foretibia of ♂ without long hair and without tubercles on inner surface, foretarsal I not enlarged, not long-hairy, gradually widening towards apex, where it does not quite attain the width of the apex of the tibia, II also gradually wider, apically somewhat broader than the tibia.

Length 3·2 mm., with 1·7 mm.

Java : Tijbodas, 1,500 m., ix.1923, a series of both sexes (L. G. E. Kalshoven), bred " from fruits of *Podocarpus* freshly gathered from the tops of the giant trees which occur in the mixed forest near Tijbodas on the north slope of Mount Gedé."

SOME *ANTHRIBIDAE* FROM TROPICAL AFRICA.

By DR. KARL JORDAN.

(With one text-figure.)

1. **Mecocerus gratus** spec. nov.

♂♀. Fossa dorsalis rostri profunda ; tarsorum segmentum secundum griseum ; maris fovea metasternalis lanata magna ; rostri vitta mediana grisea in capite divisa utrinque trans occiput continuata ; elytra fascia basali, macula elongata obliqne antemediana atque fascia transversa angusta postmediana griseis notata.

Long. (cap. excl.) 9–10 mm.

Hab. Belgian Congo : Sankuru, Komi, vii. 1928, ii. and vii. 1930 (J. Ghesquière), 2 pairs.——Type in Musée du Congo Belge.

In structure closely agreeing with *M. elathratus* Jord. 1903. The grey pubescence of the proboscis continued across occiput along eyes, not in middle as in several other small African species of the genus. On pronotum a transverse row of six buff or grey spots, the two dorsal ones enlarged forward as a short stripe, the two stripes converging anteriorly ; before scutellum a larger buff spot. On elytra a basal transverse band, curved back at sides, reaching lateral margin behind shoulder, from near, or from, the lateral portion of this band towards middle of suture an oblique streak, and a narrow, straight, transverse band before apical declivity buff or grey, as are also some variable spots in basal and apical areas, no dots in median area.

On underside, a spot behind forecoxa and a vestige of a spot before coxa, a streak on mesepisternum (more or less interrupted), a transverse lateral spot posteriorly on metasternite, and the apical margins of the abdominal segments buff or grey. Tibiae and tarsi grey.

2. **Syntophoderes simplicipes** spec. nov.

♂♀. *S. guineensi* Kolbe 1895 similimus, major, tibia media maris inermi.

Long. (cap. excl.) 10–11 mm.

Hab. Belgian Congo : Buta, type (S. M. Reine Elizabeth) ; Barumbu, viii. 1925 (J. Ghesquière) ; Sankuru, Komi, iv. 1930 (J. Ghesquière) ; Aruwimi, Bomili, viii. 1926 (Eng. Bock) ; 4 ♂♂.——Type in Musée du Congu Belge.

So similar to *S. guineensis* that I have hitherto overlooked the differences. Whereas in the ♂♂ of the other species the midtibia bears a prominent apical tooth, it is simple in the new species. This difference is corroborated by the genitalia : pygidium as short as in *S. guineensis*, but the hypopygidium decidedly broader than in that species. ♀ as in *S. guineensis*.

3. **Syntophoderes phrator** spec. nov.

♂♀. Etiam simillimus *S. guineensi*, fronte capitis antice paululo angustiore ; pygidio atque segmento quinto abdominali longiore ; hypopygidio multo angustiore, acuto, apice subhamato.

Long. 6–12 mm.

Hab. Belgian Congo : various places ; also Gaboon and Cameroon ; type : Butu, Belgian Congo.

In structure similar to *S. sparsilis* Jord. 1913, but in colouring more like *S. guineensis*. Frons anteriorly a little narrower than in those species. In ♂ the pygidium and last (external) abdominal sternite longer than in *S. guineensis*, this sternite being in centre as long as the two preceding ones together ; hypopygidium narrow, its tergite forming a hook, and its sternite being long, sharply pointed with the sides strongly chitinized and straight.

4. **Anthribus ornaticollis** spec. nov.

♂♀. *A. subpenicillato* Thoms. 1858 similis, elytris tuberculo subapicali instructis, maris segmento primo tarsorum mediorum dente acuto armato.

Length : 8–12 mm.

Hab. West Africa : Kuilu, French Congo ; also Kasai R. and Cameroon.

Among the *Anthribidae* of the Carnegie Museum collected at Efulen, Cameroon, by H. L. Weber, there are specimens of both sexes of two species of *Anthribus* (sensu Latreille, Schönherr, Lacordaire) with a transverse row of prominent tufts on the pronotum as in *A. subpenicillatus* Thoms. 1858. On comparing the specimens with Thomson's description I find that the insect I have hitherto looked upon as being *A. subpenicillatus* agrees less well with the description than does the second species now seen for the first time.

♂♀. Pubescent cinnamon, proboscis, diffuse and ill-defined spots on head and elytra, the pronotum except a large apical dorsal area, base of elytra and the median sutural area pearl grey, a transverse area on pronotum inclusive of tufts ferruginous, variegated with pearl grey, base of elytra, middle of sutural area, apex and pygidium more or less shaded with ferruginous. Tufts of pronotum and basal one of elytrum very prominent ; a row of five tufts on elytrum, the second placed in the cinnamon antemedian area creamy white, a similar white tuft behind, and forming part of, first as well as fifth tuft ; on apical declivity a rather prominent projection. Underside medianly grey, apex of abdomen more or less ferruginous ; apical margin of second abdominal sternite not straight, but distinctly curved backward, in ♂ the segment flattened in middle, slightly impressed apically, with an apical tubercle, which is not median, but is placed a little towards the left side. First midtarsal segment of ♂ nearly as long as II to IV together, its apex widened on the outer side (away from body) into a sharp conical tooth.

5. **Zygaenodes auritus** spec. nov. (text-fig. 1, ♂).

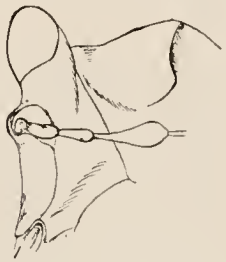
♂♀. *Z. monstroso* Pasc. 1860 simillimus, rostro parum latiore, maris segmento tertio fortissime dilatato.

Long. 3·7–4·0 mm.

Hab. Belgian Congo : Sankuru, iv. 1925, type, and Kassai, ix. and xi. 1921 (Lt. Ghesquière), 2 ♂♂, 2 ♀♀.——Type in Musée du Congo Belge.

Eye obliquely sinuate as in *Z. monstrosus*, in ♂ the sinus almost effaced, the frontal angle of the eye sharp and projecting, the ventral angle very obtuse and rounded off, in ♀ the sinus a little more distinct, but also oblique, the upper

angle projecting farther forward than the ventral angle (in *Z. quadrituberculatus* Fåhrs. 1871 the sinus is symmetrical). Segment III of antenna of ♂ more strongly dilated in apical half than even in ♂ of *Z. quadrituberculatus*, narrow at base, gradually widening to middle, then more suddenly expanding, being about three times as long as broad, and much broader than segment I.



1.

In colouring, and in the shape and structure of the thorax and elytra, there is no difference from *Z. monstrosus*, except that the four specimens of the new species are somewhat darker (which may be due to discoloration). The ♀ does not seem to be distinguishable except by being more robust and having an apically somewhat broader proboscis.

6. **Epicerastes adustus** spec. nov.

♀. Niger, supra tomento russato, infra griseo tectus ; elytris duabus fasciis latis (ante et post medium positis) atque macula magna humerali griseis ; tarsis atris, segmento primo apice excepto griseo-albo. Antenna elytrorum medium haud superans ; segmentum secundum paululo brevius quam primum.

Long. 7–8 mm.

Hab. Cameroon : Efulen, October–November 1913 (H. L. Weber), 3 ♀♀, type in Carnegie Museum.——Belgian Congo : Mayumbe (R. Mayné).

The short antenna with the second segment long, the black second tarsal segment and the russet upperside are a combination of characters by which this species is easily recognized.

An elongate spot in centre of frons, the border of the eye, an apical median spot and several lateral ones on pronotum and dots at the sides and apex of elytra russet, more or less shaded or centred with grey, an indication of a short median stripe from carina forward and some tomentum in front of the carina grey ; on elytra a large antemedian patch and a narrower postmedian one, both extending across suture to fifth line of punctures and connected with each other at suture, and a large shoulder-patch grey ; a broad median ring on tibiae greyish white ; pubescence of underside of body grey, somewhat sparse, not concealing structure of derm.

Base of proboscis concave in between the curved carinae. Segment I of antenna one-sixth longer than II (curved base of I excluded), IX very little longer than II, as long as VIII, but much thicker ; derm of all the segments black, but III to IX pubescent white except apices. Pronotum with deep impression before carina and an indication of a longitudinal impression each side of raised centre ; dorsal carina nearly straight, dorsal carinula nearer to basal edge than to carina. Elytra depressed before middle, subbasal swelling distinct, alternate interspaces convex, especially third. Pygidium russet, with a little grey. Centre of prosternum coarsely punctured like sides ; abdominal segments II and III with large punctures on lateral area.

7. **Epicerastes muscosus** spec. nov.

♂♀. Pube olivacea obtectus, nigro-variegatus ; ♂ segmento secundo antennarum latitudine plus triplo longiore ; segmento secundo tarsorum nigro ; pronoto antice prosticeque impresso ; elytris ante medium depressis.

Long. 7–9 mm. (cap. excl.).

Hab. Cameroon: Lolodorf (L. Conradt, 1895), type ♂; in Mus. Pittsburgh a series of both sexes from Efulen (H. J. Weber) and one ♀ from Lolodorf (J. A. Reis).

Black, pubescent olive or olive-grey, middle of underside grey; pubescence somewhat condensed at sides of occiput, in middle of apex of pronotum and sometimes as an indistinct antemedian spot on sides of pronotum; elytra variegated with black, a linear median mark in third interspace being especially prominent, sometimes the subbasal, median and subapical black spots more numerous and enlarged, forming three zones variegated with olive, interspaces VII and IX with black dots. Base and middle of tibiae (also their undersides) and basal two-thirds of first tarsal segment greyish white.

Segment II of antenna one-fourth shorter than I (curved base of I excluded). Eye slightly oblique, a very little over one-third longer than its distance from base of mandible. Pronotum impressed anteriorly and posteriorly and very slightly each side of middle; dorsal carina almost straight (apart from the even lateral curve forward-downward), interrupted in middle or nearly.

Elytra depressed before middle, subbasal swelling distinct, higher than the suture, third interspace more convex than the others.

8. **Epicerastes exstans** spec. nov.

♂♀. Segmentum secundum antennarum longum, tarsorum album. *E. muscoso* simillimus, pronoto levius ac elytris apice fortius impressis.

Long. 8–9 mm.

Hab. Belgian Congo: Kondué (Ed. Luja), one pair.

Apart from the white second tarsal segment, the colouring is the same as in *E. muscosus*. The depressions on the pronotum are less distinct and the oblique creamy ridge ending at apical sutural angle of the elytra is higher, the impression between it and suture distinct.

9. **Epicerastes latimanus** spec. nov.

♂. *E. dorsali* similis, magis elongatus, supra indumento olivaceo tectus; ab omnibus speciebus huius generis differt tarsorum segmentis secundo et tertio latioribus.

Long. 10 mm.

Hab. Nyasaland: Zomba, Upper Shiré R., 3,000 ft., x.–xii.1895 (Dr. P. Rendall), 1 ♂.

More uniformly greyish olive than *E. dorsalis* Kolbe 1895, the colour of the pubescence of the elytra dorsally the same as laterally. Elytra longer than in *E. dorsalis*, dorsally more flattened. Pygidium likewise longer. Prosternum less coarsely rugate-punctate, with a transverse depression between coxae and anterior margin. Eye double as long as its distance from base of mandible. Tarsal segments II and III broader than in any other known species, II white as in *E. dorsalis*, measured along centre and across middle of apical margin not quite twice as long as broad.

10. **Epicerastes musculus** spec. nov.

♂♀. *E. prominulo* Jord. 1922 statura et colore simillimus. Oculus brevior et minus prominens. Maris tibia media absque dente apicali.

Long. (cap. excl.) 3·3–3·6 mm.

Hab. Cameroon: Johann-Albrechtshöhe (L. Conradt), 1 ♂, 3 ♀♀.

Rufous brown, variegated with grey pubescence, which varies somewhat in distribution and does not form a definite pattern; on pronotum five indefinite rufous patches; antenna and tibiae uniformly rufous.

Proboscis with median carina, but the depressions in which the antennal grooves are situated not bounded by a carina. Eye very little longer than broad. Antenna extending beyond pygidium in both sexes, segment II about half as long again as broad, X at least twice as long as broad. Pronotum evenly and moderately convex, without distinct impressions, densely covered with umbilicate punctures; carina evenly curved from side to side. Elytra feebly depressed before middle, a little over two-thirds longer than broad, subbasal swelling indicated, interspaces slightly convex, third not higher than the others, basal margin as in *E. prominulus*, less raised than in the other species of the genus. As in *E. prominulus*, abdominal segment 1 of ♂ without tufted groove, but in contrast to the ♂ of that species I to III not flattened and IV and V only feebly so. Mesosternal process somewhat broader than in *E. prominulus*.

Epicerastes Kolbe 1895, *Ent. Zeit. Stettin*, lv. p. 385 (1894, published 1895) is known only from Tropical Africa. I select as genotype *E. convexicollis* Kolbe 1895.

KEY TO THE SPECIES OF *EPICERASTES*

a. Segment II of tarsi black, at most with indication of white pubescence . b
Segment II of tarsi white . . . . . e

b. Disc of pronotum feebly depressed before carina, no distinct median callosity c
Disc of pronotum conspicuously depressed before carina, a distinct median callosity . . . . . d

c. Proboscis with dorso-lateral yellowish grey stripe *E. undulatus* Qued. 1886
Proboscis uniformly pubescent . . . *E. convexicollis* Kolbe 1895

d. Upperside greyish olive . . . . . *E. muscosus*, cf. p. 307
Frons, pronotum and sides of elytra more or less russet; antenna of ♀ reaching to middle of elytra . . . . *E. adustus*, cf. p. 307

e. Antennal segment II at least three times as long as broad
E. exstans, cf. p. 308
Antennal segment II much less than three times as long as broad . f

f. Pronotum without distinct median callosity, impressions on disc vestigial g
Pronotum with distinct median callosity (or tubercle) . . . . k

g. Upperside dark brown, with a few definite whitish grey spots, especially conspicuous in third interspace of elytra . . *E. pygidialis* Jord. 1894
Upperside more or less olive or grey . . . . . h

h. Eye elliptical, longitudinal i
Eye more ovate, placed obliquely, apical median spot of pronotum large
E. subcostatus Qued. 1886

i. Pronotal carina evenly curved; ♂ without round tufted groove on first abdominal segment . . . . . j
Transverse carina almost straight . . . *E. costiger* Kolbe 1895

j. Apex of mesosternal process almost pointed ; midtibia of ♂ with pointed apical tooth ; abdomen of ♂ depressed in middle from base to apex
E. prominulus Jord. 1922

Apex of mesosternal process round ; midtibia of ♂ without apical tooth ; abdomen of ♂ not depressed in middle . . *E. musculus*, cf. p. 308

k. Tarsal segment II more strongly dilated than in any other known species
E. latimanus, cf. p. 308

Tarsal segment II normal l

l. Elytra with subbasal callosity high . . . *E. sericans* Kolbe 1895

Elytra with subbasal callosity vestigial, not tuberculiform ; in antemedian depression of elytra a greyish white patch, usually more or less extended backwards at suture . . . . . m

m. Grey antemedian patch of elytra extended forward towards shoulders
E. albinus Jord. 1894

Grey antemedian patch anteriorly straight . . *E. dorsalis* Kolbe 1895

THREE NEW SOUTH AMERICAN FLEAS.

By DR. KARL JORDAN.

(With 5 text-figures.)

Ctenidiosomus gen. nov.

♀. Related to *Stenoponia* J. & R. 1911 and *Neotyphloceras* Roths. 1914; the genal comb absent, the genal margin produced downwards into a triangular process, the labial palpus consisting of five segments and reaching to near the apex of the forecoxa, the abdominal tergites II to VI with comb of long spines, etc.

Head almost evenly rounded (text-fig. 1). Frons without tubercle; with two rows of bristles; genal process broad, apically rounded, its ventral margin, about vertically below eye, incurved, in front of this bay the marginal area enlarged downward into a triangular lobe which is about as long as broad, the tip of this lobe about one-fourth nearer to the apex of the genal process than to the oral angle of frons. Occiput without the internal incrassation of *Stenoponia*, with three rows of bristles. Eye not fully developed, pale, its antero-ventral area semitransparent, and with the rim very thin. Antennal groove almost closed; segment II of antenna with the bristles short; club long, strongly segmented. Proportions of maxillary palpus: 22, 29, 23, 29. Proboscis reaching to $\frac{9}{10}$ of forecoxa.

Pronotum long, with two rows of bristles and additional dorsal bristles, and comb of spines. Mesonotum one-fifth longer than metanotum, without subapical internal setiform spines, and like the metanotum studded with numerous bristles. No apical spines on metanotum.

On abdominal tergites 4 or 5 rows of bristles, the anterior row or rows irregular; on II to VI a comb of sharp spines (text-fig. 2) about as long as, but somewhat narrower than, the last but one spine of the pronotal comb; below the combs the segments widened; two long antepygidial bristles on a double cone. Pygidium strongly convex. Stylet long, cylindrical.

Outer subapical dorsal bristle of femora short and stumpy, stout; outer dorsal bristles of tibiae also stout, very much shorter than the inner ones. Segment V of all tarsi with five pairs of lateral plantar bristles, ventrally at and near apex 7 or 8 short bristles arranged in a curved row, the two middle bristles thin.

One spermatheca, of which the head is ovate.

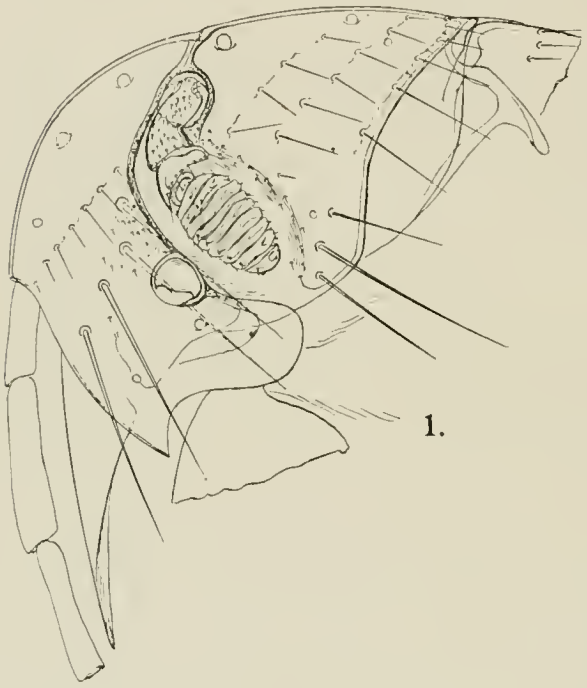
Genotype: spec. nov. here described.

1. **Ctenidiosomus spillmanni** spec. nov. (text-figs. 1, 2).

A large species. Only the ♀ known.

Head.—In front of eye four large bristles, of which the uppermost placed near the antennal groove and much farther forward than the others; an anterior row of 6 or 7 small bristles; between eye and upper long bristles numerous minute bristles. On occiput the first row contains on each side 4 bristles, the second 5 or 6 and the subapical row 7 or 8, the bristles of the anterior two rows rather thin. Minute bristles on segment I of antenna numerous; club not quite twice as long as broad. Maxilla a little longer than hindtarsal segment II.

Thorax.—On pronotum a comb of twenty-two pointed spines, not quite touching each other at base, the subdorsal spines two-thirds the length of the pronotum; in front of the posterior row of 17 long bristles another row of 17, and before this about 8 additional dorsal and subdorsal bristles. Posterior row on mesonotum with 17 bristles, on metanotum with 18, between this row and basal margin numerous bristles in more than three rows, but on metanotum an anterior lateral area without bristles; on mesopleura 8 or 9 bristles; mesosternum projecting downwards as a rounded nose, above which there is a small bristle; metepisternum with one or two bristles; on metasternum five bristles near its posterior margin, two or three of them evidently large (broken away); on metepimerum two vertical rows (6, 6, and 5, 7, and a few minute additional bristles).

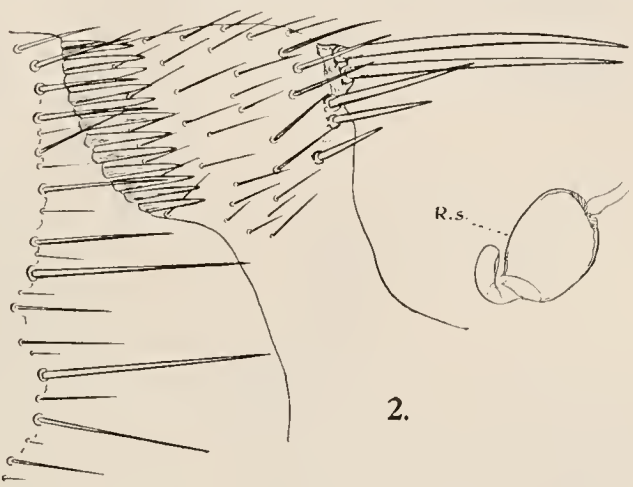


1.

Abdomen.—On tergites five or six rows of bristles, anterior rows irregular and not complete, numbers (two sides together) in posterior row on tergite I 14, II 25, III 32, VI 25, VII 12, these bristles stout; combs dorsally slightly interrupted, spines sharp and long, the bristles of the posterior row not reaching to the apex of the spines, numbers (two sides together) on II 27, III 33, IV 31, V 30, VI 27, the spines slightly different in length. On the sternites the posterior row very oblique and its bristles strong, at least the more ventral ones; basal sternite ventrally divided from base to middle, on upper portion of its side 7 or 8 small bristles, on ventral portion (two sides together) 40; numbers on sternites III to VI 38 to 50, 14 (only the large bristles of the posterior row being included in the 14).

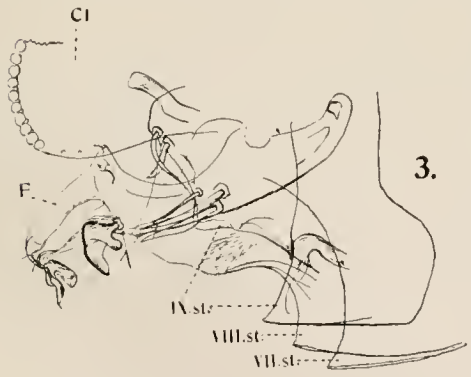
Legs.—On inner surface of hindcoxa near anterior margin an irregular row of 7 or 8 small bristles. On outer side of mid- and hindfemur a ventral row of bristles, the last bristle rather long, the next and a subbasal one about the size of bristles at the anterior (= ventral) margin of the femora, the others quite small; hindtibia with eight dorsal notches inclusive of apical one, in third, fourth, fifth, and sixth notches two stout bristles and on the inner side a slender one, in seventh notch three short and stout and one slender, near the notches, on outside, a row of eight bristles; on ventral side three notches with three stout bristles each, a fourth notch with small ones, along ventral margin, except basal

fourth, short bristles, also a row on outside near this margin ; the longest apical bristle of hindtibia (which is ventral) reaching to three-fifths of hindtarsal segment I. No bristle of hindtarsus extending to near apex of the segment following ; segment IV long in hindtarsus, three times as long as apically broad, in fore- and midtarsus less than one-half longer than broad ; sole of V with numerous small hairs in fore- and midtarsus, and with few such hairs in hind-tarsus. Measurements : midtarsus 44, 24, 14, 11, 22, hind-tarsus 88, 60, 42, 23, 29.



2.

Modified Segments.—Sternite VII gradually decreasing in width, its narrow apex truncate, slightly emarginate, the angles sharp, but not produced ; between posterior row and base on the two sides together more than 100 bristles. The two large antepygidial bristles about equal. Stigma of segment VIII large, recalling the rose of a watering-can, above it about 15 bristles on each side, below it 4 or 5, on the widened area 30 odd bristles ; sternite VIII without bristles. Pygidium on each side with 23 grooves, the sinus formed by it and the anal segment with strongly chitinised sides ; anal tergite with median hump bearing bristles. Stylet nearly six times as long as broad, with an apical bristle and two very minute ones, the apical bristle shorter than the longest dorsal bristle of the anal tergite. Spermatheca somewhat distorted in mounting, its head irregularly ovate, tail short and narrow (text-fig. 2).



3.

Length 4·5 mm., hindfemur 0·75 mm.

Hab. Ecuador : Pichincha, from *Neomys* spec., 23.xii.1930 (Professor F. Spillmann).

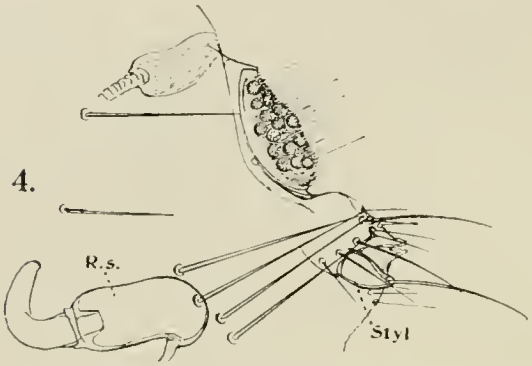
A most interesting discovery, for which I am greatly indebted to Dr. F. Spillmann.

2. **Craneopsylla chiris** spec. nov. (text-figs. 3, 4)

♂♀. Close to *C. wolffsohni* Roths. 1909, from Chile ; pronotal comb with 22 spines.

♂. Ventral portion of IX. st. (text-fig. 3) slightly incurved, the ventral angle

acute ; at apex two bristles and further down the ventral margin a bunch of three others, three of these five bristles appearing to be flattened, sword-like (the outline of the segment is much obscured in the only specimen in the collection). Clasper with a marginal row of close-set long bristles as in *C. wolffsohni* ; exopodite dorsally humped at two-thirds, at ventral margin two short, broad, modified spiniforms, one at apex, the other opposite the dorsal hump, both bilobate, the proximal one recalling a mitten or a boxer's glove.



4.

♀. Two antepygidial bristles instead of one. Stylet short and proximally broad (styl. text-fig. 4), strongly narrowing apically. Stigma of VIII. t. widest towards trachea, the cavity much narrower at margin of segment than in *C. wolffsohni* ; below this stigma two bristles and farther down three or four in a row (besides numerous bristles on the widened ventral area). Head of spermatheca (R.s.) straighter and somewhat longer than in *C. wolffsohni*, the end bearing the orifice less curved downwards.

Hab. Argentina : Rio Negro, Pilcañeu, 1,000 m., April 1920, on *Phyllotis xanthopygus* (H. E. Box), one pair.

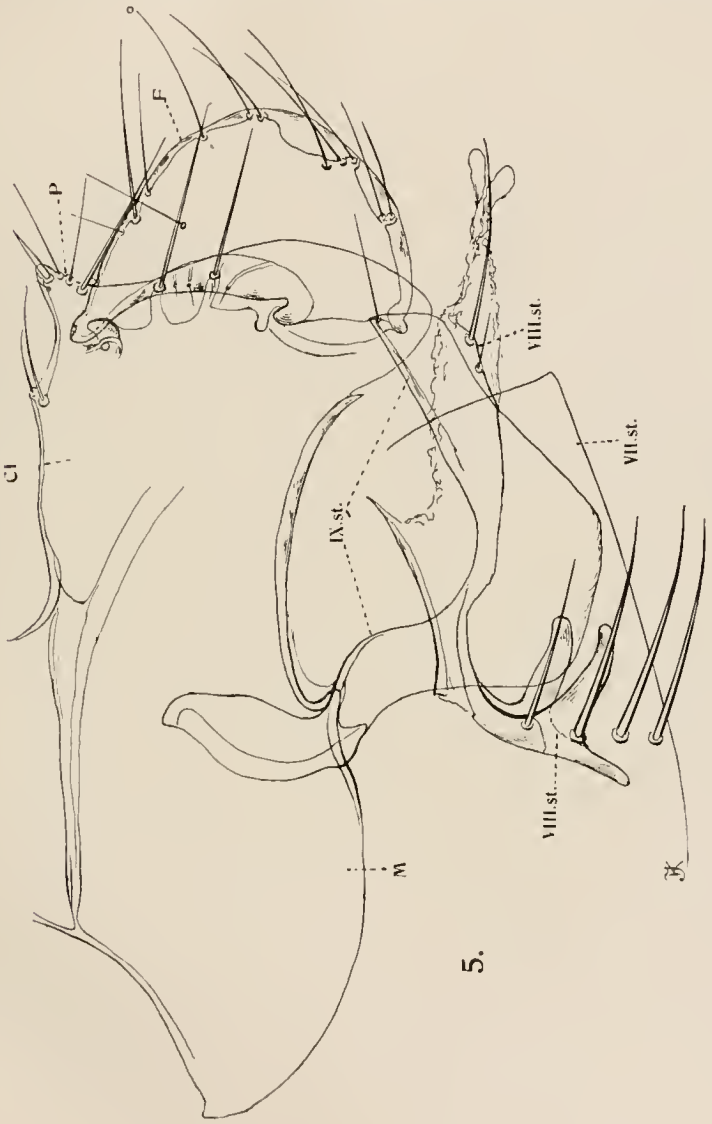
The ♀ with two antepygidial bristles recorded in Nov. Zool. xxi. p. 260. no. 32 (1914) from " Ost-Feuerland," probably belongs to this species.

3. **Craneopsylla tolmera** spec. nov. (text-fig. 5).

One might be in doubt as to whether the various forms of *Craniopsylla*, which fall into three natural groups, represent either three genera each with several species, or three species each with several subspecies. A large series of specimens of *Craniopsylla* collected in Tucuman and lately acquired for the N. C. Rothschild collection contains both *C. wolffhuegeli* Roths. 1909 and its very near ally *C. minerva* Roths. 1903. If these specimens are all from the same district as stated by the collector, *C. wolffhuegeli* and *C. minerva* must be considered as independent, i.e. specific, units, and consequently also the other forms described should be treated as species. In the case of the Ecuadorian example hereafter described there is a difficulty. The specimen belongs to the group containing *C. mars* Roths. 1898, *C. ares* Roths. 1908 and *C. inca* Roths. 1914, all three being known from one ♀ each, whereas the Ecuadorian specimen is a ♂. It may be the ♂ of any one of the three, or it may represent a distinct species.

♂. *C. tolmera* differs from *C. inca* in the comb of the pronotum containing 30 spines instead of 25, in the anterior (third) row of the pronotum consisting of 12 bristles instead of 3, and the abdominal tergite VI bearing 8 and VII 6 bristles in front of the postmedian row, i.e. fewer than in *C. inca*, in which the numbers are 16 and 11 respectively. The hindfemur has in the posterior half of the outer surface 4 lateral and 3 ventral bristles as in *C. inca*. Hindcoxa much

broader than in *C. inca*. Clasper (Cl) inclusive of its manubrium (M) more than three times as long as it is broad in middle (text-fig. 5). Manubrium very short and broad, triangular, its ventral margin excurved, its upper margin slightly incurved, this margin shorter than the manubrium is broad near its



5.

base. Rest of clasper irregularly oblong with the apical ventral angle round and extending downward; upper margin nearly straight, towards apex with a small hump which bears two bristles; upper apical angle produced as a short cone, at the apex of which there is a rather stout and short spiniform, below this three bristles, two thin and one stouter and longer, farther down the apical margin of the clasper two more bristles about the size of the one above them;

ventral margin incrassate, incurved, the incrassation curved as a sabre, ending distally in a point, which appears to project. Exopodite F not unlike that of certain bat-fleas, strongly arrowing to apex, the posterior margin almost forming a semicirele and the anterior margin slightly incurved and short, being about one-third the posterior margin ; along the latter eleven bristles, most of them arranged in pairs, the uppermost short and very thin, the next the largest ; on outer surface one thin, but fairly long bristle ; the exopodite rests with its tip against a projection from the inner surface of the clasper ; this projection strongly chitinised and resembling the end-segment of a thumb to some extent. The apex of the vertieal arm of IX. st. irregularly elongate-ovate, the arm curved in middle ; the ventral area broad, dorsal and ventral margins almost parallel, the portion between ventral and vertical arms about twice as wide as the ventral arm is broad ; apex of ventral arm obliquely truncate, upper angle sharp, bearing a small bristle, lower angle completely rounded off. VIII. st. with a proximal portion forming a sort of tripod, which is dorsally drawn out distad into a long lobe which ends with two membranous appendages (one each side) with rounded tips ; proximally to these appendages a long bristle and a small one ; proximal two-fifths of upper margin incrassate in a similar way as the ventral margin of the clasper, but the free point of this sclerite turned upwards.

Length 3 mm. ; hindfemur 0·43 mm.

Hab. Ecuador : Pichincha, from *Neomys* spec., 23.xii.1930 (Professor F. Spillmann), 1 ♂.

ZUR SYSTEMATIK DER GATTUNG GERYGONE.

Von DR. WILHELM MEISE,

Museum für Tierkunde, Dresden.

(Mit Tafel V–VII und 7 Karten im Text.)

DIE Gattung *Gerygone* umfasst Muscicapiden des indoaustralischen Gebietes. Ihre Revision muss das Ziel haben, neben der Untersuchung über die Gliederung in Arten und Unterarten eine klare Abgrenzung gegen die benachbarten Gattungen zu geben.

Bei meinem Versuch, dies zu tun, durfte ich das *Gerygone*-Material, wenigstens das wichtigste, der Museen in Tring, Berlin, Genua, Wien, Singapore, Budapest, Basel, München, Hamburg und Dresden sowie einige Bälge des Leydener und American Museums benutzen. Mein aufrichtiger und herzlicher Dank sei allen, die das Zusammenbringen von über 500 Bälgen dieser zum Teil recht seltenen Arten ermöglichten, ausgesprochen, den Herren Lord Rothschild, Dr. K. Jordan, Dr. E. Hartert und Mr. A. Goodson, Prof. Dr. E. Stresemann und Dr. E. Mayr, Prof. Dr. Gestro, Mr. C. Boden Kloss, Dr. F. Sarasin und Dr. J. Roux, Dr. M. Sassi, Dr. E. Greschik, Prof. Dr. van Oort, Prof. Dr. A. Laubmann, Dr. Nic. Peters sowie Mr. N. B. Kinnear und Mr. J. H. Riley, die mich durch sorgfältigen Vergleich nicht ausleihbaren Materials im British Museum, London, und U.S. Nat. Museum, Washington, ein Urteil über Formen gewinnen liessen, die ich nicht selbst sehen konnte. Besonders erfreulich war es, dass ich von den 112 beschriebenen Formen (nicht gezählt die 7 nomina nuda und die 3 nom. emend.) nicht weniger als 49 Holotypen (darunter vielleicht 2 Paratypen) und 11 Paratypen untersuchen, also 60 Beschreibungen an den typischen Exemplaren nachprüfen konnte. Dazu kommt eine grosse Zahl von Typen von den benachbarten Gattungen. Bei einer Gesamtzahl von 65 in dieser Arbeit anerkannten Rassen habe ich nur 2 nicht gesehen und eine dritte, *hypoxantha*, nicht mit Sicherheit. Die Typen dieser Formen (es handelt sich um *Gerygone aruensis* Büttikofer, *Pseudogerygone pallida* Finsch und *G. hypoxantha* Salvadori) werden im Leydener Museum aufbewahrt. Ich hoffe aber, sie nach der Beschreibung bzw. *pallida* mit Hilfe von Mr. Kinnear richtig gedeutet zu haben. Zwei weitere *Gerygone*-Arten, die nicht unterzubringen waren, sind nach Stücken des Australian Museums in Sydney von De Vis beschrieben und nie wieder untersucht worden. Ich möchte sie gleich hier besprechen, da ich annehme, dass sie zu einer anderen Gattung gehören. *Pseudogerygone brunnea* De Vis, *Ibis*, 1897, p. 378 (1897—Südost-Neuguinea), nach einem Spiritusexemplar beschrieben, ist nach den Massen und Farbangaben wahrscheinlich nichts anderes als die eine Seite vorher beschriebene *Pseudogerygone murina* De Vis, *Ibis*, 1897, p. 377 (1897—Mt. Scratchley, etwa 4,000 m. hoch, Südost-Neuguinea), von der bei der Beschreibung 2 ♂♂, 6 ♀♀, ein o und ein Spiritusexemplar (also ausser dem Typus von *Ps. brunnea*) vorlagen. Die Art ist nach De Vis *G. magnirostris* ähnlich, hat aber einen längeren Schnabel, kürzeren Schwanz und olivenfarbene Oberseite. Flügel 60, Schwanz 39, Tarsus

18 mm. Man könnte an *Gerygone magnirostris conspicillata* denken, aber diese Art wohnt nicht so hoch im Gebirge. Der folgende Satz der Beschreibung weist auf *Gerygone rubra*, die aber einen viel längeren Schwanz hat: "rectrices olive, with a broad fuscous shading near the tips, which are grey on the mesials, white on the laterals, the outmost tip broad and well defined on the inner web." Längeren Schnabel und kürzeren Schwanz als *G. magnirostris* haben die *Craterorscelis*-Arten, aber ihnen fehlt die Schwanzzeichnung, und die Färbung von *G. murina* gibt es bei keiner der bisher bekannten Arten.

Noch ein weiteres Geheimnis birgt das Australian Museum, die von De Vis vom Oriomo River angeführten *Gerygone fusca* (♂♀), die doch wenigstens einige Ähnlichkeit mit der heutigen, damals *fusca* genannten *G. igata richmondi* haben muss. An *Gerygone cinerea* wage ich dabei nicht zu denken, da sie weder den langen Schwanz, noch die auffällige weisse Schwanzzeichnung, noch die rostbraunen Seiten, noch die bräunliche Oberseite von *Gerygone i. richmondi* hat.

DIE ABGRENZUNG DER GATTUNG GERYGONE.

In der Synonymie der *Gerygone*-Arten finden wir am häufigsten als nicht zu *Gerygone* im weiteren Sinne gehörende Gattungen: *Acanthiza* und *Seicercus* (olim *Cryptolopha*); ferner wurden manche Arten als *Gerygone* beschrieben, die wir heute zu *Phylloscopus* [1] oder *Sericornis* u.a. stellen. Gegen diese Gattungen müssen wir *Gerygone* abgrenzen.

Gerygone unterscheidet sich von *Phylloscopus* durch gerundeten Schwanz, seitlich (besonders an der Spitze) nicht zusammengedrückten Schnabel (Ausnahmen: *G.* (*Hapolorhynchus*) *albofrontata* und einige *igata*-Formen), durch die Schwanzzeichnung (nur bei *G. chrysogaster* fehlt wie bei *Phylloscopus* fast jegliche Schwanzzeichnung).

Gerygone unterscheidet sich von *Sericornis* [2] durch relativ längere 2. Schwinge, deren Spitze von der Spitze des Flügels bei *Sericornis* 9–12,5 mm. Abstand hat (bei *Gerygone igata, Hapolorhynchus albofrontata, G. cinerea* und *chrysogaster* gilt dies Unterscheidungsmerkmal nicht sicher), durch stärker gebogenen Schnabelfirst (von *G. magnirostris* abgesehen, aber auch von *Sericornis magna* aus Tasmanien), durch vorn weniger stark seitlich zusammengedrückten Schnabel (von *Hapolorhynchus* sowie *Sericornis arfakiana* (Salvadori), *perspicillata* und *rufescens* abgesehen, s. Taf. V), durch meist relativ kürzeren Lauf und schwächere Zehen. Ich kenne kein einziges absolut sicheres Unterscheidungsmerkmal. Wenn man aber die genannten berücksichtigt, wird man kaum im Zweifel sein. Es gibt freilich Übergangsarten zwischen beiden Genera, nämlich *Sericornis arfakiana* (Salvadori), *rufescens* (Salvadori), die beide als *Gerygone*, eine mit einem Fragezeichen, beschrieben wurden, und *Gerygone magnirostris*. Die beiden erstgenannten Arten hat E. Mayr vor kurzem (*Ornith. Monatsber.* 38, 1930, pp. 176–178) zur Gattung *Sericornis* gestellt. Sie sind aber so sehr Übergang, dass sie die Vereinigung von *Sericornis* und *Gerygone* ermöglichen würden. Ich ziehe es jedoch vor, die bisherige Zweiteilung beizubehalten,

[1] Übrigens möge *Sericornis ? trochiloides* Salvadori, *Ann. Mus. Civ. Genova* 7, p. 961 (1876—Misori), nec *Phylloscopus trochiloides* (Sundevall) 1838, *Phylloscopus trivirgatus misoriensis*—nom. nov. heissen (Typen verglichen). *Gerygone maforensis* A. B. Meyer (Mafor) ist auch ein *Phylloscopus trivirgatus*.

[2] Ich verglich *Sericornis arfakiana, olivacea, rufescens, burgersi, perspicillata, magnirostris* (auch *beccarii*), *frontalis, maculatus, humilis, citreogularis, gutturalis*.

da andernfalls eine Unzahl von Homonymen zu beseitigen und der praktische Nutzen gering wäre. Die Genusabgrenzung wird immer etwas Künstliches behalten, und so möge man entschuldigen, wenn ich der Tradition folge, zumal taxonomisch verwertbare biologische Daten aus Neuguinea noch kaum vorliegen. Bei den australischen *Sericornis*-Arten scheint es keine Nester mit dachartigem Vorsprung über der seitlich angebrachten Öffnung zu geben, die bei *Gerygone*-Nestern die (ausnahmslose ?) Regel sind.

Gerygone unterscheidet sich von *Seicercus* durch relativ schmaleren Schnabel (s. Taf. V), doch erreicht *G. chrysogaster* fast die Masse von *Seicercus*. Der Lauf ist bei dem typischen *Seicercus* (*S. burkii*) länger, etwa 20 mm. gegen 16 (*G. chrysogaster*). *Seicercus* hat wie *G. chrysogaster* keine Schwanzzeichnung.—— Hartert liess durch die Beschreibung einer *Cryptolopha waigiuensis* (= *G. chrysogaster virescens*) diese Verhältnisse ganz deutlich hervortreten. Trotzdem habe ich darauf verzichtet, diese Annäherung von *G. chrysogaster* an *Seicercus* nomenklatorisch durch Anerkennung der Untergattung *Leptotodus* A. B. Meyer hervortreten zu lassen, da *chrysogaster* doch sehr nahe mit *chloronota* und *magnirostris* verbunden ist.

Aethomyias ist eine *Sericornis* mit relativ langer 1. Schwinge und verdient den Gattungsnamen nicht, man vergleiche *Sericornis magnirostris* (z. B. *beccarii* Salvadori) und *Aethomyias spilodera*.

Crateroscelis weicht durch stärkeren Schnabel, lange kräftige Zehen, im allg. kürzeren Schwanz und lange 1. Schwinge, überdies durch den Färbungsstil ab.

Gerygone unterscheidet sich endlich von *Acanthiza* durch das Fehlen schuppenförmiger oder strichförmiger Zeichnungen auf der Stirn und den Mangel von Schaftstrich-Zeichnungen an Wangen und Ohrdecken. Kleine bogenförmige Ränder an den Stirnfedern finden sich ganz schwach angedeutet bei *G. cinerea*, die auch in der Schlankheit des Schnabels fast *Acanthiza* erreicht. Als Uebergänge zwischen diesen beiden Gattungen könnte man *G. cinerea, ruficollis* und *igata* bezeichnen, die aber immer noch einen etwas breiteren, weniger zierlichen und an der Spitze weniger stark seitlich (ausser bei *Hapolorhynchus*) zusammengedrückten Schnabel (s. Taf. V) haben als die *Acanthiza*-Arten, die ich verglich:—— *pusilla* (Typus der Gattung), *uropygialis, inornata, lineata, nana, chrysorrhoa. Acanthiza robustirostris* Milligan mit etwas breiterem Schnabel sah ich nicht. Sie weicht aber auch durch die Zeichnung (Stirnstrichelung, Schuppenzeichnung an den Ohrdecken) von *Gerygone* ab. *Acanthiza* hat ferner häufig gelben oder rostbraunen Bürzel, die Iris ist rot bis braun wie bei *Gerygone*, aber auch blass rauchweiss. Die Nester sind rundlich, oval oder birnenförmig, mit dem Eingang oben seitlich. Die Masse, auch die Flügelproportionen, weichen kaum von denen der Gattung *Gerygone* ab.

Die Gattungsgrenzen bei diesen kleinen Laubsängerarten sind also nirgends scharf. Immerhin kann man wohl von einem *Acanthiza-*, *Sericornis-*, *Phylloscopus-*, *Gerygone-* und *Seicercus-* Typus innerhalb der hier verglichenen Formengruppe des indoaustralischen Gebietes sprechen. Und dann ist die Trennung der Arten nicht mehr so schwierig, als wenn man scharfe Grenzen sucht und so schliesslich jede Art wegen kleiner Abweichung in eine besondere Gattung stellen muss. Ein Lied von dieser Methodik könnte auch *Gerygone* singen, wie der nächste Abschnitt zeigen wird.

DIE GLIEDERUNG DER GATTUNG GERYGONE.

Ich muss darauf verzichten, eine Gesamtcharakteristik der Gattung zu geben. Man wird durch einen Blick auf die Figuren der Schnabeltypen und der äusseren Schwanzfeder (Taf. V–VII) sowie durch einen Vergleich der Masse, die bei jedem Formenkreis zusammengefasst sind, am ehesten einen Ueberblick bekommen. Die folgende Synonymie der Gattungsnamen zeigt am deutlichsten, welche Mühe man sich mit den Versuch einer weiteren Gliederung gemacht hat.

Gerygone Gould

Psilopus Gould, *Synops. Birds Australia*, Pt. 4, 1838, Taf. 61. Typus: *Psilopus albogularis* Gould = *P. olivaceus* Gld. Nec *Psilopus* Meigen, 1824.

Gerygone Gould, *Grey's Journ. Two Exped. Discov. Australia* 2, App. p. 417, 1841, nomen novum für *Psilopus* Gould.

Ostiarius Gistel, *Naturgeschichte des Thierreichs für höhere Schulen*, p. x, 1848, nomen novum für *Psilopus* Oken = Gould.

Pseudogerygone Sharpe, *Notes Leyden Museum*, 1, p. 29, 1879. Typus: *Gerygone personata* Gould.

Leptotodus A. B. Meyer, *Zeitschr. ges. Ornith.* 1, p. 197, 1884. Typus: *Leptotodus tenuis* A. B. Meyer = *Gerygone notata* Salvadori.

Eugerygone Finsch, *Notes Leyden Mus.* 22, p. 200, 1901. Typus: *Pseudogerygone rubra* Sharpe.

Hapolorhynchus Reichenow, *Journ. f. Ornith.*, 1908, p. 488. Typus: *Gerygone ? albofrontata* Gray.

Ethelornis Mathews, *Austral Av. Rec.* 1, p. 110, 1912. Typus: *Gerygone magnirostris* Gould.

Wilsonavis Mathews, *Austral Av. Rec.* 1, p. 110, 1912. Typus: *Psilopus fuscus* Gould 1846 = *Wilsonavis fusca richmondi* Mathews.

Royigerygone Mathews, *Austral Av. Rec.* 1, pl. 110, 1912. Typus: *Gerygone mathewsae* Mathews = *Gerygone modesta* Pelz.

Maorigerygone Mathews & Iredale, *Ibis*, 1913, p. 437. Typus: *Curruca igata* Q. & G.

Den Hauptanteil an dieser Aufspaltung der Gattung hat Mathews. Wie er die papuanischen Formen in diese künstlich erzeugte Gliederung hineingruppiert hat, ist mir unklar. Seine 42 Arten (2 davon nicht zur Gattung *Gerygone* gehörig) in 81 Formen verteilt er auf 9 Gattungen: *Gerygone, Wilsonavis, Ethelornis, Pseudogerygone, Royigerygone, Maorigerygone, Hapolorhynchus, Eugerygone* und *Seicercus*. Der Formenkreis *G. chrysogaster* steht z. T. bei *Seicercus*, z. T. bei *Gerygone*, mit der er nach Mathews' Prinzip auch nicht das Geringste zu tun haben dürfte. Man findet einzelne Bemerkungen zu Mathews' System noch hier und da im speziellen Teil meiner Arbeit. Ich kann aber bei weitem nicht auf alles hinweisen, sonst würde die Arbeit den doppelten Umfang erreichen. Statt 81 Formen erkenne ich 63 an und lasse die beiden De Vis'schen Arten fort. Die Einteilung der Gattung nach der Länge der 2. Schwinge (Sharpe's *Pseudogerygone*) ist unmöglich, wenn man die Veränderlichkeit dieses Merkmales bei der Rasse *G. fusca inornata* kennt. Ich erkenne nur 2 der Gattungen als Untergattungen an, *Hapolorhynchus* und *Eugerygone*.

Meine eigene Gliederung der Gattung in 12 Formenkreise ist wohl auch noch nicht das Endgültige. Vor allem ist die Unterbringung von *G. hypoxantha, tenebrosa, pallida* (im Alterskleide unbekannt) und *cantatrix* nachzuprüfen. Ausserdem sind die Beziehungen zwischen den *fusca*- und *laevigaster*-Formen in Australien nicht klar. Ich habe jeden der 12 Formenkreise in Gruppen eingeteilt, wo die morphologische Verschiedenheit der Subspezies das erforderlich zu machen schien, habe aber nicht den Gruppennamen als Artnamen gebraucht, sondern den, der den grösstmöglichen Formenkreis bezeichnet.

Die geographische Variation bietet manches Interessante, so wird bei einigen Formen die 2. Schwinge von Südaustralien nach dem Norden relativ kürzer, ebenso verhält sich der Schwanz, der Flügel wird absolut kürzer, der Schnabel absolut und relativ länger. Es lohnt sich aber nicht, auf diese Verhältnisse hier näher einzugehen (sie sind dem speziellen Teil zu entnehmen), da man dazu möglichst viele Arten australischer Vögel untersuchen müsste.

BESTIMMUNGSTABELLE DER FORMENKREISE.

I. Culmen von der Stirnbefiederung an 12–13 mm. lang *Hapolorhynchus* VIII.

II. Culmen 11 mm. lang oder kürzer.

1. Schwanz mit breiten weissen Spitzen an den beiden äussersten Schwanzfederpaaren . . . . . *Eugerygone* XII.

2. Schwanz mit deutlich weissen Subterminalbinden oder-flecken.

(*a*) Oberkörper grün oder oliven . . *G. flavolateralis* VI.

(*b*) Oberkörper vorwiegend braun oder grau.

(α) Unterkörper intensiv schwefelgelb, Kehle bei einigen Formen weiss.

(*aa*) 2. Schwinge > 8 *G. olivacea* (u. *hypoxantha* ?) I.

(*bb*) 2. Schwinge < 8 *G. fusca sulphurea*-Gruppe XI.

(β) Unterkörper nicht intensiv schwefelgelb, aber oft mit gelbem Anflug (juv.) und in einem Fall ockergelb.

(*aa*) weisser Fleek an der Innenfahne der äussersten Schwanzfeder nicht über die Mitte der Innenfahne nach dem Schaft zu hinausgehend—nicht scharf begrenzt.

(αα) mit rostbraunen Weichen *G. fusca dorsalis*-Gruppe XI.

(ββ) ohne rostbraune Weichen *G. magnirostris* III.

(*bb*) weisser Fleek bis an oder fast an den Schaft reichend.

(αα) Spitze der 2. Schwinge 4,5–7,5 mm. von der Spitze des Flügels entfernt.

(*aaa*) Schnabel schlank, Schwanz relativ kurz (Index 66,7–74,2), 2. Schwinge wenig < 8 . . *G. ruficollis* X.

(*bbb*) Schnabel breiter . *G. fusca* (nicht alle Gruppen) XI.

(ββ) Spitze der 2. Schwinge 7,5–10 mm. von der Spitze des Flügels entfernt. *G. igata* VII.

3. Schwanz ohne deutlich weisse subterminale Fleeken an den Innenfahnen der äusseren Federn.

(*a*) Brust intensiv ockergelb . . . . *G. palpebrosa* II.

(*b*) Brust nicht intensiv oekergelb.
(α) Oberkörper grau . . . . . *G. cinerea* IX.
(β) Oberkopf grau bis braun, Rücken grün *G. chloronota* V.
(γ) Oberkörper braun bis grün, nicht scharf vom Kopf verschieden.
(*aa*) Weichen und Rücken rostbraun in verschiedener Tönung . . *G. fusca dorsalis*-Gruppe XI.
(*bb*) Weichen und Rücken nicht rostbraun.
(αα) Füsse am Balg hornfar-ben *G. chrysogaster* IV.
(ββ) Füsse am Balg schwarz *G. magnirostris* III.

Die Masse

sind auf folgende Weise gewonnen. Länge des Flügels, der 2. Schwinge und der Armschwingen (durchschnittliche Länge) mit der Mess-Schiene vom Flügelbug aus. 1. Schwinge mit dem Zirkel von ihrem Austritt aus der Haut an, der Schwanz mit dem Zirkel von dem Austritt der mittelsten Federn aus der Haut bis zur Spitze der längsten von ihnen, der Culmen vom Ende der Stirnbefiederung an bis zur Schnabelspitze (Zirkel), Breite des Schnabels etwa in der Mitte des Nasenloches. Tarsus und Mittelzehe ohne Kralle mit dem Zirkel, ohne Rücksicht auf die Krümmung der Zehe. Ausserdem wird die Schwanzstufung oft angegeben, immer der Flügelschwanzindex (100 × Schwanzlänge : Flügel), der einfach als " Index " bezeichnet ist.

I. GERYGONE OLIVACEA (Karte 1 und Taf. V, VI).

Literatur u. a. Mathews, *Birds Australia* 8, pp. 134–138, 1920.

Kennzeichen: ad. Oberseite einschliesslich Schwanz graubraun mit olivenfarbenem Anflug, Schwanz mit (auf der äussersten Feder etwa 8–12 mm. breiter) dunkler Binde, die—abgesehen von den beiden mittleren Federn—gegen die Spitze, oft auch basalwärts, durch einen weissen Fleck begrenzt wird und etwa 7–11 mm. von der Spitze entfernt bleibt. Flügel dunkelbraun bis schwärzlich, mit schmalen weisslichen Aussensäumen und im frischen Gefieder auffälligen weissen Spitzen der Schwingen. Grosse Oberflügeldecken blassbraun bis weisslich gerandet. Hinter der Nasenöffnung ein deutlicher weisser Fleck, der aber nicht bis zur Stirnmitte reicht, und der durch einen braunen Stirnrand von dem helleren Braun des Oberkopfes getrennt wird. Supraloralstreif, Zügelfleck, Ring ums Auge, obere Wangen, Ohrdecken ebenso braun gefärbt und dadurch scharf von der weissen bis schwach gelblichen Kehle getrennt, die wiederum ziemlich plötzlich in die satt gelbe Brustfärbung übergeht. Bauch gelb, Unterschwanzdecken viel blasser gelb, obere Brustseiten mit einem gelblich braunen Fleck, den man bis fast zur Brustmitte streichen kann. Weichen mit einem schwachen, braunen Hauch auf dem Gelb. Schenkelbefiederung bräunlich mit gelblichen bis blass bräunlichen Federspitzen. Unterflügeldecken und Axillaren weiss, mehr oder weniger gelb getönt Flügel von unten graubraun, mit bräunlich weissen Innensäumen. Iris hell oder dunkel rot, auch kastanienbraun, Schnabel und Füsse schwarz oder schwärzlich.

juv. Stirnfleck, grösster Teil des Zügels, Superziliarstreif, Augenring, Wangen, Kinn und Kehle gelb, nur Stirnfleck und vordere Zügelpartie gelegentlich (z.B. bei *cinerascens*) etwas mit Weiss gemischt. Iris rot, blassrot, rötlich braun.

Basis des Unterschnabels hell hornfarben, überhaupt der ganze Schnabel heller. Schwanzfedern (wenigstens oft, s. *rogersi*) spitzer und schmaler.

1. Jahreskleid (Mauserverhältnisse wenig bekannt!) wie das Alterskleid, aber mit gelblich überhauchter Kehle und etwas hellerem Schnabel.

Flügel 52–62; Schwanz 32–43 mm. (Index 60,0–69,8). 1. Schwinge 14–18 mm, 2. Schwinge < 6., aber > 8., ihr Abstand von der Spitze des Flügels 3–7, von den Armschwingen 3–8 mm. Spitze des Flügels von der 3. bis

Karte 1.—Verbreitung von

Gerygone **olivacea** und *G.* **hypoxantha**. Terra typica von (1) *olivacea* und *albogularis*, (1a) *queenslandica*, (2) *flavigasta*, (3) *cinerascens*, (4) *rogersi*, (1a) *hypoxantha*. ● Terra typica, × weitere Fundstellen.

6. Schwinge gebildet, 7. wenig kleiner. Tarsus 17–18, Mittelzehe o. Kr. 7, Culmen von der Stirnbefiederung an 7–10 mm. lang, 3–3,5 mm. breit.

Material: 45 Stück (2 Typen).

Verbreitung: Ost- und Nord-Australien (Beechworth District in Nord-Victoria bis an den Fitzroy-Fluss in West Australia, nördlichster Fundort auf der Kap York-Halbinsel: Watson-River [1], Südost-Neuguinea, Misori ?

[1] Wenn man von einem Stück des Brit. Mus. (Nat. Hist.) von Cape York (Cockerell) absieht.

(*a*) OLIVACEA—GRUPPE.

1. **Gerygone olivacea olivacea** Gould (Taf. V. fig. I, Taf. VI. fig. Ia).

Psilopus olivaceus Gould, *Synopsis Birds Australia* 4, Taf. 61 (1.4.1838—New South Wales). Zitiert nach Mathews. Typus in Philadelphia.

Psilopus albogularis Gould, *Synopsis Birds Australia* 4, Taf. 61 (1.4.1838—New South Wales). Zitiert nach Mathews. Typus in Philadelphia.

Gerygone albogularis queenslandica Mathews, *Nov. Zool.* 18, p. 308 (31.1.1912—Inkerman, Queensland). Typus in Tring, verglichen.

Abbildungen: Gould, *Birds Australia* 2, Taf. 97 (= Pt. 29), 1847. Mathews, *Birds Australia* 8, 1920, Taf. 381 bei p. 126 ("*queenslandica*").

Kennzeichen: Mit den Kennzeichen der Art. Oberkörper buffy olive (Ridgway, Taf. 30). Der olivenfarbene Anflug tritt auf dem Oberkopf zurück und weicht auf den Oberschwanzdecken teilweise einem rostbräunlichen Tone. Schwanz mit zwei weissen Binden (8 und 9 mm. breit), die von einer etwa 10 mm. breiten, dunkelgraubraunen bis schwärzlichen Binde getrennt werden. Die äusserste Schwanzfeder, auf die sich die Masse beziehen, hat eine 11 mm. breite dunkle Basis. An der äussersten Spitze dieser Feder ein kleiner blass brauner Fleck. Die Breite der Binden variiert etwas (weisse Basisbinde, nahe dem Schaft auf der Innenfahne gemessen, 4–9 mm. breit). Auf den mittleren Schwanzfedern nimmt die Ausdehnung des Weiss schnell ab. Gelb des Unterkörpers zwischen Strontian und Wax Yellow, Taf. 16.

Material: 17 Stück (10 Tring, 4 Wien, 2 Hamburg, 1 Dresden).

Verbreitung: Küstengebeit von Ost-Australien (Nord-Victoria bis Barron River bei Cairns, Nord-Queensland). Aufenthaltsort: Lichte (Eucalyptus—) Wälder. Gelegentlich auch Regenwälder im Norden des Bereichs.

Masse: Flügel 56–62 mm. New South Wales (Goulburn, Upper Ourimbah, Paramatta, Nepean River, Sydney und 3 Stück ohne genauen Fundort): ♂ Flügel 56 + x, 58, 59[3], 61[3], 62; Schwanz —, 38, —, 37, 40, 41, 40, 41, 40 mm. (Index 62,7–69,5). ♀ Flügel 61,5; Schwanz 41,5 mm. (Index 67,5). O Flügel 61,5; Schwanz 42 + x mm. (Index 68,3). O juv. und 1. J.-Kl. Flügel 60,5, 56; Schwanz 42,37 + x mm. (Index 69,4, 66,1 –x). Tarsus 18, Mittelzehe o. Kr. (= ohne Kralle) 7, Culmen 7,5–8,5 mm. lang, 3–3,5 mm. breit. 1. Schwinge 15–16 mm., 2. Schwinge < 6. bis wenig < 7., Armschwingen: 2. Schwinge: Flügel = 46 : 52 : 59,48 : 56 : 62 mm.

Queensland (Bowen, Lake Elphinstone, Inkerman, Barron River [1]): ♂ Flügel 57; Schwanz 38 mm. (Index 66, 7). O Flügel 58[3] (darunter der Typus von *G. a. queenslandica*), 62; Schwanz 38,5, 40,5, 43 mm. (Index 66,7–69,8). juv. (Mus. Hamburg, gelbe Farbe wohl durch Alkohol verschwunden) Fl. 59 mm.; Schwanz fehlt. Tarsus 17–18, Culmen 8–9 mm. Armschwingen: 2. Schwinge: Flügel = 48 : 53 : 58 mm.

Bemerkung: Die Stücke aus Queensland passen in den Massen gut zu denen aus New South Wales. Immerhin sind mehr nötig, um die Variationsbreite zu erfassen. Es könnten Zugvögel aus dem Süden darunter sein.

2. **Gerygone olivacea flavigasta** Diggles (Taf. VI. fig. Ib).

Acanthiza flavigasta Diggles, *Trans. Phil. Soc. Queensland* 1876, p. 11 (1876—Normanton, Queensland), Abdruck s. Mathews, *Austral Avian Record* 1, p. 69, 1912. Typus in Brisbane ?

Kennzeichen: Schwache Rasse. Wie olivacea, aber i.D.kleiner. (Weisse Schwanzbasisbinde 5–10,5 mm. einmal 17 mm. breit.)

[1] s.u. *G. o. flavigasta.*

Material: 6 Stück (Tring).

Verbeitung: Nordwest Queensland (Watson River, Normanton) (s.u.).

Masse: Flügel 55,5–57,5 mm., ♂ 55,5, 56³, 57,5, ♂ ? 57; Schwanz 35, —, 37, 38,5, 38, — mm. (Index 63,1–68,8). Culmen 9–9,5 mm. 2. Schwinge = 7.–8.. Armschwingen: 2. Schwinge: Flügel = 45 : 49 : 55,5 mm.

Bemerkung: Wahrscheinlich würde das Stück vom Barron River (Fl. 57 mm.) besser zu dieser statt zu der südlichen Rasse passen. Da aber die Stellung von *queenslandica* noch der Nachprüfung bedarf, bleibe ich bei der vorliegenden Einteilung.

3. **Gerygone olivacea cinerascens** Sharpe (Taf. VI. fig. 1c).

Gerygone cinerascens Sharpe, *Journ. Linn. Soc.* (*London*) *Zool.* 13, p. 494 (1878—Port Moresby, Neuguinea). Typus in London.

Kennzeichen: Gute Rasse. Wie *flavigasta*, kleiner, wahrscheinlich das Weiss an der Basis der äussersten Schwanzfeder i. D. etwas weniger ausgedehnt, 4–5 mm. breit, und nicht so scharf gegen die schwärzliche Binde abgesetzt. Schwanz (immer ?) bräunlich getönt, besonders die Ränder an den Innenfahnen der mittleren Schwanzfedern. Schnabel i. D. etwas kürzer als bei *flavigasta*.

juv. (1 Stück). Gelbe Töne blasser, Kopf gelb getönt, besonders Kehle und Superziliarstreif. Oberkörper viel brauner, nicht so oliven.

Material: 3 Stück (Tring).

Verbreitung: Südost-Neuguinea (Port Moresby, Aroa-Fluss, hier in über 2,000 m. Höhe).

Masse: Flügel 53–55,5 mm., ♂ 54, 55,5; Schwanz 34,5, 35 mm. (Index 63,1). ♂ juv. Flügel 53; Schwanz 34 mm. (Index 64,1), Tarsus 17, Culmen 8, beim juv. 7 mm. lang, 2,8 mm. breit. 1. Schwinge 14–16 mm., 2. Schwinge = 7.–8. (einmal > 7. ?), Armschwingen: 2. Schwinge: Flügel = 47 : 50 : 53,46 : 51,5 : 55,5 mm.

4. **Gerygone olivacea rogersi** Mathews (Taf. VI. fig. 1d).

Gerygone albigularis rogersi Mathews, *Nov. Zool.* 18, p. 23 (17.6.1911—Derby, nördl. Western Australia). Typus in Tring, untersucht.

Abbildung: Mathews, *Birds Australia* 8, 1920, Taf. 381 bei p. 126 (unterste Figur).

Kennzeichen: Gute Rasse. Gegenüber den bisher behandelten Formen mit fehlender, undeutlicher oder doch jedenfalls schmalerer (höchstens 3,5 mm. breiter), blass bräunlich grauer bis weisslicher Binde auf dem Basisteil des Schwanzes. Oberkörper der Serie blasser wirkend, das Gelb des Unterkörpers i. allg. intensiver als das von *G. o. olivacea*, in dieser Hinsicht mit *flavigasta* und *cinerascens* übereinstimmend. (Iris auch bei einem juv. schon als rot angegeben.)

Material: 19 Stück (Tring).

Verbeitung: Nördliches Western Australia, von West-Kimberley nach Norden (Stücke vom Fitzroy River, von Derby, Point Torment, Barton River und Parry's Creek) und Northern Territory (Brock's Creek).

Masse: Flügel 52–56 mm., ♂ 53, 54, 55,5, 56³, 57³, 58³, ♀ 53³, 54, 54,5, 55, ♂ juv. 55, 58, ♀ juv. 52; Schwanz 34, 35, —, 35, 36, 38, 35,5, 37, 38, 36,5, 40, —, —, 34, 35,5, 37, 33, 38 + x, 32 mm. (Index 60,0–69,0). Culmen 9–10 (beim ♀ juv. 8,5) mm. lang, 3–3,5 mm. breit. 1. Schwinge 15–18 mm., 2. Schwinge = 7.–8., manchmal etwas > 7., Armschwingen: 2. Schwinge: Flügel = 44 : 49 : 52, 47 : 53 : 58 mm.

Bemerkung: Die Mauserzeit scheint sich über einen grossen Teil des Jahres zu erstrecken, denn mir liegen mausernde Vögel von Januar bis Juni und vom November vor. Junge von Mai und Juni haben spitze Schwanzfedern, aber eins vom April hat stumpfe, ohne dass anzunehmen ist, es habe schon gemausert oder trage gar ein 2. Jahreskleid. (Brutzeit September bis Dezember.) Erste Jahreskleider tragen anscheinend Stücke mit gelber oder gelblicher Kehle und nicht tief schwarzer Schnabelfärbung, die im übrigen ausgefärbt sind. Doch lässt sich auch das mit dem vorliegenden Material nicht beweisen.——Mit Nachdruck sei auf die Ähnlichkeit der Jungen von *G. fusca broomei* und *G. olivacea rogersi* in der Schwanzzeichnung und Kopffärbung, Schnabelgrösse usw. hingewiesen. Die erstgenannte, in dem gleichen Gebiet vorkommende Form unterscheidet sich aber durch die blasse Färbung der Unterseite, den längeren Schwanz und die kurze 2. Schwinge.

(*a'*) HYPOXANTHA–GRUPPE (*G. olivacea ?*).

5. **Gerygone hypoxantha** Salvadori.

Gerygone hypoxantha Salvadori, *Ann. Mus. Genova* 12, p. 345 (1878—Misori = Biak). Typus in Leyden.

Gerygone xanthogastra Salvadori, ibidem, nomen nudum.

Kennzeichen: Mit langer 2. Schwinge (da von Sharpe selbst untersucht und in das Genus *Gerygone* gestellt), kurzen Tarsen und relativ kurzem Schwanz. Nach dem *Catal. of Birds* 4, 1879, p. 215, Oberseite schmutzig olivenbraun, ebenso die Säume an den Flügeln. Schwanz dunkelbraun, an der Basis mit Oliven, an der Spitze mit Grau gerandet, mit Andeutung einer schwarzen Subapikalbinde. Zügel (wohl Supraloralstreif) gelblich weiss, schwärzlicher Fleck vor dem Auge, Augenring, Wangen und Ohrdecken gelb, obere Ohrdecken mit olivenfarbener Tönung. Unterseite gelb, Seiten der Oberbrust olivenbraun, Weichen oliven überflogen. Unterflügeldecken weiss mit gelbem Anflug.

Material: 1 Stück (? zu dieser Form, s.u.).

Verbreitung: Misori (Biak) in der Geelvinkbai, Neuguinea.

Masse nach Sharpe, l.c.: ♂ Flügel 49, Schwanz 38 mm. (Index also 77,5. Da nach Sharpe's Massen auch *G. olivacea* einen ebenso langen Schwanz haben würde, wird eine Verschiedenheit in der Messtechnik vorliegen und der Schwanz von *hypoxantha* in Wirklichkeit nicht länger als der von *olivacea* sein). Tarsus 15, Culmen 12 mm. (anders gemessen). ♀ Flügel 51, Schwanz 38,5 mm. (Index 78,3). Tarsus 15, Culmen 12,5 mm.

Ein als *Gerygone hypoxantha* bestimmtes Stück des Dresdner Museums ohne Fundort weicht wenig von *Gerygone olivacea rogersi* ab, hat aber kaum eine Aufhellung an der Schwanzbasis. Herkunft aus dem Gebiet von *rogersi* ist unwahrscheinlich. Ein junger *rogersi* würde zudem viel mehr Gelb an Stirn und Kopfseiten haben und viel heller, nicht bräunlich oliven (zwischen Brownish Olive und Light Brownish Olive, Taf. 30, aber verschmutzt!) auf dem Rücken sein. Andererseits widerspricht das Vorhandensein eines weissen Subapikalflecks an der Spitze der Innenfahne der sehr abgeriebenen Schwanzfedern der Beschreibung von *G. hypoxantha*. Flügel 51, Schwanz 32 + x mm. (Index > 63). Tarsus 18, Mittelzehe o. Kr. 8, Culmen 10 mm. lang, 3,5 mm. breit. 1. Schwinge 16 mm., 2. Schwinge = 7.–8., Armschwingen: 2, Schwinge: Flügel = 43 : 48 : 51 mm. Spitze des Flügels von der 3.–6. Schwinge gebildet. Dieses Stück kann ich also nicht mit Sicherheit bestimmen, da mir die Typen von

G. hypoxantha nicht zur Verfügung standen. Ihre Untersuchung wird lehren, ob es sich um eine *olivacea*—Form, ev. um deren Junge, handelt.

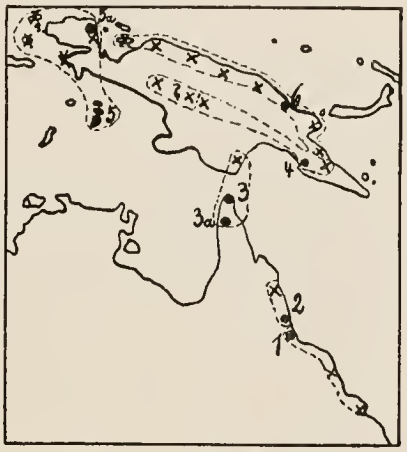
II. GERYGONE PALPEBROSA (Karte 2 und Taf. V.).

Literatur u.a. Mathews, *Birds Australia* 8, 1920, pp. 176–180. Stresemann, *Archiv Naturgesch.* 89, A.7, 1923, p. 84.

Kennzeichen: ad. (♂♀ bei den meisten Rassen sehr verschieden). Vom Formenkreis *olivacea* durch viel grüneren, weniger grau bräunlichen Rücken, weniger ausgedehnte weisse Zeichnung des Schwanzes, der nur subapikal etwas aufgehellt ist, viel blassere, mehr schwefelgelbe Unterseite, Vorhandensein eines weissen Supraloralstreifs (wenigstens beim ♀) und kürzere 2. Schwinge unterschieden. Iris rot bis rotbraun, Schnabel schwarz, Füsse dunkelgrau. ♀ geographisch wenig variabel, mit heller braunem Schnabel als das ♂.

juv. wie ♀, aber mit heller Basis des Untersehnabels, brauner Iris, Oberkörper einen Ton gelber als bei ausgefärbten Tieren.

Flügel 49–57 mm., Schwanz 33–47 mm., Stufung 2–4 mm. (Index 64,8–83,3). 1. Schwinge 14–19 mm., 2. Schwinge < 10., 7–9 mm. kürzer als der Flügel, 1–3 mm. kürzer als die Armschwingen. Spitze des Flügels von der 4. und 5. Schwinge gebildet, 6. manchmal ebenso lang, 3. 1–2 mm. kürzer. Tarsus 17–19, bei den 3 letzten Rassen 16 mm., Mittelzehe o. Kr. 8–8,5 mm., Culmen 8–10 mm. lang, 3–4 mm. breit.



Karte 2.—Verbreitung von *Gerygone* **palpebrosa**. Terra typica von (1) *flavida*, (2) *jahnstoni*, (3) *personata*, (3a) *watsoni*, (4) *inconspicua*, (5) *palpebrosa*, (5a) *melanathorax*, (6) *wahnesi*. ● Terra typica, × weitere Fundstellen.

Material: 77 Stück (3 Typen).

Verbreitung: Nordost-Australien von Gracemere (unter dem Wendekreis, südlich von Rockhampton) bis Kap York, Aru-Inseln, Jobi, Misol, Waigeu und tiefere Lagen von Neuguinea.

1. **Gerygone palpebrosa flavida** Ramsay.

Gerygone flavida Ramsay, *Proc. Linn. Soc. New South Wales* 2, p. 53 (Juli 1877—Herbert River District, Nord-Queensland). Typus in Sydney.
Abbildung: *Emu* 24, 1925, p. 161 (Farbtafel).

Kennzeichen: ad. Mit den Merkmalen des Formenkreises. Oberkörper olivengrün (etwas mehr bräunlich als Olive Citrine, Taf. 16), Schwanz und Flügel braun, ersterer mit der Andeutung einer dunkleren, etwa 0,5 bis 1 cm. breiten Binde, die auf der äussersten Feder etwa 5 mm. von der Spitze entfernt bleibt. Diese Spitze nur wenig aufgehellt. Schwingen mit schmalen grünlichen Säumen. Weisser Stirnfleck. Supraloralstreif und Ring ums Auge, Zügel und vordere Wangen dunkelgrau, hintere Wangen und Ohrdecken etwas bräunlicher als der Oberkopf, ziemlich scharf von einem weissen Streifen begrenzt, der von der

seitlichen Schnabelwurzel bis hinter die Ohrdecken die am Kinn weisse, weiter hinten gelblich weisse bis gelbe (nach Chisholm bei ad. weisse) Kehle einfasst. Uebriger Unterkörper blass schwefelgelb (zwischen Amber und Citrine Yellow, Taf. 16). Oberbrustseiten mit einem sehr undeutlichen, schmutzig grünlichen Anflug, Weichen etwas graugrüner. Unterschwanzdecken gelb, wenig blasser als die Brust, Unterflügeldeeken weiss, Axillaren und Flügelbug blass gelb. Schwingen von unten graubraun, ausser an den Spitzen der äusseren Handschwingen schmal weiss bis weisslich gesäumt. Iris "hazel" (Ramsay). Schnabel schwarz, Füsse schwarzbraun.——Geschlechter gleich gefärbt, ♀ (immer ?) mit heller hornfarbenem Schnabel.

juv. mit heller unterer Schnabelbasis.

Material: 3 Stück (1 Tring, 1 Hamburg, 1 Berlin).

Verbreitung: Von Graeemere nahe der Ostküste Queenslands (23¼° S) im Küstengebiet (Rockhampton, Byfield nördl. v. Yeppoon, Port Mackay) nordwärts bis südlich des Johnstone River (etwa 17½° S), bestimmt noch im Cardwell District, der terra typica. (Den Endeavour River, der etwa im Gebiet der angegebenen Nordgrenze liegen muss— s. Chisholm, *Emu* 24, 1925, pp. 161–165 —, habe ich nicht finden können.)

Aufenthaltsort: Scrub, seltener offener Wald.

Masse: 1. ♂ Graeemere, 22.3.1882, ex Coll. Mathews, der das Stück wohl für eine *palpebrosa* hielt (s. Mathews, *Birds Norfolk and Lord Howe Islands*, 1928, p. 126). 2. Nord-Australien, Mus. Berlin 19490, seiner Grösse nach ♂. 3. Port Mackay, Mus. Hamburg. Anscheinend jüngere Stücke, da der Schnabel nicht tief schwarz und die Kehle nicht rein weiss ist (s. Chisholm).

1. Flügel 54, Schwanz 45 mm. (Index 83,3).
2. Flügel 56, Schwanz 47 mm. (Index 82,0).
3. Flügel 52, Schwanz 43 mm. (Index 82,7).

Tarsus 17–18,5, Mittelzehe o. Kr. 8, Culmen 9–9,5 mm. lang, 3 mm. breit. 1. Schwinge 16–17 mm., 2. Schwinge < 10., Armschwingen: 2. Schwinge: Flügel = 49 : 47 : 56,46 : 44 : 52 mm.

Bemerkung: Es ist möglich, dass die Stücke aus dem Süden zu einer anderen Rasse gehören, da sie nach Chisholm, l.c., von den Ramsay'schen Typen durch etwas blassere Oberseite abweichen. Dasselbe gilt beim Vergleich des Stückes aus Graeemere und des Berliner Nord-Australien-Stückes mit den wenig nördlich der terra typica von *flavida* gesammelten Stücken der Mathews-Sammlung: Diese sind reiner grün, jene einen Ton blasser und etwas mehr bräunlich im Ton. Da mir aber keine Exemplare aus dem typischen Gebiet von *flavida* vorliegen, verzichte ich auf eine Benennung.——Warum diese Subspezies nach den Beobachtungen von Chisholm u. a. auch von Mathews als Art anerkannt wird, ist schwer verständlich, da eine Uebergangsrasse existiert.

2. **Gerygone palpebrosa johnstoni** (Mathews).

Pseudogerygone palpebrosa johnstoni Mathews, *Austral Avian Record* 3, p. 59 (7.4.1916—Johnstone River, Nord-Queensland). Typus in Tring, verglichen.

Abbildung: Mathews, *Birds Australia* 8, 1920, Taf. 387 bei p. 177 (obere Figuren).

Kennzeichen: Gute, aber nachzuprüfende Rasse. ♀ ad. kaum von dem der vorhergehenden Rasse verschieden, vielleicht auf der Oberseite etwas reiner grün (Olive Citrine, Taf. 16).

♂ ad. wie das von *flavida*, aber Federn des Kinns, der Kehle und der obersten Brust mit sehmutzig bräunlich gelben Spitzen, wodurch sie intermediär erscheinen zwischen den entsprechenden weisslichen oder gelblichen Federspitzen der vorhergehenden und den braunen der folgenden Subspezies. (Die Originalbeschreibung sagt ausser über die Kehlfärbung genau das Gegenteil von dem, was ein Unbefangener beim Vergleich der vorliegenden Stücke mit der Originalbeschreibung von *G. flavida* feststellen muss.)

♂ juv. wie ♀.

Material: 6 Stück (Tring).

Verbreitung: Vom Johnstone River nordwärts mindestens bis Cairns (Barron River), Nord-Queensland.

Masse: Flügel 49,5–56 mm. ♂ ad. (Typus von *johnstoni* und Ex. vom Barron River) Flügel 54, 56; Schwanz 41, 41,5 mm. (Index 75,9, 74,1). ♂ juv. (helle Schnabelbasis) Flügel 56, Schwanz 45 mm. (Index 80,4). ♀ (juv.?, da alle mit heller Schnabelbasis) Flügel 49,5, 50,5, 51; Schwanz 37,5, 39, 41,5 mm. (Index 75,8, 77,2, 81,4). Tarsus 18, Culmen 9,5–10 mm. lang, 3–3,5 mm. breit. 1. Schwinge 14–15 mm., 2. Schwinge < 10., Armschwingen: 2. Schwinge: Flügel = 46 : 44 : 51,48 : 45 : 54 mm.

Bemerkung: Man wäre versucht, nach den wenigen vorliegenden Stücken auf ein Mischgebiet zu schliessen. Doch sind die beiden ad. völlig einheitlich, etwa wie ein drittes Stück, das Mathews als oberste Figur abbildet, und ich kenne aus dem Verbreitungsgebiet weder eine Meldung von einem ausgefärbten Männchen mit weisser noch von einem solchen mit brauner Kehle. Der Uebergang zur südlich angrenzenden *flavida* muss also wohl ziemlich schroff erfolgen.

3. Gerygone palpebrosa personata Gould.

Gerygone personata Gould, *Proc. Zool. Soc.* (*London*), 1866, p. 217 (1.10.1866—Cape York, Nord-Queensland). Typus in London.

Pseudogerygone personata watsoni Mathews, *Austral Avian Record* 3, p. 71 (21.7.1917—Watson River, Nord-Queensland). Typus in Tring, verglichen.

Abbildungen: Gould, *Birds Australia Suppl.* Taf. 14 (Pt. 4), 1867.—Mathews, *Birds Australia* 8, Taf 387 bei p. 177, 1920 (die beiden unteren Figuren).

Kennzeichen: Sehr gute Rasse. ♀ ad. kaum von dem der vorhergehenden Subspezies unterschieden, vielleicht etwas grauer und dunkler grün auf dem Rücken.

♂ ad. wie das ♀, aber Stirnrand, Zügel, Strich um den weissen Bartstreifen, Kinn, Kehle und oberste Brustpartie braun, so dass sich der weisse Fleck hinter der Nasenöffnung und der weisse Bartstreifen deutlich abheben.

juv. wie ♀, Basis des Unterschnabels hell. Iris braun (Augenring gelblicher ?).

Material: 13 Stück (10 Tring, 2 Berlin, 1 Genua).

Verbreitung: Kap York-Halbinsel, vom Claudie- und Watson-River nordwärts; südliches Neuguinea (Fly River).

Aufenthaltsort: Scrub. Nest birnenförmig (bei *G. magnirostris* schlanker und länger), meist in Nachbarschaft von Wespen- und Hornissennestern, *s. Record Australian Mus.* 7, 1909, p. 186, Taf. 57; ebenso bei *flavida*, s. Campbell & Barnard, *Emu* 17, 1917, bzw. Stresemann, Aves in Kükenthal, *Handbuch der Zoologie* vii, 2, Fig. 388, 1928.

Masse: Flügel 50–56,5 mm. Kap York und Watson River: ♂ ad. 52,5,

53, 54[3], 55, 56,5. ♂ (als ♀ bezeichnet, hahnenfedrig ?, s.u.) 51,5, ♂ ? juv. 51, ♀ ad. (1 Stück als ♂ bezeichnet) 50, 52, ♀ juv. 50, Schwanz 39[2], 38, 42[2], 39, 42, 40, 36, 34, 39, 37 mm. (Index 68,0–77,8).——Fly River (Salvadori, Exemplar a) Flügel 54,5, Schwanz 41 (Index 75,2). Tarsus 17–19 mm., Mittelzehe o. Kr. 8, Culmen 8,5 (einmal), 9–10 mm. lang, 3–3,5 mm. breit. 1. Schwinge 16–18 mm., 2. Schwinge < 10., Armschwingen : 2, Schwinge : Flügel = 46 : 44,5 : 53,48 : 47 : 55 mm.

Bemerkung : Ich möchte trotz Salvadoris Zweifel an der Richtigkeit der Fundortsbezeichnung das Stück von D'Albertis aus Neuguinea nicht negieren. Es ist auf der Oberseite (vor Museumsalter ?) etwas bräunlicher grün als die anderen Exemplare.——Das als hahnenfedriges ♀ bezeichnete Stück hat wie die Männchen der vorhergehenden Rasse kein Braun an der Stirn, und das Braun der Kehle reicht nicht bis hinter den weissen Bartsteif: Die Oberseite ist bei einigen jüngeren Stücken gelblicher grün.

4. Gerygone palpebrosa inconspicua Ramsay.

Gerygone inconspicua Ramsay, *Proc. Linn. Soc. New South Wales* 3, p. 116 (September 1878—Lalokie Fluss, S.O. Neuguinea). Typus in Sydney ?

Kennzeichen : Schwache Rasse. ♂ ad. wie *personata*, aber die dort braunen Teile des Kopfes schwarz, Ring ums Auge und unterer Teil der Ohrdecken auch schwarz oder doch dunkelbraun. Oberkörper heller, reiner grün, weniger graugrün. Gelb des Unterkörpers leuchtender (zwischen Lemon Yellow und Lemon Chrome, Taf. 4). Schnabel im allg. breiter.

Material : 11 Stück (Tring).

Verbreitung : Bergland mittlerer Höhe von Südost-, Süd- (und Südwest- ?) Neuguinea (Richardson Gebirge, Gebiet des Aroa River, oberer Eilanden Fluss, Schneegebirge ?, Setakwa- und Kaparé-Fluss ?). Aufenthaltsort : Among the leafy tops of the trees (Ramsay nach dem Sammler Morton), im dichten Farn-Unterwuchs (Grant).

Masse : Flügel 51–54 mm. 1 Ex. Mt. Gayata, Richardson Gebirge, 6 Aroafluss-Gebiet, 2 Oberer Eilanden-Fluss, 1 Schneegebirge). ♂ 51, 51,5, 52, 52,5[2], 53[2], 53,5, 54[2] ; Schwanz 37, 39, —, 34, 36, 39, 40, 38, 39[2] mm. (Index 64,8, 68,5, 71,0–75,7). Tarsus 16, Mittelzehe o. Kr. 8, Culmen 9–10 mm. lang, 3,5–4 mm. breit. 1. Schwinge 14–18 mm., 2. Schwinge < 10., Armschwingen : 2. Schwinge : Flügel = 45 : 42,5 : 51,47 : 44 : 52,5 mm.

Bemerkung : Die Beschreibung von *Gerygone inconspicua* passt nur auf das ♀ einer *palpebrosa*-Subspezies. Die Rasse ist in der Reihe gut zu erkennen. Auch die 3 Stück, die Ogilvie-Grant mit 9 von den Aru-Inseln verglich (*Ibis, Jub. Suppl.* 1915, p. 168), gehören vielleicht hierher, wenn auch das Stück vom Schneegebirge, das ich verglich, einen Übergang zur nächsten Rasse bildet.

5. Gerygone palpebrosa palpebrosa Wallace.

Gerygone palpebrosa Wallace, *Proc. Zool. Soc.* (*London*), 1865, p. 475 (1.10.1865—Aru-Inseln). Typus in London.

Gerygone melanothorax Salvadori, *Ann. Mus. Genova* 7, p. 956 (1876—Profi und Mori im Arfak-Gebirge, Neuguinea). Typus in Genua.

Abbildung : *Catal. Birds Brit. Mus.* 4, Taf. 6.

Kennzeichen : Sehr gute Rasse. ♂♀ durch gelblicheres Grün des Oberkörpers von *inconspicua* unterschieden.

♀ (immer ?) mit grauem, undeutlichem Stirnband, juv. mit gelblichem Augenring (statt eines weisslichen beim ♀ ad).

Material: 19 Stück (11 Tring, 3 München, 2 Berlin, 2 Dresden, 1 Leyden).

Verbreitung: Aru-Inseln (Kobroor, Trangan, Wokan, Wanambai), Nordwest-Neuguinea (Kapaur, Arfak-Gebirge, auch Mt. Moari), Misol, Waigeu.

Masse: Flügel 48–56 mm. Aru-Inseln ♂ 50,5, 52², 53², 54, ♀ 48, 51, ♂ juv. 50,5; Schwanz 38, 39, —, —, —, 39,5, 33, 35, 36 mm. Kapaur ♂ Flügel 53,5, ♀ 50,5, ♂ juv. 50; Schwanz 37,5, 37 mm. Mt. Moari, 3,000 Fuss hoch, Dumas leg. Schwanz 37 mm. Misol Flügel ♂ 54, 55, 56, ♀ 52²; Schwanz 37², —, 34, 36,5 mm. Waigeu Flügel ♂ 55,5, Schwanz 38 mm. (Index 65,4–75,2). Tarsus 16, Mittelzehe o. Kr. 8–8,5, Culmen 9–10 mm. lang, 3,5–4 mm. breit. 1. Schwinge 15–19 mm., 2. Schwinge < 10., Armschwingen: 2. Schwinge: Flügel = 46: 44: 52,48: 45: 52 mm.

Bemerkung: Wegen der grossen Variationsbreite der Flügelmasse bei der nächsten Subspezies wage ich es nicht, eine kleinere Aru- (und Kapaur-) Rasse von einer grösseren Misol-, Waigeu- und Vogelkop-Rasse zu unterscheiden. Meine Masse (♂ 50,5–54 gegen 54–56 mm.) würden eine fast absolute Trennung gestatten. Es fehlt aber an genügend Material. Vielleicht ist auf Misol der schwarze Stirnstreif i. allg. breiter als auf den Aru-Inseln, und vielleicht unterscheidet sich eine Serie vom Arfak-Gebirge und Waigeu durch weniger leuchtend gelbgrüne Oberseite von diesen beiden Rassen. Vorläufig bleibt *melanothorax* besser in der Synonymie.——Die Jungen sind vielleicht nicht richtig gekennzeichnet, ich habe aber nur ein Weibchen (Kapaur) mit völlig dunkel hornfarbenem Schnabel gesehen, noch dazu ein schlecht präpariertes Stück. Der Augenring ist nur bei einem ♀ von Misol gelb, dessen Schnabel an der Basis nicht einmal besonders stark aufgehellt erscheint.

6. **Gerygone palpebrosa wahnesi** A. B. Meyer (Taf. V. fig. H.).

Pseudogerygone wahnesi A. B. Meyer, *Ornith. Monatsber.* 7, p. 144 (1899—Bongu, Astrolabe-Bai, Deutsch-Neuguinea). Typus in Dresden, verglichen.

Kennzeichen: Sehr gute Subspezies. Wie *palpebrosa*, aber beim ♂ das Schwarz des Oberkopfes und der Kopfseiten weiter nach hinten, bis auf den Hinterkopf reichend.

Material: 25 Stück (22 Berlin, 2 Tring, 1 Dresden).

Verbreitung: Jobi und Hinterland der Nordküste Neuguineas vom Stromgebiet des Mamberano bis zum Kumusi. Im Hydrographer-Gebirge Uebergang zur *palpebrosa*-Gruppe (E. Mayr, mündl. nach Ex. des Tring Museums), also zu *inconspicua*.

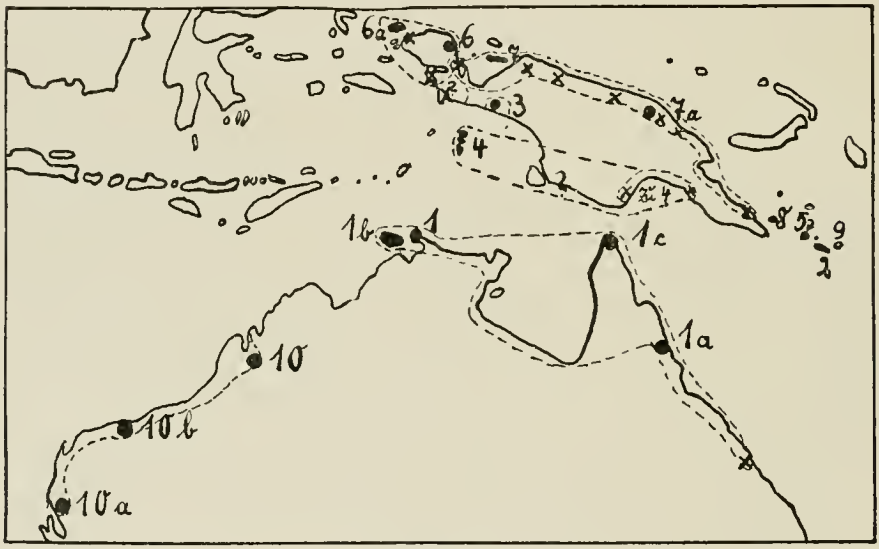
Masse: Flügel 49–57 mm. Jobi ♂ Flügel 57, Schwanz 40 mm. Takar "♂" = juv. Flügel 49, Schwanz 34 mm. Sepikgebiet ♂ 50, 53, 54, 55⁴, 56, ♀ 51, 52², o 50, Schwanz 36², 38, 39², 40, 37², 37², 36² mm. Ramugebiet ♂ 55, ♂ juv. 50, Schwanz 38, 34 mm. Bongu ♂ 54, Schwanz 37 mm. Sattelberg: ♂ 51, 53, 55, ♀ 51³, 54, o juv. 51, Schwanz 37,5, 37, 39, 35, 37. 37,5, 41, 36 mm. (Index 65,4–75,9). Tarsus 16, Mittelzehe o. Kr. 8,5, Culmen 8–9 mm. lang, 3–4 mm. breit. 2. Schwinge < 10., Armschwingen: 2. Schwinge: Flügel = 49: 46: 54, 51: 48: 57 mm.

Bemerkung: Das blasse Gelb des Jobi-Stückes halte ich für individuelle Variation, da sich auch *G. p. palpebrosa* auf den Aru-Inseln ähnlich verhält (blassgelbes Stück in Tring).

III. GERYGONE MAGNIROSTRIS (Karte 3 und Taf. V. u. VI.).

Literatur u. a. Mathews, *Birds Australia* 8. 1920, pp. 146–154, und Stresemann, *Archiv Naturg.* 89. A.7. 1923. p. 82 f.

Kennzeichen: Von den beiden bisher behandelten Formenkreisen durch Fehlen jeder intensiv gelben Färbung und durch einen (ausser bei der *tenebrosa*-Gruppe) an der Spitze etwas breiteren Schnabel unterschieden. Von dem Formenkreis *Gerygone fusca* nicht durch eine bestimmte Eigenschaft zu trennen. Bei den meisten Formen ohne weissen Superziliarstreifen (wenn mit einem solchen, Schnabel sehr schlank). Schwanz mit meist schmalerer (5 bis 12 mm. breiter), dunkler Binde, die 5–12 mm. von der Spitze entfernt bleibt, sowie mit



KARTE 3.—Verbreitung von

Gerygone **magnirostris.** Terra typica von (1) *magnirostris*, (1*a*) *cairnsensis*, (1*b*) *melvillensis*, (1*c*) *robini*, (2) *tagulana*, (3) *mimikae*, (4) *brunneipectus*, (5) *onerosa*, (6) *conspicillato*, (6*a*) *fusca*, (7) *affinis*, (7*a*) *ramuensis*, (8) *proxima*, (9) *rosseliana*, (10) *tenebrosa*, (10*a*) *christophori*, (10*b*) *whitlocki*. ● Terra typica, × weitere Fundstellen.

weisslichem bis blassbräunlichem Fleck auf der Innenfahne der äusseren Federn.

ad. Oberkörper oliven mit bräunlicher Tönung oder reiner braun. Weisslicher Stirnfleck und Augenring vorhanden, Supraloralstreif angedeutet, manchmal fehlend. Unterseite weiss, von der Oberbrust nach hinten schwach braun oder gelb in verschiedener Tönung überlaufen. Mitte der Brust und des Bauches, Oberschwanzdecken und Flügelbug meist nicht so intensiv oder gar nicht getönt. Iris rot bis hellbraun. Schnabel schwarz, Füsse schwarz oder dunkelgrau. ♂♀ gleichgefärbt, ♀ im Durchschnitt kleiner.

juv. mit geblichen Augenringen, verschieden weit ausgedehntem gelblichen Anflug auf der Unterseite, besonders an den Kehlseiten, meist grüner Stirn und lebhafterer Färbung der Oberseite. Iris braun bis gelb. Basis des Unterschnabels hell hornfarben. Schwanzfedern etwas spitzer und schmaler. 1. Jahreskleid mit dunklerer Oberseite als das Jugendkleid und mit weisslichem

Augenring, sonst wie das Jugendkleid—wenn nicht die Beschränkung der hellen Schnabelbasis auf den Schnabelwinkel Charakter dieses Kleides ist.

Material: 87 Stück (7 Typen, davon 1 vielleicht Paratypus, ferner 4 Paratypen).

Verbreitung der *magnirostris*-Gruppe: Nordwest-, Nord- und Nordost-Australien (Melville-Inseln bis Port Mackay), Aru-Inseln, Neuguinea mit Waigeu, den Inseln der Geelvinkbai und den südöstlichen papuanischen Inseln. Mathews stellt nach alten Vorbildern neuerdings alle hierher gehörigen Rassen in einen Formenkreis, während er in den *Birds of Australia* nicht weniger als zwei Arten für Nordaustralien ansetzt, wo nach seiner neuesten Auffassung (Systema Avium Australasianarum) nur eine Subspezies wohnt. Man könnte die 10 Rassen 5 Gruppen zuweisen, die ich hier nur nenne, ohne mich unten näher auf sie einzulassen, da sie einander ziemlich ähnlich sind: *magnirostris- mimikae-tagulana, brunneipectus-onerosa, conspicillata, affinis-proxima-rosseliana, tenebrosa*. Nur die letzte Rasse ist scharf abgesondert und gehört (s.u.) einer anderen Gruppe an; Verbreitung der *tenebrosa*-Gruppe: West-Australien zwischen Carnarvon und dem King Sound.

(*a*) MAGNIROSTRIS-GRUPPE.

1. **Gerygone magnirostris magnirostris** Gould (Taf. V. fig. III*a*).

Gerygone magnirostris Gould, *Proc. Zool. Soc.* (*London*) 1842, p. 133 (Februar 1843—Greenhill Island, Port Essington, Northern Territory, Australien). Typus in Philadelphia.

Gerygone magnirostris cairnsensis Mathews, *Nov. Zool.* 18, p. 309 (31.1.1912—Cairns, Nord-Queensland). Typus in Tring, verglichen.

Gerygone magnirostris melvillensis Mathews, *Austral Avian Record* 1, p. 39 (2.4.1912—Coopers Camp, Apsley Straits, Melville Insel, Northern Territory, Australien). Typus in Tring, verglichen.

Ethelornis cairnsensis robini Mathews, *Birds Australia* 8, p. 151 (18.8.1920—Kap York, Nord-Queensland, Australien). Typus nicht in Tring, falls von Mathews fixiert. Andernfalls erkläre ich das ♀ ad. von Piara, Cape York, Kemp leg. Nr. 3141 am 12.8.1913 zum Typ.

Abbildungen: Gould, *Birds Australia*, Vol. 2, Taf. 100 (= Pt. 32), 1848.—Mathews, *Birds Australia* 8, 1920, Taf. 383, 384 ("*cairnsensis, melvillensis*").

Kennzeichen: Oberseite, Schwanz, Aussensäume an den innern Armschwingen und den Flügeldecken, Zügel, Wangen und Ohrdecken bräunlich oliven (Light Brownish-Olive bis Brownish-Olive, Ridgway, Taf. 30, auch Saccardo's Olive, Taf. 16). Schwanz mit einer undeutlich begrenzten, etwa 6–12 mm. breiten, auf den inneren Federn schmaleren, dunkler braunen Binde und einem weisslichen Fleck auf der Innenfahne der 4 äussersten Federn nahe der Spitze. Die schwarze Binde ist 5–8 mm. von der Spitze entfernt. Schwingen reiner braun mit schmalen blassbräunlichen, an den Handschwingen weisslicheren Aussensäumen. Ein kleiner Fleck hinter der Nasenöffnung weisslich, heller Supraloralstreifen höchstens ganz schwach angedeutet. Zügel dunkler braun als der Oberkopf. Schmaler, vorn und hinten unterbrochener Augenring weisslich. Unterseite weiss, einschliesslich der Unterschwanzdecken, der Unterflügeldecken und Axillaren, überall, doch am wenigsten auf Kehle, Unterschwanzdecken, Unterflügeldecken und Axillaren, blass bräunlich in verschiedener Ausdehnung und Intensität getönt (Cartridge Buff, Taf. 30, bis Warm Buff, Taf. 15), Mitte von Brust und Bauch manchmal rein weiss. Schenkelbefiederung braun mit blasseren Federspitzen.

juv. mit gelbem statt weisslichem Augenring, hell hornfarbenem Schnabel-

winkel, etwas bräunlicherer Kehle und gelblichen Kehlseiten. Oberkörper grünlicher, besonders Oberkopf. Ein Stück (wohl 1. Jahreskleid) von der Melville-Insel (19.2.) hat schon weissliche, aber noch nicht reinweisse Augenränder, und die dunklere Oberseite des ad. (grünlichere Stirn ?), aber sonst die Merkmale des Jugendkleides.

Material: 14 Stück (13 Tring, 1 Hamburg).

Verbreitung: Nordaustralien (Melville-Insel, Port Essington, Cape York, Cairns, Port Mackay), also Küstengebiete und vorgelagerte Inseln des Northern Territory und von Nord- und Mittel-Queensland). Aufenthaltsort: Mangroven.

Masse: Flügel 51,5–58,5 mm. Melville-Insel Flügel ♂ 55, 57, 57,5, 58,5, ♀ Flügel 54,5, o 1. J.-Kl. 51,5; Schwanz 42, 44², 46, 42, 39 mm. (Index 74,6–78,7). Cape York Flügel ♂ 56, 56,5, ♀ 53, ♀ juv. 53; Schwanz 38, 41, 39, 41 mm. (Index 73,6–77,4). Cairns Flügel ♂ 53², ♀ 53,5; Schwanz 38, 40² mm. (Index (71,5–75,5). Port Mackay Flügel 53, Schwanz 41,5 mm. (Index 78,3). Tarsus 17–19, Culmen 9–10 mm. lang, 3–4 mm. breit. 1. Schwinge 16–18 mm., 2. Schwinge = 8.–10., Armschwingen: 2. Sehwinge: Flügel = 51 : 51 : 58,5. 47 : 48 : 55. 46 : 47 : 53. 45 : 45 : 53 mm.

Bemerkung: Nach dem vorliegenden Material ist es nicht möglich, eine westliche und nördliche von einer südöstlichen Rasse zu unterscheiden, die durch kürzere Flügel und im Durchschnitt kürzeren Schnabel gekennzeichnet wäre. Das Mackay- und das von Meek gesammelte Kap York-Stück haben einen besonders schlanken Schnabel.——Das von Rogers erwähnte, am 5.12. in Nordwest-Australien erlegte jugendliche Exemplar scheint nicht ans Tring Museum gekommen zu sein. Das von diesem Tage vor mir liegende Stück ist zweifellos ausgefärbt. Dass der gelbe Federring um die Augen auch diesen westlichen juv. zukommt, halte ich für sicher.

2. Gerygone magnirostris tagulana Rothsch. & Hartert.

Gerygone magnirostris tagulana Rothschild und Hartert, *Nov. Zool.* 35, p. 318 (November 1918— Südost-Insel oder Tagula, Louisiade-Archipel). Typus in Tring, Paratyp verglichen.

Kennzeichen: Sehr schwache Form, kaum von *magnirostris* unterschieden, mit der sie bei der Beschreibung nicht verglichen werden konnte, da Serien von Nord-Australien fehlten. Der einzige Unterschied, den ich finden kann, ist die schwächere Ausbildung der hellen Flecken nahe der Spitze der Innenfahne der äusseren Schwanzfedern. Sie sind blassbräunlich statt weisslich. Ausserdem zieht von dem hellen Stirnfleck ein schmaler weisslicher oder blassbräunlicher Streifen über den Zügeln entlang bis nicht ganz ans Auge, was bei *magnirostris* höchstens einmal angedeutet ist. (Oberkörper Saccardo's Olive, Taf. 16.) Der Unterschied ist sehr gering und nachzuprüfen. Stücke mit bräunlicher Kehle halten Rothsch. u. Hartert für jung, was wohl stimmen wird. Wenn die Tiere keinen gelben Augenring haben sollten und nicht das 1. J.-Kl. tragen, wäre die Form auch durch diese Eigenschaft unterschieden.

Material: 1 Stück (Tring).

Verbreitung: Südost-Insel (Louisiade-Archipel), (nur ?) auf dem Mt. Riu, etwa 700 m. hoch.

Masse: ♀ Flügel 54–57 mm., Schwanz 41,5 (Index 76,9), Tarsus 17, Culmen 9,5 mm. lang, 3,5 mm. breit. 1. Schwinge 16 mm., 2. Schwinge 9.–10. = Armschwingen = 46 mm.

Nach der Urbeschreibung: Flügel 55–57 (1 ♀ 54) mm. (9 Stück).

3. Gerygone magnirostris mimikae Ogilvie-Grant.

Pseudogerygone conspicillata mimikae Ogilvie-Grant, *Ibis*, 1915, *Jub. Suppl.*, p. 168 (Dezember 1915—Mündung des Mimika-Flusses, Südwest-Neuguinea). Typus in London.

Kennzeichen: Sehr schwache, wenn überhaupt unterscheidbare Form, nur aus tiergeographischen Gründen hier anerkannt. Wie *magnirostris*, aber helle Schwanzzeichnung nicht weiss bis weisslich, sondern blass bräunlich und wohl nicht so ausgedehnt wie bei *tagulana*, von der die Form auch durch die schwächere Ausbildung des weisslichen Supraloralstreifens abzuweichen scheint. Vielleicht ist auch die Mitte der Unterseite heller. Die Unterschwanzdecken sind nicht bräunlicher als bei einem von Meek am Kap York gesammelten Stück, das aber aus der Serie von *magnirostris* mit weisslichen Unterschwanzdecken etwas herausfällt.

Material: 1 Stück (Tring).

Verbreitung: Südwest-Neuguinea (Mimika-, Setekwafluss). Aufenthaltsort: Mangrove.

Masse: ♂ Flügel 54 mm., Schwanz etwa 40 mm. (Index etwa 74,1). Tarsus 17, Culmen 9 mm. lang, 3,5 mm. breit. 1. Schwinge = 16 mm., 2. Schwinge = 9.–10. = Armschwingen = 47,5 mm.

Bemerkung: Die völlige Uebereinstimmung der 3 bisher behandelten *magnirostris*-Formen in der Färbung der Oberseite, der Tönung der Unterseite und der Grösse ist auffällig, da sie geographisch nicht benachbart wohnen.

4. Gerygone magnirostris brunneipectus Sharpe.

Pseudogerygone brunneipectus Sharpe, *Notes Leyden Museum* 1, 1878, p. 29 (1879—nomen nudum), id., *Cat. Birds British Mus.* 4, p. 221 (1879—Aru-Inseln). Typus in London.
Gerygone nigrirostris Salvadori (errore pro *magnirostris*), *Ornit. Pap. e Mol.* 2, 1881, p. 102.

Kennzeichen: Wie *magnirostris*, aber Oberkörper brauner, weniger olivenfarben. (Oberkopf zwischen Mummy und Dresden Brown, Taf. 15, auf dem Rücken, an den Kopf- und Halsseiten in einen helleren Ton übergehend, nach Buckthorn Brown, Taf. 15.) Hinter der fast weissen Kehle ist der Unterkörper viel intensiver bräunlich getönt, bei einem Aru-Stück sogar völlig röstlich braun, bei dem Stück aus Baja Hall aber nicht intensiver als bei dem Kap York-Exemplar von Meek. Ausdehnung des Weiss am Schwanze wie bei *mimikae*.

Material: 5 Stück (2 Genua, 2 Tring, 1 Berlin).

Verbreitung: Aru-Inseln, Süd- und Südost-Neuguinea (Baja Hall, Naiabui, Katau und Fly-Fluss).

Masse: Aru-Inseln: ♂ Flügel 56, o 56; Schwanz 42, 40 mm. (Index 71,4, 75,0). Tarsus 17, Culmen 9,5 mm. lang, 4 mm. breit. Neuguinea (Salvadori a und c), ohne Fundort das Stück in Berlin (Loria): Flügel ♂ 55, ♀ 54, o 51, 5; Schwanz 41, 39? mm. (Index 72,2 bis 75,7). Tarsus 16–17, Culmen 9,5–10 mm. 1. Schwinge 16–17 mm., 2. Schwinge = 9.–10., bei einem von den Aru-Inseln (das andere in Mauser) = 8.–9., Armschwingen: 2. Schwinge. Flügel = 47 : 47 : 55,48 : 49 : 56 mm.

Bemerkung: Dass Vögel der Aru-Inseln und von Südneuguinea übereinstimmen, kommt häufiger vor, das Auffällige ist nur, das diese oberseits vorherrschend braune Form des Tieflands von Süd-Neuguinea durch eine mehr olivenfarbene Rasse (*mimikae*) von der ebenfalls braunrückigen Form West-Neuguineas, *conspicillata*, getrennt ist. Ich gab oben einen Unterschied zwischen den Vögeln

der Aru-Inseln und denen von Neuguinea an, möchte ihn aber wegen Mangels an Material nicht nomenklatorisch festlegen.

5. Gerygone magnirostris onerosa Hartert.

Gerygone rosseliana onerosa Hartert, *Nov. Zool.* 6, p. 209 (15.8.1899—St. Aignan-Insel, Louisiade-Archipel). Typus in Tring, Paratypus verglichen.

Kennzeichen: Wie *brunneipectus*, aber Brust und Brustseiten röstlicher braun, Weichen gelblicher, nicht so bräunlich (etwa Honey Yellow, Taf. 30). Weisslicher Supraloralstreif vorhanden. Iris braun und hell braun (nie rot ?).

Material: 1 Stück (Tring). Bekannt nach 4 Stücken im Tring-Museum.

Verbreitung: St. Aignan = Misima (Louisiade-Archipel).

Masse: ♂ Flügel 56, Schwanz 45 mm. (Index 80,4). Nach Hartert, l. c., ♂ Typus Flügel 58, Schwanz 47 mm. (Index also noch grösser, 81,0, für das ♀ errechne ich—Flügel 55, Schwanz 43 mm.—78,2, im Durchschnitt hat diese Rasse wohl einen längeren Schwanz als die anderen). Tarsus 18, Culmen 10 (nach Hartert 10–11) mm. lang, 4 mm. breit. 1. Schwinge 21 mm., 2. Schwinge = Armschwingen (= 10. ?) = 48 mm.

6. Gerygone magnirostris conspicillata (Gray).

Microeca conspicillata Gray, *Proc. Zool. Soc.* (*London*), 1859, p. 156 (Oktober 1859—Dorey, Neuguinea). Typus in London.

Zosterops fusca Bernstein, *Journ. f. Ornith.* 12, p. 406 (November 1864—Waigeu). Typen nach Finsch, *Notes Leyden Museum* 20, 1898, p. 135 f. von Waigeu, Salawati und Sorong in Leiden. Ein Sorong-Stück in Berlin wurde erst am 23.12.1864 gesammelt, kann also nicht Cotyp sein. Nec *Psilopus fuscus* Gould 1838.

Muscicapa decolorata ex Temminck MS., Finsch, *Notes Leyden Mus.* 20, 1898, p. 135. Exemplar von der Lobobai, S. Müller leg., nomen nudum, als Synonym von *conspicillata*.

Ethelornis magnirostris bernsteini Mathews, *Bull. Brit. Ornith. Club* 46, p. 40 (6.11.1926—nomen novum pro *Zosterops fusca* Bernstein).

Kennzeichen: Gute Subspezies. Oberkörper wie bei *brunneipectus*, Unterkörper wie bei *magnirostris*, obere Brustseiten blassbraun (Cinnamon Buff bis Clay Color, Taf. 29), hintere Brustseiten und Weichen blasser und gelblicher (Cream Buff, Taf. 30), gelber als bei *magnirostris*, *brunneipectus* und *mimikae*. Schwanz etwa Saccardo's Umber (nahe der Spitze mehr Sepia, Taf. 29) mit etwas weniger weisser Zeichnung als bei *magnirostris*.

juv. Ein juv. von Kapaur hat einen gelblicher hornfarbenen Schnabel und weisslichen Augenring, gelblichen Anflug an den Kehlseiten, hornfarbene Basis des Unterschnabels (s. a. Bernstein).

Material: 5 Stück (2 Genua, 2 Tring, 1 Berlin).

Verbreitung: Westliches Neuguinea vom Vogelkop bis Kapaur (s. u.), ev. bis zur Lobobai, wenn dort nicht schon *mimikae* vorkommt. In diesem Falle gehört *M. decolorata* in die Synonymie von *mimikae*. Waigeu. Salawati. Aufenthaltsort: Mangrove (nach Bernstein, l.c.).

Masse: Sorong, Dorei und Pulo Semo, wohl ein Inselchen an der Küste des Vogelkops (Salvadori Exemplare a und e) Flügel ♂ 59, o 59, ♀ 55; Schwanz 40,5, 41, 40 mm. (Index 69,5–75,3). Kapaur ♂ ad. u. juv. Flügel 55², Schwanz 40, 38 mm. (Index 72,7, 69,1). Tarsus 16–17, Mittelzehe o. Kr. 7,5, Culmen 10–10,5 (juv. 9,5) mm. 1. Schwinge 17,5–19,5 mm., 2. Schwinge = 8.–9., Armschwingen: 2. Schwinge: Flügel = 50 : 52 : 59 mm.

Bemerkung: Die Rasse ist selten in Sammlungen, weil in der Mangrove

von Nordwest-Neuguinea wenig gesammelt worden ist.——Das ad. von Kapaur gehört wohl einer besonderen Form an, die sich von *conspicillata*—wie *mimikae*—durch bräunliche Weichen unterscheidet, überhaupt mit *mimikae* auf der Unterseite gut übereinstimmt. Die Oberseite dagegen ist ganz *conspicillata*. Weiteres Material, auch von Waigeu, bleibt abzuwarten.

7. Gerygone magnirostris affinis A. B. Meyer (Taf. VI. fig. III*a*).

Gerygone affinis A. B. Meyer, *Sitzungsber. Akad. Wien* 70, p. 116 (1874—Ansus auf Jobi, Passim und irrtümlich Rubi, t.t. restr. Jobi s. Stresemann, *Arch. Naturgesch.* 89, A. 7. 1923, p. 82). Typus in Dresden, verglichen.

Gerygone ramuensis Reichenow, *Ornith. Monatsber.* 5, p. 26 (1897—Ramu, ehemaliges Deutsch-Neuguinea). Typus in Berlin, verglichen.

Kennzeichen: Wie *conspicillata*, Oberkopf im allgemeinen grauer, weniger braun (Olive Brown, Taf. 40), Rücken nicht so lebhaft braun, etwas grünlicher (Buffy Brown, Taf. 40, bis olivenbraun), obere Brustseiten bräunlichgrau (Drab bis Hair Brown, Taf. 46), untere Brustseiten und Weichen gelblicher als bei *conspicillata* (Amber Yellow, Taf. 16) getönt, manchmal blasser (nach Straw Yellow, Taf. 16). Iris rot oder rotbraun.

juv. mit den üblichen Merkmalen, mit mehr oder weniger gelbem Unterkörper, ein Stück von der Vulcan-Insel mit völlig gelb getönter Unterseite (Straw Yellow, Taf. 16) und grünerem Oberkörper (fast Citrine, Taf. 4, mit Anklang an Olive Lake, Taf. 16). Iris rötlich braun bis braun.

Material: 50 Stück (21 Tring, 17 Berlin, 5 Dresden, 4 Buitenzorg, 3 Genua).

Verbreitung: Jobi, Kurudu, Tiefland des nördlichen Neuguinea von Passim im Westen der Geelvinkbai bis Haidana an der Collingwoodbai, sowie auf der vorgelagerten Dampier- und Vulcan-Insel. Aufenthalt anscheinend nur in der Nähe der Küste und an den Wasserläufen der Ebene.

Masse: Flügel 52–60 mm. Jobi Flügel ♂ 55, 60, ♀ (2 juv.) 55, 56, 57, o juv. 56; Schwanz 43, —, 40, 42, 41, 40 mm. (Index 71,4–78,2). Kurudu ♀ Flügel 54, Schwanz 40 mm. (Index 74,1). Passim Flügel ♂ 57, ♀ juv. 56, Schwanz 42^2 mm. (Index 73,7, 74,3). 2. Schwinge bis hierher = 8.–9., oder etwas < 9., Armschwingen: 2. Schwinge: Flügel = 48 : 50 : 57,45 : 47 : 55 mm.

Holl. Neuguinea (Pauwi, Samberi, Taua am Mamberano, Riggenbach leg., Pionierbiwak am Mamberano, Prauwenbiwak am Idenburg-Fluss, v. Heurn leg.) ♂ 54^2, ♀ 52^2, 54^2, 56,5, ♂ juv. 55, Schwanz 37,5, 40, 38^2, 40, 42, 41, 40 mm. (Index 69,4–77,8).

Ehemaliges Deutsch-Neuguinea und nördl. Brit. Neuguinea (Sepik- und Ramu-Gebiet, Astrolabebai, Friedrich-Wilhelms-Hafen, Haidana an der Collingwoodbai) Flügel ♂ 52, 54^2, ♀ 51, 52^2, 53^2, 54, 55, o 51, 52,5, 54, 56, juv. 51, 52, 53, Schwanz 40, 42, 40, 37^2, 39, 40, —, —, 38, 40, 41, 37, 39, —, 39 mm. (Index 71,2–78,4). Dampier-Insel ♂ 54, 55, 56, 58, ♀ 53^3, 54; Schwanz 41, 40, 41,5, 43, 41, 41,5, 42^2 mm. (Index 72,7–79,2). Vulcan-Insel ♂ 54, 58^2, ♀ 53, 55, juv. od. 1. J.-Kl. 52, 53, 55, Schwanz 40^3, 42, 43, 45 mm. (Index 72,4–79,6). 2. Schwinge im Osten = 10. oder < 10., besonders auf der Vulcan-Insel sehr kurz, auf der Dampier-Insel teils kurz, einige lang, die meisten in Mauser. Armschwingen: 2. Schwinge: Flügel = 49,5 : 48 : 58 (Vulcan-Insel). Tarsus der ganzen Serie 16–17, Culmen 9–10 mm. lang, 3,5–4 mm. breit. 1. Schwinge 15–17 mm., 2. Schwinge (s.o.) >, = oder < Armschwingen. Armschwingen: 2. Schwinge: Flügel = 41,5 : 41 : 50,45 : 47 : 55 mm.

Also Flügel auf Jobi und an der Geelvinkbai 54–60 mm. (9 Stück), Nordost-Holl.-Neuguinea 52–56,5 (8), Nordost-Neuguinea 51–56 (14), Dampier- und Vulcan-Insel 52–58 (16 Stück). Die Differenzen der Durchschnittsmasse berechtigen meines Erachtens nicht zur Rassentrennung.

Bemerkung: Die individuelle Variation ist beträchtlich. Der Oberkörper ist manchmal fast Citrine, Taf. 14, besonders im Osten des Gebietes.——Die 2. Schwinge ist im Westen relativ viel grösser als im Osten (von hier viel Mausermaterial), ich möchte das ohne neue Tiere aus der Geelvinkbai nicht für konstant erklären.——Wenn Hartert, *Nov. Zool.* 36, 1930, p. 63 die Typen von *affinis* aus Jobi in die Nähe der Kapaur-Stücke und die von Passim in die Mähe von *ramuensis* stellt, kann er sich nur nach der Färbung des Oberkörpers, schwerlich nach der der Weichen gerichtet haben, die bei allen ad. der *affinis*-Typen und bei den Jobi-Stücken aus Genua viel gelber sind, als bei allen mir vorliegenden *conspicillata*.

8. **Gerygone magnirostris proxima** Rothsch. & Hartert.

Gerygone magnirostris proxima Rothschild & Hartert, *Nov. Zool.* 25, p. 319 (1.5.1918—Fergusson-Insel, d'Entrecasteaux-Gruppe). Typus in Tring, Paratypus verglichen.

Kennzeichen: Wie *G. m. affinis* A. B. Meyer, aber Oberbrust und Brustseiten mehr rostbraun, blass zimtbräunlich (Cinnamon), ganze Unterseite einschliesslich der Kehle gelblich überflogen, Abdomen und Weichen etwas bräunlicher (Cream Buff, Taf. 30; Buff, Taf. 29).

Material: 1 Stück (Tring).

Verbreitung: Fergusson-Insel (d'Entrecasteaux-Gruppe).

Masse: ♂ Flügel 55, Schwanz 39,5 mm. (Index 71,8). Tarsus 17, Culmen 9 mm. 1. Schwinge 15 mm., 2. Schwinge < 10. Armschwingen: 2. Schwinge: Flügel = 47,5 : 47 : 55 mm. (Rothsch. & Hart. Flügel 52–55 mm. bei 8 Stück).

9. **Gerygone magnirostris rosseliana** Hartert.

Gerygone rosseliana Hartert, *Nov. Zool.* 6, p. 79 (15.4.1899—Rossel-Insel, Louisiade-Archipel). Typus in Tring, Paratypus verglichen.

Kennzeichen: Wie *proxima*, aber Oberseite noch grüner, besonders der Oberkopf, Unterkörper von der Oberbrust bis einschliesslich der Unterschwanzdecken viel gelber gefärbt (etwa zwischen Amber Yellow und Wax Yellow, Taf. 16). Kehle gelblich überlaufen wie bei *proxima*, fast so gelb wie bei einem juv. von *affinis* von der Vulkan-Insel. Oberbrustseiten und Weichen bräunlicher. Flügelbug gelblich. Flügel kürzer.

Material: 1 Stück (Tring).

Verbreitung: Rossel-Insel (Louisiade-Archipel).

Masse: ♀ Flügel 49, Schwanz etwa 38 mm. (Index etwa 77,6). Tarsus 18, Culmen 10 mm. 1. Schwinge 14 mm., 2. Schwinge wohl > 10. (Mauser) = Armschwingen = 43 mm. (Nach Hartert Flügel von 4 Stück 51–52 mm.)

(*b*) TENEBROSA-GRUPPE.

Es ist nur ein Einwand gegen diese Einordnung der westaustralischen langschnäbligen *Gerygone* stichhaltig: Der schlanke Schnabel dieser Form ist in typischer Ausprägung gar zu sehr von dem der anderen Subspezies verschieden. Doch wenn man die beiden bereits erwähnten schlankschnäbligen *G. m. magni-*

rostris neben die breitschnäbligen *tenebrosa* hält, fällt der Unterschied fast weg. Die beiden Variationskurven berühren sich fast. Obwohl uns vermittelnde Exemplare aus dem weiten Gebiet zwischen der Melville-Insel und dem King Sound, etwa 1,000 km. Entfernung, fehlen, vereinige ich die wahrscheinlich auf dieselbe Wurzel zurückzuführenden Formen, um zur Nachprüfung anzuregen.

10. **Gerygone magnirostris tenebrosa** Hall (Taf. V. fig. III*b*, Taf. VI. fig. III*b*).

Pseudogerygone tenebrosa Hall, *Victorian Naturalist* 18, p. 79 (September 1901—Fitzroy River, Nordwest-Australien). Typus in ?

Gerygone tenebrosa christophori Mathews, *Nov. Zool.* 18, p. 311 (31.1.1912—Carnarvon, Western Australia). Typus in Tring, verglichen.

Ethelornis magnirostris whitlocki Mathews, *Austral Avian Record* 3, p. 24 (30.6.1915—Port Hedland, mittleres Western Australia). Typus in Tring, verglichen.

Abbildung: Mathews, *Birds Australia* 8, 1920, Taf. 382 bei p. 140 (Typus von *christophori*).

Kennzeichen: Sehr gute Form. Wie *G. m. magnirostris*, aber Oberkörper blasser (Woodbrown bis Buffy Brown, Taf. 40), etwa so wie bei den am gleichen Ort oder doch in derselben Gegend vorkommenden Rassen von *G. fusca*, *G. f. broomei* und *mungi*. Dunkle Binde auf der äussersten Schwanzfeder etwa 5–7 mm. breit, Abstand von der Federspitze grösser, etwa 8–12 mm. Mit weisslichem oder doch blass bräunlichem Supraloralstreifen, der bei *magnirostris* meistens sehr schwach ist, etwas blasseren Brustseiten, überhaupt i. allg. mit blasserer Unterseite, schlankerem, i. D. längerem Schnabel und längerem Tarsus.

Material: 11 Stück (Tring).

Verbreitung: Küste des westlichen und nordwestlichen Western Australia von Carnarvon im Süden bis zum King Sound im Norden. Aufenthaltsort: Mangroven (Mauser Dezember bis März, Brutzeit Oktober).

Masse: Flügel, 50,5–60, Carnarvon Flügel ♂ 60, o 57, Schwanz 47, 45,5 mm. (Index 76,6, 79,8). Tarsus bei beiden 21 mm., Mittelzehe o. Kr. 10, Culmen 10,5 mm. lang, 3 mm. breit. Port Hedland ♂ Flügel 53, 57, Schwanz 43,5, 45,5 mm. (Index 79,8, 82,1). Tarsus 20, Culmen 9,10 mm. Point Torment (King Sound) Flügel ♂ 57 mm., o 55 mm., ♂ juv. 55, ♀ juv. (1. v. Derby) 50,5, 51, ♀ 1. J.–Kl. 53 mm., o 1. J.–Kl. 51 mm., Schwanz —, —, —. 38², 38, 40,5 mm. (Index 71,7–79,4). Tarsus 18–20 mm. (7 Stück). Culmen 9,5–10,5 mm. lang, 2,5–3 mm. breit. 1. Schwinge 15–17 mm., 2. Schwinge = 9.–10. oder etwas < 10. Armschwinge: 2. Schwinge: Flügel = 52 : 52 : 60,51 : 50 : 57,49 : 48 : 57. Das Verhältnis 44 : 48 : 53 betrachte ich als Ausnahme, die ev. durch Präparation bedingt ist. Spitze des Flügels von der 4. und 5. Schwinge gebildet, die 3. und 6. meistens fast ebenso lang, selten 1 mm. kürzer.

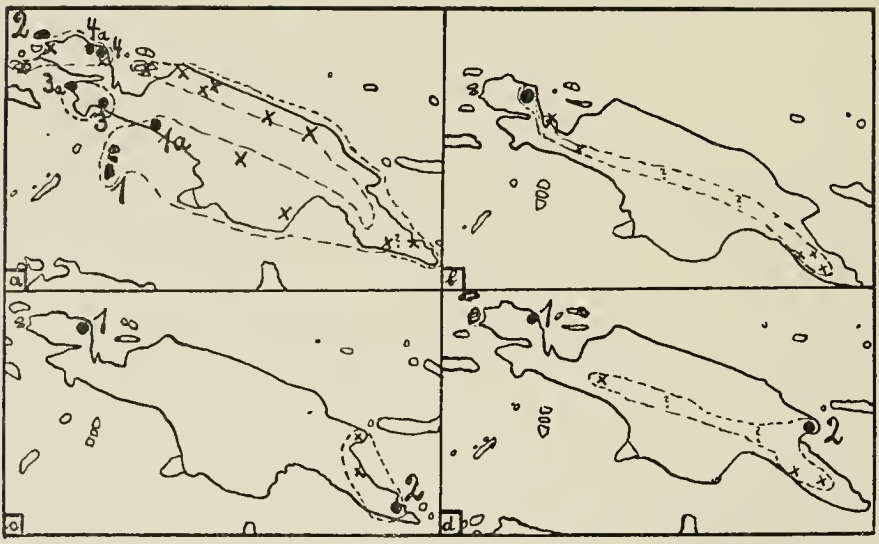
Bemerkung: Mathews gibt nirgends an, wie er die auch jetzt noch von ihm anerkannten in je zwei ad. Stücken vorhandenen drei Rassen unterscheiden will. Ich finde als einzigen Unterschied der beiden südlichsten Stücke (*christophori*) den langen Tarsus und vielleicht i. D. längeren Flügel. Weiteres Material bleibt abzuwarten.

IV. GERYGONE CHRYSOGASTER (Karte 4a und Taf. V).

Kennzeichen: Von allen anderen Formkreisen ausser von *G. rubra* und *albofrontata* durch auch am Balg hell hornfarbenen Fuss unterschieden. Schwanz ungezeichnet, bei *rubra* gezeichnet. Schnabel breit wie bei

magnirostris, chloronota und der *fusca sulphurea*-Gruppe, bei *albofrontata* sehr schlank.

♂♀ ad. Oberkopf und Oberkörper, Schultern, kleine und mittlere Oberflügeldecken oliven mit mehr oder weniger bräunlicher Tönung, besonders auf den Oberschwanzdecken. Schwanzfedern dunkelbraun mit bräunlich olivenfarbenen, undeutlichen Säumen. Flügel graubraun, Schwingen olivenfarben, grosse und mittlere Oberflügeldecken mit der Farbe des Rückens oder gelbweiss gerandet. Stirnfleck, Supraloralstreif und oberes Augenlid schmutzig weiss, gelb oder blassbräunlich. Zügel ebenso oder etwas dunkler braun. Wangen und Ohrdecken oliven oder blass graubräunlich, Kinn, Kehle, Brust weiss mit bräunlichem oder gelblichem Anflug, Bauch und Unterschwanzdecken schwefelgelb. Schenkelbefiederung braun mit gelblichen Federspitzen. Unterflügeldecken und



KARTE 4.—Verbreitung von.

(*a*) *Gerygone* **chrysogaster.** Terra typica von (1) *chrysogaster*, (1*a*) *guineensis*, (2) *neglecta* und *waigiuensis*, (3) *virescens*, (3*a*) *dohertyi*, (4) *notata*, (4*a*) *tenuis*.

(*b*) *G.* **cinerea.** T.t. von *cinerea*.

(*c*) *G.* **ruficollis.** T.t. von (1) *ruficollis* und *bimaculata*, (2) *insperata*.

(*d*) *G.* (*Eugerygone*) **rubra.** T.t. von (1) *rubra*, (2) . . . Mayr.

● Terra typica, × weitere Fundstellen.

Axillaren weiss mit blass gelbem Anflug an den Federspitzen. Flügelbug bräunlich bis gelblich. Iris rot bis braun. Schnabel schwarz oder hornfarben, Füsse blass hornfarben.

juv. Schnabel besonders an der Basis (immer ?) heller.

Flügellänge 49–57 mm., Schwanz 37–45 mm. (Index 69,8–78,5). 1. Schwinge 14–17 mm., 2. Schwinge < 10., 8–11 mm. kürzer als die Schwingenspitzen, 4–1 mm. kürzer als die Armschwingen. Maximum des Flügels von der 4. oder 5. Schwinge gebildet, die 6. und 3. wenig kürzer. Tarsus 15–16,5, Mittelzehe o. Kr.8,5, Culmen 8–10 mm. lang, etwa 4, einmal 4,5 mm. breit.

Material: 46 Stück (darunter 4 Typen).

Verbreitung: Neuguinea, Jobi, Waigeu, Misol und Aru-Inseln.

(*a*) chrysogaster-Gruppe.

1. **Gerygone chrysogaster chrysogaster** Gray (Taf. V. fig. IV).

Gerygone chrysogaster Gray, *Proc. Zool. Soc.* (*London*), 1858. p. 174 (15.7.1858—Aru-Inseln). Typus in London.

Acanthiza chlorogaster (" Gray, *Hand-List Birds* 1. p. 219, 1870 " nach) Sharpe, *Cat. Birds* 4, p. 226 Ich finde bei Grant, l.c., ganz richtig *chrysogaster*.

Gerygone chrysogaster guineensis Mathews, *Bull. Brit. Ornith. Club* 48, p. 91 (24.4.1928—Mimika-Fluss, Neuguinea). Typus in London.

Gerygone xanthogaster (G. R. Gray) (errore) Salvadori, *Ann. Mus. Genova* 7, 1875, p. 958.

Abbildung: Gould, *Birds New Guinea*, Pt. 22 (= Vol. 2, Taf. 13), 1886.

Kennzeichen: Wie die der Art, Oberkörper etwa Orange Citrine (Tafel 4). Flügel nicht mit gelber Binde, Stirnfleck, Supraloralstreif und oberes Augenlid schmutzig weiss (blass bräunlich). Zügel etwas dunkler braun. Wangen und Ohrdecken blass graubräunlich, vordere Unterseite weiss mit bräunlichem Anflug. Bauch und Unterschwanzdecken etwa Pinard-Yellow, Taf. 4. Flügelbug bräunlich. Schnabel schwarz.—juv. mit hellem innersten Schnabelwinkel.

Material: 30 Stück (3 Genua, 2 München, 1 Hamburg, 21 Berlin, 2 Buitenzorg, 1 Dresden).

Verbreitung: Aru-Inseln (Wokan, Giabu langan, Wanambai, Trangan, Dobbo), Jobi, Neuguinea vom Mamberano-Gebiet im Norden und vom Mimika-Fluss im Süden ostwärts. Aufenthaltsort: Unterholz und Dickicht in den Niederungen und tieferen Lagen der Gebirge.

Masse: 4 Aru-Inseln, 1 Südost-Neuguinea, 19 Deutsch Neuguinea, 4 Mamberano-Gebiet, 1 Jobi[1] (Grössenunterschiede nicht feststellbar). Flügel 49–57 mm., ♂ 50[2], 51[2], 53[4], 55, 56[2], 56,5, 57, ♂ ? 56[2], o 51, 52,5, ♀ 49, 51, 52, 52,5, 53, 55 (1 nicht messbar), Schwanz 39, 40, —, 41, 39, 40, 41,5, —, 40, 41, 42, 43, 42, 44, 45, 44, 42, 42[2], 41, —, —, 38, 40, 38, —, —, 40, 40 mm. (Index 72,4–80,4). Tarsus 16, Mittelzehe o. Kr. 8–8,5, Culmen 9–10 mm. lang, etwa 4 mm. breit. 1. Schwinge 14–16 mm., 2. Schwinge < 10., Armschwingen: 2. Schwinge: Flügel = 46 : 45 : 53,45 : 41,5 : 51,49 : 45 : 56 mm.

Bemerkung: Ueber den Wert von *G. c. guineensis* Mathews s. Hartert, Nov. Zool. 36, 1930, p. 63.

(*b*) neglecta-Gruppe.

Kennzeichen: Von der *chrysogaster*-Gruppe durch hornfarbenen Schnabel unterschieden. Stirnfleck, Zügel, Ring ums Auge gelb bis bräunlich. Unterseite gelb mit durchscheinender, weisser oder weissgrauer Grundfarbe. Kehle und Kinn manchmal rein weiss (?), Flügelrand gelblich. Iris rot (dunkel schokoladenbraun bei einem Vogel mit dunklem Oberschnabel, juv. ?), Schnabel hornfarben, Basis des Unterschnabels sehr hell hornfarben (vom Sammler Schnabel als schwarzgrau und als bräunlich mit farbloser Basis des Unterschnabels bezeichnet), Füsse hornfarben, Zehen heller (v. Sammler fleischfarben und pale plumbeous genannt).

juv. Tiere mit hell hornfarbenem Oberschnabel und mehr gelblich grüner Oberseite halte ich für jung.

Flügellänge 51–57 mm., Schwanz 37–42 mm. (Index 69,8–78,5). 1. Schwinge 15–17 mm., 2. Schwinge < 10., 9–10 mm. kürzer als die Schwingenspitze, 3–1 mm.

[1] Das von Salvadori, *Orn. Pap. e Mol.* Band 2, 1881, p. 98, besonders behandelte, bisher einzige Stück von dort weicht nicht von der untersuchten grossen Serie ab.

kürzer als die Armschwingen. Maximum des Flügels von der 4. oder 5. Schwinge gebildet, die 6. und 3. wenig kürzer. Tarsus 15–16,5, Mittelzehe o. Kr. 8,5 mm., Culmen 8–9,5 mm. lang, etwa 4, einmal 4,5 mm. breit.

Verbreitung: Waigeu, Misol und westliches Neuguinea, im Süden bis zur Lobobai, im Norden bis zum Arfakgebirge (Siwi) ostwärts.

2. Gerygone chrysogaster neglecta Wallace.

Gerygone neglecta Wallace, *Proc. Zool. Soc.* (*London*), 1865, p. 475 (1865—Waigeu, Misol, t.t. Waigeu, s. *Catal. Birds* 4, p. 227, 1879). Typus in London.
Cryptolopha waigiuensis Hartert, *Bull. B.O.C.* 13, p. 70 (1903—Waigeu). Typus in Tring, verglichen.

Kennzeichen: Mit den Charakteren des Formenkreises. Oberseite gelblich oliven (Deep Orange Citrine, Taf. 4). Oberschwanzdecken und Säume der Schwanzfedern bräunlich oliven. Schwanz im übrigen olivenbraun mit kaum bemerkbarer Andeutung einer dunkleren subapikalen Binde. Flügeldecken dunkelbraun, mit olivenfarbenen, an den Handschwingen helleren Rändern. Stirnfleck, Zügel, Ring ums Auge schmutziggelb, Wangen bei einigen Stücken ebenso, bei den übrigen mehr oliven, Ohrdecken olivengelb, heller als der Oberkopf. Kinn, Kehle, Brustmitte grauweiss mit mehr oder weniger ausgedehnten gelben Federspitzen, Abdomen und Untersehwanzdecken reiner und intensiver gelb (etwa Empire Yellow, Taf. 4) mit silberweissen subapikalen Federabschnitten. Brustseiten und weniger die Flanken oliven mit gelber Beimischung (Sulphine Yellow, Taf. 4). Schenkelbefiederung braun mit gelblichen Federspitzen. Unterflügeldecken und Axillaren weiss mit gelblichen Federspitzen, Flügelbug blass schwefelgelb. Flügelfedern von unten dunkel graubraun mit bräunlich weissen inneren Federsäumen.

juv. s. o. bei der Charakteristik der Gruppe.

Material: 4 Stück (Tring).

Verbreitung: Waigeu.

Masse: Flügel 51–55,5 mm., ♂ 51, 55,5, ♀ 51[2], Schwanz —, 38[3] mm. (Index 68,5,74,5). Tarsus 16, Culmen 9–9,5 mm. lang, 4 mm. breit. 1. Schwinge 15 mm., 2. Schwinge < 10., Armschwingen: 2. Schwinge: Flügel = 44 : 41 : 51, 44 : 42 : 51 mm.

3. Gerygone chrysogaster virescens Blyth.

Sylvia virescens Blyth, ex Salomon Müller MS., *Ibis* N.S. Vol. 6, p. 169 (1870—Neuguinea, nämlich Lobobai), s. die ausführliche Beschreibung von Finsch, *Notes Leyden Mus.* 20, 1898, p. 135. Typus in Leyden. Von Collin & Hartert in *Nov. Zool.* 34, 1927, p. 51, für homonym mit *S. virescens* Vieillot 1807 erklärt, doch beschreibt Vieillot eine *Vireosylvia virescens* in: *Ois. Amér. Sept.* II, p. 42 (1807) (nach Mayr. MS.).
Gerygone neglecta dohertyi Rothsch. & Hartert, *Nov. Zool.* 10, p. 473 (1903—Kapaur, Onin-Halbinsel, Neuguinea). Typus in Tring, untersucht.

Kennzeichen: Wie *G. n. neglecta*, aber Oberkörper brauner, weniger grün, Stirnfleck, Zügel und Augenring bräunlicher, ebenso Wangen und Ohrdecken.

Material: 6 Stück (Tring).

Verbreitung: Onin-Halbinsel und West-Neuguinea bis zur Lobobai.

Masse: Flügel 51–57 mm., ♂ 52, 52,5, 53,5; Schwanz 38, —, 42, 40,5, 42 ♀ Flügel 51, Schwanz 40 mm. (Index 73,0–78,5). Tarsus 15–16,5, Culmen 9–9,5 mm. lang, 4 mm. breit. 1. Schwinge 16 mm., 2. Schwinge < 10., Armschwingen: 2. Schwinge: Flügel = 48 : 47 : 57 mm.

Bemerkung: Kinn und Kehle des Typs von *virescens* sollen nach Finsch weiss sein. Das kommt zwar bei *chrysogaster*, kaum aber bei "*dohertyi*" vor. Es wäre möglich, dass an der Lobobei schon eine Uebergangsrasse zwischen *chrysogaster* und *dohertyi* wohnt. Der Schnabel des Typs ist hell wie bei der *neglecta*-Gruppe.

4. Gerygone chrysogaster notata Salvadori.

Gerygone notata Salvadori, *Ann. Mus. Genova* 12, p. 344 (1878—Wa Samson-Fluss, Arfak-Halbinsel, Neuguinea). Typus in Genua, untersucht.

Leptotodus tenuis A. B. Meyer, *Zeitschr. ges. Ornith.* 1, p. 197 (1884—Amberbaki, Arfak-Halbinsel, Neuguinea). Typus in Dresden, untersucht.

Abbildungen: Meyer, l.c., Taf. 9, Fig. 2—Gould, *Birds New Guinea*, Part 21 (= Bd. 2, Taf. 12), 1886.

Kennzeichen: Von *G. n. virescens* durch weisslichgelbe Säume an den grossen und gelbliche Spitzen an den mittleren Oberflügeldecken unterschieden.

Material: 6 Stück (1 Genua, 2 Tring, 1 München, 1 Berlin, 1 Dresden).

Verbreitung: Misol und Vogelkop (= Arfak-Halbinsel, Neuguinea). 2 Stück von Misol, 2 von Amberbaki, 1 von Wa Samson, 1 Stück von Mt. Moari.

Masse: Flügel 52–54,5 mm., ♂ 52, 53, 54,5; Schwanz —, 37, 41 mm., ♀ 53², Schwanz 38 mm., o 53,5, Schwanz 40 mm. (Index 69,8–75,2). Tarsus 16 mm., Culmen 8–9 mm. lang, 4, einmal 4,5 mm. breit. 1. Schwinge 16–17 mm., 2. Schwinge < 10., Armschwingen: 2. Schwinge: Flügel = 46 : 44 : 53 mm.

Bemerkung: Hartert zitierte einen von Mayr in Siwi (Arfakgebirge) gesammelten Vogel unter der vorigen Rasse (*Nov. Zool.* 36, 1930, p. 64) und wies zusammen mit Rothschild (*Nov. Zool.* 10, 1903, p. 473) bereits früher einmal darauf hin, dass die gelblichen Ränder der Oberflügeldecken manchmal nicht gut wahrnehmbar sind. Bei den mir vorliegenden 6 Stücken sind sie stets deutlich vorhanden.

V. GERYGONE CHLORONOTA (Karte 5 und Taf. V. u. VI.).

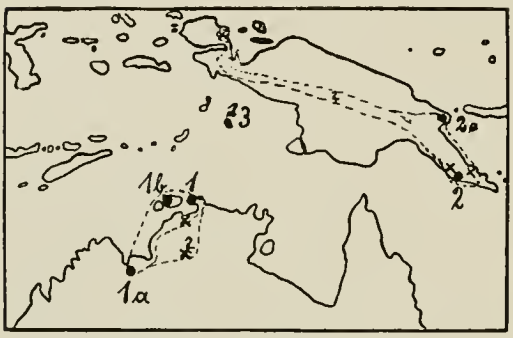
Kennzeichen: Von allen Formenkreisen durch den starken Gegensatz zwischem dem grauen bis bräunlichen Oberkopf und dem grünen Rücken unterschieden. Nur bei *G. flavolateralis* findet sich Ähnliches, dieser Formenkreis hat aber viel mehr Weiss am Schwanz, relativ längeren Schwanz und Lauf sowie schlankeren Schnabel.

Oberkopf, Kopfseiten und Nacken braungrau, das Braun mehr oder weniger zurücktretend. Uebriger Oberkörper einschliesslich Obersehwanzdecken und Säume an der Basis der Steuerfedern, kleine und mittlere Oberflügeldecken, Säume an den grossen Oberflügeldecken und den Schwingen gelbgrün, das Gelb mehr oder weniger zurücktretend. Schwanz braungrau mit undeutlich abgesetzter, auf der äussersten Schwanzfeder etwa 7–10 mm. breiter, dunkelbrauner bis schwärzlicher Subapikalbinde, die auf der äussersten Feder etwa 3–5 mm. von der Spitze entfernt bleibt. Gelegentlich ein subapikaler weisslicher bis weisser Randfleck an der Innenfahne der äusseren Schwanzfedern, Zügel etwas verdunkelt, darüber manchmal (bei juv. ?) ein kaum erkennbarer hellerer Supraloralstreif und Stirnfleck. Unterseite einschliesslich Unterschwanzdecken graulich weiss mit graubräunlichem Anflug an den Halsseiten und in der Oberbrustmitte. Oberbrustseiten ausgedehnt bräunlich grau (Light Drab, Taf. 46), hintere Brust- und Bauchseiten zitronen- bis grünlichgelb. Flügelunterseite graubraun mit blassen Federrändern. Schenkelbefiederung bräunlich mit

weisslichen bis gelblichen Federrändern. Iris rot bis rötlich braun, Schnabel schwarz, Füsse blauschwarz.

juv. Stücke mit etwas hellerer Basis des Unterschnabels unterscheiden sich höchstens durch einen blass bräunlichen Anflug an der Kehle von den ad., eins hat schwach grün getönten Oberkopf. Das eigentliche Jugendkleid fehlt vielleicht noch.

Flügel 45,5–53,5, Schwanz " 30 ", 31–39, Stufung 2–4 mm. (Index 64,4–73,5). 1. Schwinge 14–17 mm., 2. Schwinge < 10. bis = 8., gewöhnlich nicht länger als die 9., 4,5–7 mm. von der Flügelspitze entfernt, 2 mm. länger bis 2 mm. kürzer als die Armschwingen. Spitze des Flügels von der 3.–6. Schwinge gebildet. Tarsus " 14 ", 16–18, Mittelzehe o. Kr. 6,5–8, Culmen 7,5–9, " 10 " mm. lang, 3–4 mm. breit.



KARTE 5.—Verbreitung von *Gerygone* **chloronota**. Terra typica von (1) *chloronota*, (1*a*) *darwini*, (1*b*) *apsleyi*, (2) *cinereiceps*, (2*a*) *placida*, (3) *aruensis*. ● Terra typica, × weitere Fundste llen.

Material: 19 Stück (3 Typen).

Verbreitung: Küstengebiet von Nordwest-Australien (westlich bis Parry's Creek, östlich bis zum King River, nordöstl. bis Port Essington), Gebirge Neuguineas (Arfakgebirge, Südost-Neuguinea).

1. **Gerygone chloronota chloronota** Gould (Taf. V. fig. V).

Gerygone chloronotus Gould, *Proc. Zool. Soc.* (*London*), 1842, p. 133 (Februar 1843—Port Essington, Northern Territory, Australien). Typus in Philadelphia.

Gerygone chloronota darwini Mathews, *Austral Avian Record* 1, p. 40 (2.4.1912—Parry's Creek, Nördl. West Australia). Typus in Tring, verglichen.

Gerygone chloronota apsleyi Mathews, *Austral Avian Record* 1, p. 40 (2.4.1912—Coopers Camp, Apsley Straits, Melville Insel, Nordaustralien). Typus in Tring, verglichen.

Abbildungen: Gould, *Birds Australia*, Vol. 2, Taf. 102 (= Pt. 20), 1845.—Mathews, *Birds Australia* 8, 1920, Taf. 382 bei p. 140.

Kennzeichen: Mit den Kennzeichen der Art (s. a. nächste Rasse).

Material: 12 Stück (Tring).

Verbreitung: Nordwest-Australien (bekannt von Parry's Creek bis Port Essington und vom King River im Innern), Melville Insel.

Aufenthaltsort: Mangroven.

Masse: Flügel 49–53,5 mm.; Parry's Creek, ♂ Flügel 51,5, 53, Schwanz 36,5, 39 mm. (Index 70,8, 73,6). Anson Bai Fl. 49 mm. Port Darwin ♀ Flügel 49, 49,5, Schwanz 34, 35 mm. (Index 69,4, 70,7).

Melville Insel (Coopers Camp, Apsley Straits, Gordon Point, Snake-Bai). Flügel ♂ 49,5, 51, 52, 52,5, 53,5, ♀ 51, 51,5, Schwanz 35, 36, 37, 36^2, 36^2 (Index 67,3–71,2). Tarsus 16,5–18, Mittelzehe o. Kr. 7, Culmen 8–9 mm. lang, 3–3,5 mm. breit. 1. Schwinge 14–17 mm., 2. Schwinge = 8.–10., Armschwingen: 2. Schwinge: Flügel = 43 : 45 ; 49,5, 45 : 46 : 52,5, 45 : 45 : 52 mm.

Bemerkung: Die von Mathews angegebenen Merkmale seiner Rassen sind Zeugen individueller Variation (s. a. Hartert, NOV. ZOOL. 36, 1930, p. 62).

2. **Gerygone chloronota cinereiceps** Sharpe (Taf. VI. fig. V2).

Pseudogerygone cinereiceps Sharpe, *Nature* 34, p. 340 (12.8.1886—Astrolabe-Gebirge, S.O. Neuguinea). Typus in London.

Gerygone placida Madarász, *Ornith. Monatsber.* 8, p. 31 (Januar 1900—Sattelberg, Deutsch-Neuguinea). Typus in Budapest, verglichen.

Abbildung: Gould, *Birds New-Guinea* 2, Taf. 14 (= Part 22), 1886.

Kennzeichen: Das Grün des Oberkörpers viel weniger gelb, dunkler (zwischen Citrine und Warbler Green, Taf. 4), das Braungrau des Kopfes viel weniger braun (zwischen Hair Brown und Chaetura Drab, Taf. 46), Ohrdecken und Stirn heller und bräunlicher. Auch das Gelb des Unterkörpers mehr grünlich gelb (zwischen Amber Yellow und Citrine Yellow, Taf. 16). 2. Schwinge $<$ 10. und $<$ Armschwingen.

Material: 7 Stück (1 Budapest, 6 Tring).

Verbreitung: Hohe Gebirge Neuguineas, bekannt vom Arfakgebirge (Siwi, über 800 m. hoch), Sattelberg, Hydrographer Gebirge, Aroa-Fluss, Avera im gleichen Flussgebiet, Berge des Kotoi-Gebietes (die letzten 4 Plätze im Küstengebiet von Südost-Neuguinea.

Masse: Flügel 45,5–52 mm., ♂ 49, 51,5, 52, Schwanz 34, 35 mm.; o Flügel 51, Schwanz 33 mm., ♀ Flügel 45,5, 48, 48,5, Schwanz 33, 31, 32 mm. (Index 64,6–72,5). Tarsus 16–17, Mittelzehe o. Kr. 8, Culmen 7,5–9 mm. lang, 3 mm. breit, beim Typus von *placida* aber 4 mm. breit. 1. Schwinge 15–17 mm., 2. Schwinge $<$ 10., Armschwingen: 2. Schwinge: Flügel = 45 : 43 : 49, 43 : 43,5 : 48,5 mm.

Bemerkung: Das Stück vom Arfak-Gebirge (New York) habe ich nicht gesehen. Der Typus von *placida* unterscheidet sich nur durch einen sehr breiten Schnabel von echten *cinereiceps*, doch reicht der Unterschied vorläufig nicht zur Abtrennung.

3. **Gerygone chloronota aruensis** Büttikofer.

Gerygone aruensis Büttikofer, *Notes Leyden Mus.* 15, p. 259 (April 1893—Aru-Inseln). Typus in Leyden.

Kennzeichen: Nach der Beschreibung der bisher allein bekannten beiden Typen (♂) müsste die graubraune Kopfpartie heller (pale ashy grey) als bei *cinereiceps*, das dunkle Schwanzband deutlicher (schwarz) und die Flügel vielleicht kürzer sein. Da nicht mit *cinereiceps*, sondern mit *chrysogaster* verglichen wurde, sind diese Unterschiede keineswegs sicher. Ich möchte aber wohl glauben, dass als Vertreter einer Gebirgsrasse von Neuguinea auf den Aru-Inseln nicht dieselbe *Gerygone*-Form lebt.

Verbreitung: Aru-Inseln.

Masse: nach Büttikofer ♂ Flügel 47, Schwanz 30 mm. (Index 63,8). Tarsus 14, Culmen 10 mm.

IV. GERYGONE FLAVOLATERALIS (Karte 6 und Taf. V. u. VI.).

Kennzeichen: Oberkörper oliven- bis gelblichgrün, Schwanz mit einer weissen Zeichnung nahe der Spitze der meisten Federn und einer deutlichen dunklen Binde proximal davon. Unterkörper grau bis weiss oder gelb, Bauchseiten im Alterskleid gelblich. Iris rot, wenigstens bei ad.—Schnabel schwarz, bei juv. mit heller Basis des Unterschnabels.

Masse: Flügel 47–55, Schwanz 37–43 mm., äussere Feder 36–38 mm., Stufung des Schwanzes 2–6 mm. (Index 72,6–84,3). 1. Schwinge 14–18 mm., 2. Schwinge = 9.–10., einmal 8.–9., 6,5–8 mm. kürzer als der Flügel, 0–1 mm. länger als die Armschwingen. Spitze des Flügels von der 4. und 5. Schwinge gebildet, 3. und 6. wenig kürzer. Tarsus 18–20, Mittelzehe o. Kr. 8, Culmen 9–10, einmal 11 mm. lang, 3–4 mm. breit.

Material: 10 Stück (darunter 2 Typen, 2 Paratypen).

Verbreitung: Neu-Caledonien und Loyalty-Inseln (Maré, Lifu und Uvea), Neue Hebriden, Banks Inseln, Rennell.

1. **Gerygone flavolateralis flavolateralis** (Gray) (Taf. V. fig. 6, Taf. VI. fig. VI 1α, β)

Acanthiza flavolateralis Gray, *Proc. Zool. Soc. (London)*, 1859, p. 161 (Oktober 1859—Neu-Caledonien). Typus in London.

Pseudogerygone flavilateralis Sharpe, *Notes Leyden Mus.* 1, p. 20, 1879.

Beschreibung: Oberkörper einschliesslich Oberschwanzdecken bräunlich oliven (Light Brownish Olive, Taf. 30), auf dem Bürzel etwas gelblicher. Oberkopf und Nacken graubraun (Hair Brown, Taf. 46). Schwanz erdbraun, mit olivenfarbenen Säumen wenigstens an der Basis der Federn und mit einer undeutlichen, schwärzlichen, etwa 10 mm. breiten Binde, die auf der äussersten Feder 10 mm. von der Spitze entfert bleibt, auf den inneren nur 3 mm. Apikal von dieser Binde auf der äussersten Feder eine weisse Binde und ein brauner Endfleck. Nach der Mitte des Schwanzes nimmt das Weiss allmählich ab, um auf den beiden mittelsten Federn völlig zu fehlen. An der Basis der äussersten Schwanzfeder ein weisslicher Fleck, der bei dem vergleichbaren Stück von Maré fehlt. Flügeldecken und Schwingen graubraun, mit schmalen, olivenfarbenen, an den Schwingen mehr gelblichgrünen Säumen, Stirnfedern jederseits an der Schnabelbasis, Supraloral- und Superziliarstreifen weissgrau, undeutlich begrenzt, ein ebensolcher Ring ums Auge, der vorn und hinten durch einen braungrauen Fleck unterbrochen wird. Ohrdecken braungrau, nicht vom Oberkopf verschieden und allmählich in das Grauweiss der Wangen und der Unterseite übergehend. An der Brust ein blassbräunlicher Anflug. Bauch und Unterschwanzdecken mit einem Hauch von Gelb, Flanken blassgelb (Amber Yellow, Taf. 16), z. T. blasser (Straw-Yellow, Taf. 3). Schenkelbefiederung braun mit weisslichen Federrändern. Unterflügeldecken und Axillaren weiss mit gelblichem Anflug. Schwingen von unten braun mit weisslichen Innensäumen.

juv. An Kopf und Unterkörper gelb oder gelblich statt weiss. (Kein Stück m. W. in Sammlungen, von den nächsten Rassen erschlossen.)

Material: 5 Stück (4 Basel, davon 3 aus Spiritus, die das Gelb verloren haben und matter aussehen, 1 Berlin) (darunter 2 Typen).

Verbreitung: Neu-Caledonien und Maré, südlichste der Loyalty-Inseln.

Masse: Numea, Oubatche, Coné, also aus Neu-Caledonien, o Flügel 51–52 mm., ♂ 52, 51, 51,5; Schwanz 43, 42? mm. (Index 81,6, 82,4, 82,7). Tarsus 18,5–20, Culmen 8–9 mm. lang, 3 mm. breit. 2 aus Netché auf Maré, Flügel ♀ 51, Schwanz 43 + x (Index 84,3 + x). Tarsus 19, 19,5, Culmen 9–9,5 mm. lang, 3–3,5 mm. breit. Flügelproportionen s. o., Armschwingen: 2. Schwinge: Flügel = 44 : 45 : 51,5,44 : 44 : 51 mm.

Bemerkung: Die Stücke von Maré weisen auf einen längeren und breiteren Schnabel der dortigen *Gerygone*. Dem Schwanz fehlt die weissliche Basiszeichnung (aber nur *ein* vergleichbares Stück!). Ich habe oben das einzige nicht

im Spiritus verfärbte Stück der Rasse von Maré (Loyalty-Inseln) beschrieben. Ob die Tiere von Neu-Caledonien anders aussehen, kann ich nicht sagen. Ein altes von dort stammendes Stück in Berlin hat grünlichere Weichen.

2. **Gerygone flavolateralis lifuensis** F. Sarasin.

Pseudogerygone flavilateralis lifuensis F. Sarasin, *Nova Caledonia*, p. 21 (1913—Lifu, Loyalty-Inseln). Typus in Basel, verglichen.

Kennzeichen: (nach einem juv. aus Spiritus): Färbungsunterschied, wenn vorhanden, jetzt nicht feststellbar. Das Weiss am Schwanz stark reduziert, an den beiden mittelsten Federpaaren fehlend, äusserstes Paar mit einem weissen Fleck, der am Innenrand der Feder 5, in der Nähe des Schaftes 2 mm. breit ist und den Schaft nicht erreicht. (Bei der Vergleichsrasse entsprechend 8 und 4 mm.) Aussenfahne also nur schwach aufgehellt. Flügel länger ?, Schwanz relativ kürzer, Schnabel vielleicht breiter, Wurzel des Unterschnabels hell hornfarben. Spuren gelblichen Anflugs des Jugendkleides sind noch an den Wangen zu sehen, sonst vom Alkohol beseitigt.

Material: 1 Stück (Basel).

Verbreitung: Lifu, Loyalty-Inseln.

Massedes Typus: ♂ Flügel 54, Schwanz 40,5, Stufung 2–3 mm., äusserste Feder 38 mm. (Index 75,0), Tarsus 20, Schnabel 9 mm. lang, 4 mm. breit. 1. u. 2. Schwinge s.o.

3. **Gerygone flavolateralis rouxi** F. Sarasin (Taf. VI. fig. VI3).

Pseudogerygone rouxi F. Sarasin, *Nova Caledonia* I, p. 22 (1913—Uvea, Loyalty-Inseln). Typus in Basel, verglichen.

Abbildung: l.c. Taf. 1.

Kennzeichen: juv., wie ein ad. von *flavolateralis*, mit dem ich vergleichen muss, da von *lifuensis* nur ein Alkohol-Stück vorliegt, aber von der Oberbrust nach hinten intensiv ockergelb (zwischen Amber Yellow und Wax Yellow, Taf. 16), Flanken etwas grünlicher. Unterschwanzdecken weiss, schwach gelblich getönt. Unterflügeldecken, Axillaren, Flügelbug gelblichweiss, nur in geringer Ausdehnung rein weiss. Schwanz wie bei *lifuensis*. Als Zeichen des Jugendkleides zu deuten: Mit gelblichem Stirnrand, Supraloralstreifen und Augenring. Ohrdecken und Halsseiten viel grünlicher, Kinn und Kehle gelblichweiss, Oberseite viel grüner (zwischen Saccardo's Olive und Olive Citrine, Taf. 15), Oberkopf wie der Rücken.

Material: 1 Stück (Basel).

Verbreitung: Uvea (Loyalty-Inseln).

Masse des Typus: ♀ Fayaoué, Uvea, Flügel 50,5, Schwanz 37 mm. (Index 73,3), Tarsus 18, Culmen 10 mm. lang, 4 mm. breit. Schwingenverhältnisse s. o.

Bemerkung: Dass die Jungen von *flavolateralis* oder besser von *lifuensis* so intensiv gelbe Unterseite haben, ist nach der Kennzeichnung der juv. von *G.f. subsp.* Mayr MS. nicht anzunehmen. Das Grün des Oberkopfers ist aber Jugendcharakter. Ich glaube daher, die Form anerkennen zu müssen, natürlich nur als Subspezies von *flavolateralis*.

Dr. Ernst Mayr war so freundlich, mir Vertreter zweier von der Whitney-Expedition gesammelter neuen Subspezies zu senden, bevor die Beschreibung in den Amer. Mus. Novit. erschienen ist.

4. **Gerygone flavolateralis** . . . . Mayr 1931 (Taf. VI. fig. VI 1β).

Gerygone flavolateralis . . . . Mayr, Amer. Mus. Novit. (Im Druck) Typus in New York, Paratypus verglichen.

Kennzeichen: Gute Form. s. Mayr. Schwanzzeichnung etwa wie Taf. VI. fig. VI. 1 β.

Material: 2 Stück (New York).

Verbreitung: Neue Hebriden, Banks-Inseln.

Masse: Flügel nach Mayr 47–54, ♂ 53, ♀ 51, Schwanz 38,5, 39; Stufung 5, 6 mm. (Index 72,6, 76,5). 1. Schwinge 16, 14 mm., 2. Schwinge = 9. — 10., 7,5 mm. < Fittich, 1 mm. > Armschwingen, bei dem ♂ von Gaua, Banks-Inseln, 2. = 8. — 9. = 46 mm., o, 5 mm. > Armschwingen. Tarsus 18, Culmen 10 u. 9,5 mm.

5. **Gerygone flavolateralis** . . . . Mayr 1931.

Gerygone flavoleralis . . . . Mayr, Amer. Mus. Novit. (Im Druck) Typus in New York, Paratypus verglichen.

Kennzeichen: s. Mayr.

Material: 1 Stück (New York).

Verbreitung: Rennell.

Masse: Flügel nach Mayr 52–55 mm., ♂ 54, Schwanz 40,5, Stufung etwa 5 mm. (Index 75,0). 1. Schwinge 16,5, 2. = 9. — 10. = Armschwingen = 46 mm., also 8 mm. < Fittich. Culmen 11 mm.

Bemerkung: Die Färbung der Oberseite dieser Subspezies erinnert an *G. chloronota*, doch sind alle anderen Merkmale typisch für *G. flavolateralis*.

VII. GERYGONE IGATA (Karte 6 und Taf. V. u. VI.).

Literatur u. a. Oliver, W. R. B., *New Zealand Birds*, *Wellington*, 1930, pp. 454–457. Mathews, Graut s.u.

Die hier vereinigten Formen stehen nach Mathews in 4 verschiedenen Gattungen. Sie gehören zusammen, weil die beiden am entferntesten wohnenden Gruppen am ähnlichsten sind und die auf kleinen Inseln wohnenden beiden Gruppen nicht ausgelassen werden können, ohne das Verbreitungsbild zu zerreissen. Für ihre generische Trennung von den übrigen liegt kein Grund vor, da die relativ grosse Schwanzlänge sich bei einigen anderen Formenkreisen (*fusca*, *flavolateralis*) wiederfindet.

Kennzeichen: Oberkörper braun in verschiedener Abstufung, bei einigen Rassen grauer und mehr oliven. Schwanz mit dunkler Querbinde, die der Spitze zu wenigstens auf der Innenfahne von einem weissen Fleck, gewöhnlich von einer weissen Binde begrenzt wird. Flügel braun, Federn heller gesäumt. Stirnrand, Supraloral- und Superziliarstreifen teils deutlich weiss, teils verschwindend. Dunkler Zügelfleck. Obere Ohrdecken von der Farbe des Oberkopfes, untere und Wangen zur weisslichen bis grauen Färbung der Kehle überleitend. Oberbrust wie Kehle oder heller, übrige Unterseite heller, von weisslicher Grundfarbe, in oft verschiedener Ausdehnung und Tönung gelb. Weichen grauer, grüner oder brauner. Schenkelbefiederung braun mit helleren Spitzen. Unterflügeldecken weiss bis gelblich. Innensäume der Schwingen von unten blass bräunlich. Iris rot. Schnabel schwarzbraun bis schwarz. Füsse blaugrau bis schwarz.

juv. mit heller Basis des Unterschnabels und gelber Unterseite in verschiedener Ausdehnung, insbesondere die helle Kopfzeichnung gelb. Flügellänge 47,5–57 mm., Schwanzlänge 39–52 mm. (Index 78,0–98). 1. Schwinge 14–19 mm.,

2. Schwinge < 10., bei einer Rasse = 9.–10., 7 (bei einigen *insularis*), 7,5–10 mm. kürzer als die Flügel, 3–0 mm. kürzer, bei einer Rasse 1–2 mm. länger als die Armschwingen. Spitze des Flügels von der 4.–6. Schwinge gebildet, 3. relativ (um einige mm.) kleiner als bei den meisten Vertretern der Gattung. Tarsus 17,5–21, Mittelzehe o. Kr. 7–10, Culmen 7–10 mm. lang, 2–3,5 mm. breit.

Material: 59 Stück (6 Typen).

Verbreitung: Neuseeland, Lord Howe Insel, Norfolk Insel und Küstengebiet von Ost-Australien zwischen Sydney und dem Barron River bei Cairns in Nord-Queensland.

Ich unterscheide 4 Gruppen, um der morphologischen Variation dieses in isolierten Gebieten wohnenden Formenkreises gerecht zu werden.

(*a*) igata-Gruppe.

1. **Gerygone igata igata** (Quoy & Gaimard) (Taf. V. fig. VII*a*, Taf. VI. fig. VII*a*).

Curruca igata Quoy & Gaimard, *Voyage Astrolabe*, Zool. Fig. 2, Pl. XI, 1, p. 201 (1830—Tasman Bay, Südinsel von Neuseeland). Typus in Paris.

Gerygone flaviventris Gray, *Voyage "Erebus & Terror," Birds*, p. 5, Pl. IV, Fig. 1 (1844—Bay of Islands, Nordinsel von Neuseeland). Typus in London.

Gerygone aucklandica Pelzeln, *Reise Novara, Vögel*, p. 65 (1865—Auckland, Nordinsel von Neuseeland). Typus in Wien, untersucht.

Gerygone sylvestris Potts, *Trans. New Zealand Inst.* 5, p. 177 (Mai 1873—in the thick bush, between the bluff of Okarita and Lake Mapourika, Südinsel von Neuseeland). Typus wohl verloren gegangen, keine Differentialdiagnose, nur Gesangsunterschiede angegeben.

Gerygone assimilis Buller, *Essay Ornith. New Zealand*, p. 9 (1865—ein Nest von der Nordinsel). Typus noch vorhanden ?

Pseudogerygone macleani Ogilvie-Grant, *Ibis*, Serie IX, Vol. 1, p. 545 (Oktober 1907—Maungahaumia, 40 oder 50 miles NNW. der Poverty-Bay, im Nordosten der Nordinsel von Neuseeland). Typus in London.

Abbildungen: Lorenz, *Ann. Mus. Wien* 17, 1912, Taf. 12, Fig. 1 (Chalky-Sound).—Buller, *History Birds New-Zealand*, 1, 1888, Taf. 14 (als Pflegevogel von *Urodynamis taitensis*).—s.o. Quoy-Gaimard u. Gray.

Kennzeichen: Am ähnlichsten der ostaustralischen *G igata mouki* Mathews, insbesondere auch in der Schnabelform und Schwanzzeichnung, vielleicht die weisse Endbinde bei *G. i. igata* etwas deutlicher und breiter. Oberkörper brauner, doch sehr variabel, der weisse Stirnfleck, Supraloral- und Superziliarstreif viel undeutlicher, meist grau, aber auch weisslich und dann ungefähr wie bei *G. f. fusca* aus S.W. Australien. Kinn, Kehle, Wangen, Ohrdecken, Oberbrust grau, noch ein wenig dunkler als bei *G. f. fusca*. Uebriger Unterkörper schmutzig weiss, Weichen, aber auch Mitte der Unterbrust und des Bauches sowie Unterschwanzdecken gelblich bis bräunlich getönt. Unterflügeldecken weisslich, manchmal oliven getönt, Axillaren ebenso, gelb getönt, Flügel von unten graubraun, Schwingen innen blassbräunlich gesäumt. Schenkelbefiederung braun mit blasseren Federspitzen. Iris rot. Schnabel und Füsse schwarz.

juv. mit heller Basis des Unterschnabels, gelblichem statt schwärzlichem Augenring, mit Gelb auf dem Unterkörper. Nach Oliver, l.c., dagegen Gefieder im allgemeinen blasser, ohne Gelb auf dem Unterkörper (!). Iris braun.

1. Jahreskleid wie Alterskleid, vielleicht durch heller braunen Oberkörper unterschieden, wohl nicht immer mit gelbem Anflug auf der Unterseite. Mauser Januar bis März, eine 2. Mauser lässt sich mit dem vorliegenden Material nicht beweisen. Mausernde Junge mit heller Schnabelwurzel bekommen auf dem Unterkörper neue Federn mit blass gelblichen Spitzen. Vom März bis Juni

gibt es Tiere mit gelber Unterseite und völlig schwarzem Schnabel. Ob das doch ein besonderes Winterkleid, oder ob es das 1. Jahreskleid ist, bleibt noch offen.

Material: 28 Stück (8 Wien, 14 Tring, 2 Hamburg, 2 Berlin, 1 Dresden, 1 München).

Verbreitung: Neuseeland und folgende benachbarte Inselchen: Three Kings, Great and Little Barrier Inseln, Hen and Chickens, Mayor Insel, Kapiti, Stewart Inseln. Aufenthaltsort: Ebene und Gebirge, in den Parks der Ortschaften und am Waldrande. Überall häufig.

Masse: Flügel ♂ 51–57, ♀ 49, 54, juv. 47,5–53 mm. ♂ Nordinsel (Katikati in Tauranga) 51, 52, 53 mm., Schwanz 46,5, 50, 49, Südinsel (Dunedin, Teremakau, Paringa, Südalpen, Taipo, Chalky Sound). Flügel 52,5, 53², 53,5, 55, 57, Schwanz 47,5, —, 50, 52,5, 53, 52 mm. ♂ ohne Fundort Flügel 51, 53, Schwanz 47,5, 49 mm. ♀ Tauranga Flügel 53, Schwanz 49, Südinsel (Teremakau, Taipo. Chalky Sound, Paringa) Flügel 49, 51, 52, 54, Schwanz 46,5, 48, —, 51 mm. o Flügel 49, 51, 52, 53, 55, 56, 56,5, Schwanz 47, 47, 49, 49, 51,5, 49 mm. juv. Nordinsel Flügel 47,5, 48, 48,5, 52, Schwanz 42,5, 44, 45, ohne Fundort Flügel 53, 53,5, Schwanz 50,5, 48 mm. (Index 89,5–98,1). Tarsus 19–21, Mittelzehe ohne Kralle 8, Culmen 7–9 mm. lang, 2–3 mm. breit. 1. Schwinge 14–17 mm., 2. Schwinge < 10., Armschwingen: 2. Schwinge: Flügel = 46 : 45 : 53,48 : 47 : 57 mm.

Bemerkung: Das mir vorliegende Material von 28 Stück zeigt, wie unberechtigt die Anerkennung von 4 Arten (Ogilvie-Grant, *Ibis*, 1907, pp. 543–546) bezw. 4 Rassen (Mathews & Iredale, *Ibis*, 1913, p. 437 f.) ist. Die angegebenen Kennzeichen betreffen meistens die verschiedenen Kleider, nicht Rassenmerkmale. Dass *flaviventris* Gray (Nordinsel) von der typischen *igata* abweicht, ist nicht nachgewiesen. Von der Tasman-Bay am Nordende der Südhalbinsel sind nämlich ausser dem Typ von *igata*, einem jungen Vogel, m. W. keine Stücke bekannt geworden. Aber auch die weiter südlich gesammelten Vögel unterscheiden sich nicht von denen der Nordinsel. Die Färbung des Oberkörpers variiert eben beträchtlich. Soweit Daten vorhanden sind, haben die jungen Vögel eine hellere, braunere Oberseite. Zwei Oktober-Vögel von Termakau (= Teremakau), Südinsel, möchte ich für einjährig halten. Einige der helleren Vögel sind aber m. E. nicht jung, leider fehlen ihnen die Daten. Jedenfalls lassen sich die als *sylvestris* Potts bestimmten, aus dem äussersten Südwesten der Südinsel stammenden Tiere nicht von typischen *flaviventris* der Nordinsel unterscheiden. Das wird auch von Grant zugegeben, der wohl nur wegen der schwarzen Iris des Typus von *igata* jene Südinselform aufrecht erhielt. Auch seine Neubeschreibung von *macleani* beruht auf derselben falschen Voraussetzung der Irisfärbung als Rassenmerkmal. Dass der Zügelfleck besonders deutlich ist, kommt nicht nur im Nordosten der Nordinsel vor, z. B. auch bei zwei Juli-Exemplaren von Paringa auf der Südinsel. Es bleibt somit als einziges vielleicht rassenscheidendes Merkmal die Färbung der Oberseite, doch würde ich dann nicht die am Chalky-Sound gesammelten Tiere als *sylvestris* bezeichnen, wie Lorenz es tut, sondern die näher der terra typica erbeuteten von Teremakau. Das sind aber die Vögel mit der helleren Oberseite, die Lorenz-Liburnau (*Ann. Mus. Wien*, 1902, p. 305) *igata* nennt. Weil mit diesen Stücken eins von Dunedin in der Rückenfärbung übereinstimmt, dieses viel, jene wenig Gelb auf dem Unterkörper haben, halte ich das helle Braun für ein Zeichen des 1. Jahreskleides und das

Gelb für ein sehr variables Merkmal des Jugend- und des 1. Jahreskleides. Andernfalls müssten die im Südwesten der Südinsel wohnenden Tiere mit denen der Nordspitze oder gar mit denen der Nordinsel gleich gesetzt werden, von denen sie durch eine Population mit heller gefärbtem Rücken getrennt wären. Diese müsste *igata* oder *sylvestris* heissen. Wegen der geringen Wahrscheinlichkeit einer solchen Deutung möchte ich es vorziehen, nur eine Form anzuerkennen.

(*b*) INSULARIS-GRUPPE.

2. **Gerygone igata insularis** Ramsay (Taf. V. fig. VII*b* ob. Reihe).

Gerygone insularius (sic) rectius *insularis* Ramsay, *Proc. Linn. Soc. N.S. Wales* 3, p. 117 (1878—Lord Howe Insel). Typus in Sydney ?. Ramsay gebraucht in der Beschreibung auch den Namen *G. insularis*.

Gerygone thorpei Ramsay, *Proc. Linn. Soc. N.S. Wales*, Ser. 2, Vol. 2, p. 677 (20.5.1888—Lord Howe Insel). Typus in Sydney.

Abbildung: Mathews, *Birds Norfolk and Lord Howe Islands*, Taf. 21 bei p. 35.

Kennzeichen: Sehr gute Rasse. Wie *igata*, aber Oberkörper etwas brauner, weisslicher Kinnfleck und Superziliarstreif etwas deutlicher, mit weisslichem Augenring, Kinn, Kehle, Wangen grauweiss statt grau, Ohrdecken und Halsseiten etwas dunkler, aber heller als bei *igata*, übriger Unterkörper intensiv gelb, Unterschwanz-, Unterflügeldecken und Axillaren blass gelb. Schnabel länger und etwas breiter.

juv. mit gelbem Augenring, kaum hellerer Basis des Unterschnabels, stark gelb überlaufener Kehle, blasserem, schwefelgelbem Unterkörper und heller, mehr olivenfarbener Oberseite.

Material: 6 Stück (Tring).

Verbreitung: Lord Howe-Insel.

Masse: Flügel ♂ 57², ♀ 53, 55, ♀ juv. 53, o juv. 52,5; Schwanz 50, 51,5, 47,5, 46,5, 47, 46 mm. (Index 84,5–90,4). Tarsus 19–21, Mittelzehe o. Kr. 10, Culmen 10–11 mm. lang, 3 (einmal 3,5) mm. breit. 1. Schwinge 17–18 mm., 2. Schwinge < 10., Armschwingen: 2. Schwinge: Flügel = 46 : 46 : 53,46 : 46 : 55 mm.

Bemerkung: Die Unterschiede zwischen den beiden Rassen sprechen vor allem dann nicht gegen eine Vereinigung, wenn man die Ähnlichkeit zwischen *igata* und der jenseits der beiden Inselrassen *insularis* und *modesta* wohnenden *richmondi*-Gruppe beachtet.

(*c*) MODESTA-GRUPPE.

3. **Gerygone igata modesta** Pelzeln (Taf. VI. fig. VII*c*).

Gerygone modesta Pelzeln, *Sitzungsber. Ak. Wien*, math. nat. Kl. 61, p. 320 (1860—Norfolk Insel). Typus in Wien, verglichen.

Gerygone mathewsae Mathews, *Nov. Zool.* 18, p. 449 (31.1.1912—nom. emend. pro *G. modesta* Pelzeln).

Abbildung: Mathews, *Birds Norfolk and Lord Howe Islands*, 1928, Taf. 21 bei p. 35.

Kennzeichen: Sehr gute Form. Wie *insularis*, aber Oberkörper, Schwanz und Schwingen dunkler, grauer, auf Bürzel und Oberschwanzdecken oliv getönt. Weisse Schwanzzeichnung auf den beiden mittleren Paaren fehlend, auf dem äussersten nur als 4 mm. breiter Subapikalfleck auf der Innenfahne und als Aufhellung auf der Aussenfahne ausgebildet. Supraloralstreif und Stirnfleck grau, wie bei *igata* Kehle, Wangen, Ohrdecken, Halsseiten und

Oberbrust grau statt weisslich (bei *igata* grau mit bräunlichem Anflug auf den Ohrdecken). Ein deutlicher weisser kleiner Kinnfleck. Uebriger Unterkörper weiss, an den Brustseiten und Weichen grau mit olivenfarbener Tönung. Unterflügel- und Unterschwanzdecken nicht so stark gelb getönt wie bei *insularis*.

juv. mit heller Basis des Unterschnabels, gelblichem Augenring und gelber Tönung der Unterseite. Schnabel etwas breiter, fast wie bei *richmondi*, aber grösser. Iris hell rot. Zwei Stück mit schwarzem Schnabel, gelblichweissem Augenring und gelbem Anflug auf der Unterseite halte ich für 1. J.–Kl.

Material: 12 Stück (1 Wien, 10 Tring, 1 Berlin).

Verbreitung: Norfolk-Insel.

Masse: Flügel ♂ ad. 52, 54, 55², 57, ♀ ad. 50, 54 mm., o ad. 52,5, 56, juv. 51, Schwanz 46,5, 47,5, 46,5, 48, 47,5, 45, 48,5, 45,5, 47,5, 42,5, 43, 48 mm. (Index 79,1–90,0). Tarsus 20–21, Mittelzehe o. Kr. 8, Culmen 9–10 mm. lang, 3–3,5 mm. breit. 1. Schwinge 17–19 mm., 2. Schwinge = 9.–10., Armschwingen: 2. Schwinge: Flügel = 45 : 47 : 55,46 : 47 : 56 mm.

Bemerkung: Die Rasse leitet zu der *richmondi*-Gruppe und zu *G. flavolateralis* über.

(*d*) RICHMONDI-GRUPPE.

Literatur u.a. Mathews, *Birds Australia* 8, 1920, pp. 140–143, 165–166.

Kennzeichen: Wie die echte *igata* und die Kleininsel-Rassen, aber Schnabel meist relativ breiter, weisslicher Stirnfleck, Supraloral- und Superziliarstreif deutlicher. Andererseits dem Formenkreis *G. fusca* und zwar der südwestaustralischen Nominatform ähnlich, durch folgende Merkmale unterschieden: Oberseite dunkler, brauner oder grauer (zwischen Saccardo's Umber, Taf. 29, und Dresden Brown, Taf. 15, oder Brownish Olive, Taf. 36), Schwanz ohne die weisse Basisbinde, vor der schwarzen bis schwärzlichen Binde nur wenig heller, graubraun. Schwingen, besonders Armschwingen, weniger weisslich oder blassbräunlich, mehr mit der Farbe des Rückens gesäumt. Ohrdecken nicht so braun, grau bis bräunlich oliven. Brust, Bauch und Unterschwanzdecken blass rostbräunlich. Schenkelbefiederung olivenbraun mit blassbräunlichen Federrändern. Unterflügeldecken und Axillaren weiss. Flügelrand weiss bis blass bräunlich. Iris rötlich braun, braun, grau. Schnabel und Füsse schwarz, Sohlen gelblich.

Flügel 47–52, Schwanz 39–46,5, Stufung 6–10 mm. (Index 78,0–91,6), 1. Schwinge 15–17,2. < 10., 7,5–10 mm. kürzer als der Flügel. Längste Schwinge 4.–6., die 3. relativ ein wenig kleiner als bei *G. fusca*. Tarsus 17,5–18,5, Mittelzehe o. Kr. 7–8, Culmen 7,5–8,5 mm. lang, 3–3,5 mm. breit.

Material: 11 Stück.

4. **Gerygone igata richmondi** Mathews (Taf. VI. fig. VII*d*β).

Gerygone fusca Gould, *Birds Australia*, Pt. 35 (= Vol. 2, Taf. 98) (1.12.1846—Küste von Neusüdwales). Tafel und Lebensschilderung, nicht Beschreibung. Nec *Psilopus fuscus* Gould 1838. Typus fehlt.

Wilsonavis fusca richmondi Mathews, *Austral Avian Record* 2, p. 129 (29.1.1915—Richmond River, Neusüdwales). Typus in Tring, untersucht.

Wilsonavis richmondi gouldiana Mathews, *Birds Australia* 8, p. 143 (17.6.1920—Gosford, Neusüdwales). Typus in Tring, verglichen.

Abbildung: Gould, l.c.—Mathews, *Birds Australia* 8, Taf. 382 bei p. 140.—*Emu* 30, 1930, Taf. 11 (Vogel am Nest).

Kennzeichen: Sehr gute Form. Oberkörper braun (zwischen Saccardo's Umber, Ridgway, Taf. 28, und Dresden Brown, Taf. 15, Oberkopf mehr nach

Sepia, Taf. 29). Schwärzliche Schwanzbinde etwa 1 cm. von der Spitze entfernt, die zum grössten Teil von einer weissen Binde eingenommen wird. Weisser Stirnfleck, Supraloral- und Superziliarstreifen sowie Augenring, schwarzer Zügelfleck und dunkler Fleck hinter dem Auge vorhanden, Ohrdecken und vordere Halsseiten grau, schwach oliven getönt, allmählich in das Weisslichgrau der Kehle, der Wangen und des Kinns übergehend, das sich auf der Oberbrust relativ deutlich gegen den blass bräunlichen, auf den Flanken intensiveren Ton (Cinnamon Buff, Taf. 29, bis Ochraceous Buff, Taf. 15) des übrigen Unterkörpers absetzt.

Material: 7 Stück (5 Tring, 2 Wien).

Verbreitung: Küstengebiet von Neusüdwales, von Gosford (nördlich v. Sydney) nach Norden bis zum Richmond River nahe der Nordgrenze des Staates.

Masse: Sydney Flügel o 50,5², Schwanz 45, 46 mm. Gebiet des Richmond-Flusses Flügel ♂ 50, 51,5, ♀ 48, o 51,5,52, Schwanz 44,5, 46,5, 41,5 + x, 45, 45,5, Schwanzstufung 7–10 mm., Culmen 7,5–8 mm. lang, 3–3,5 mm. breit. Gosford Flügel ♂? (wohl ♀) 47, Schwanz 43, Culmen 8,5 mm. lang, 3 mm. breit, (Index 86,5 + x bis 91,6). Flügelproportionen s.o., Armschwingen: 2. Schwinge: Flügel = 43 : 43 : 51,5 mm.

Bemerkung: Der Typus von *gouldiana* unterscheidet sich in keiner bemerkenswerten Weise von den übrigen Exemplaren.

5. **Gerygone igata amalia** subsp. nova (Taf. VI. fig. VII*dα*).

Kennzeichen: Gute Rasse. Wie *Gerygone igata richmondi* Mathews, aber Oberkörper weniger rostbraun, grauer. Kinn und Kehle graulich statt weisslich, rostbrauner Anflug auf Brust, Weichen, Bauch und Unterschwanzdecken ganz zurücktretend, durch einen bräunlichgelben, an der Brust mehr grau olivenfarbenen Anflug ersetzt. Von *mouki* Mathews durch braunere Oberseite, grauere Kehle und etwas lebhafteren Anflug auf den Weichen unterschieden.

Typus im Museum für Tierkunde Dresden C 27188, ad. Bowen, Amalie Dietrich leg. Zu Ehren der unermüdlichen Frau benannt, die von 1864–1872 in Ostaustralien viele botanische, zoologische, anthropologische und ethnographische Kostbarkeiten für das Museum Godeffroy sammelte.

Material: 2 Stück (1 Dresden, 1 Hamburg).

Verbreitung: Ostküste des mittleren Queensland (Bowen).

Masse: ad. Flügel 48,5, 50,5 mm.; Schwanz 43, 44,5 mm. (Index 88,1, 88,7). Tarsus 17–18, Culmen 7 mm. lang, 3 mm. breit. 1. Schwinge 14–15 mm., 2. Schwinge < 10., Armschwingen: 2. Schwinge: Flügel = 41 : 38 : 48,5,43 : 42 : 50,5 mm.

Bemerkung: Die Lücke zwischen den beiden von Mathews in verschiedene Genera gestellten Rassen *richmondi* und *mouki*, die etwa 11 Breitengrade voneinander entfernt nachgewiesen waren, wird durch die Auffindung dieser guten neuen Form erheblich verkleinert. Dass die Stücke in Hamburg seit langem als *Gerygone igata* bestimmt waren, zeigt auch, wie nahe sich die beiden Formen stehen. North, *Nests and Eggs Birds Australia*, 1901–04, p. 195, beschreibt eine aberrante "*G. fusca*" von der Wide Bay, Queensland, die vielleicht eine *amalia* ist (oder *G. fusca cantatrix*).

6. **Gerygone igata mouki** Mathews (Taf. V. fig. VII*b*, unt. Reihe, Taf. VI. fig. VII*dα*).

Gerygone pallida North, *Austr. Mus. Spec. Catal.* No. 1, Vol. 1, p. 196 (27.4.1903—Boar Pocket, Bellender Ker-Gebirge, Nord-Queensland). Typus in Sydney. Nee *Gerygone pallida* Finsch 1898.

Gerygone laevigaster mouki Mathews, *Nov. Zool.* 18, p. 310 (31.1.1912—Cairns, Nord-Queensland). Typus in Tring, verglichen. Fundort: Barron River (der bei Cairns mündet).

Abbildung: Mathews, *Birds Australia* 8, 1920, Taf. 384 bei p. 149.

Kennzeichen: Sehr gute Form. Von *richmondi* durch weniger braune, mehr graue und olivenfarbene Oberseite (Brownish Olive, Taf. 30), grau olivenfarbene statt graue Ohrdecken und vordere Halsseiten, fast völliges Fehlen des rostbräunlichen Tons der Unterseite, die von der Brust nach hinten nur schwach, aber deutlich wahrnehmbar bräunlich rahmfarben überflogen ist, ferner durch kürzeren Schwanz (geringere Stufung) und teilweise längeren Schnabel unterschieden.

Material: 3 Stück (Tring).

Verbreitung: Gebiet bei Cairns (Barron River, Bellender Ker Range, Tolga) in Nord-Queensland.

Masse: Flügel 50–52, Flügel ♂ 52, ♀ 50, 51, Schwanz 43,5, 39, 42,5, Schwanzstufung 6–8 mm. (Index 78,0, 83,7). Culmen 8–8,5 mm. lang, 3 mm. breit. Armschwingen: 2. Schwinge: Flügel = 45 : 42 : 52,42,5 : 42,5 : 50 mm.

Bemerkung: Es liegt nahe, die *richmondi*-Gruppe in Verbindung mit dem Formenkreis *G. fusca* zu bringen, dessen Form *cantatrix* einen Teil des noch offenen Zwischengebietes bewohnt. Doch ist die Verschiedenheit so gross, dass die Abspaltung schon vor längerer Zeit vor sich gegangen sein muss. Jedenfalls stehen sich die drei in der *richmondi*-Gruppe zusammengefassten Formen morphologisch viel näher, als jede von ihnen *G. fusca cantatrix*.

VIII. GERYGONE (HAPOLORHYNCHUS) ALBOFRONTATA (Karte 6 und Taf. V. u. VI.).

Hapolorhynchus Reichenow, *Journ. Ornith.* 56, p. 488, 1908. Typus *Gerygone ? albofrontata* Gray.

Kennzeichen: Am ähnlichsten einer der langschnäbligen Formen von *Gerygone igata* (*G. i. insularis*), überhaupt als geographischer Vertreter dieses Formenkreises aufzufassen. Durch relativ schmaleren, seitlich stärker zusammengedrückten Schnabel sowie durch grössere Masse unterschieden. Die Schnabelborsten nicht schwächer als bei *igata*. Ueber die Berechtigung der Gattung kann man nur streiten, wenn man der Meinung ist, dass geographische Vertreter, die sich durch einen besonders auffälligen Sprung von den Charakteren der Verwandten entfernen, nicht in eine andere Art oder gar Gattung gestellt werden sollten. Da die Variabilität von *Gerygone igata* sich vornehmlich auch auf die Schnabellänge und-form bezieht, so braucht man dieses Merkmal bei sonst unbedeutenden Veränderungen nicht als Gattungscharakter aufzufassen. Ich erinnere an *Eophona*, an die Rohrammern und erwähne, dass trotz Reichenow, der die Gattung an die *Certhiidae* anschloss, die Lebensweise, jedenfalls der Nestbau, wie bei dem genannten nächst stehenden Formenkreise ist. Man kann sagen: *Hapolorhynchus* ist eine *Gerygone insularis*, deren Schnabelbasis ebenso breit ist, deren Schnabelspitze aber etwas verlängert und im Zusammenhang mit der schmalen Basis seitlich zusammengedrückt worden ist. Die Gattung bleibt am besten als Untergattung unmittelbar hinter den *Gerygone igata*-Formen stehen.

Gerygone (Hapolorhynchus) albofrontata Gray (Taf. V. fig. VIII, Taf. VI. fig. VIII).

Gerygone ? albofrontata Gray, *Voyage "Erebus and Terror," Birds*, p. 5 (1844—Chatham Insel).
Abbildung: Gray, l.c., Taf. 4, Fig. 2.—Buller, *Supplement Birds New Zealand* 2, 1906, Taf. 12, Fig. 1.

Kennzeichen: Wie *Gerygone igata insularis*, aber Oberkörper intensiver und rostfarbener gefärbt, besonders Oberschwanzdecken und äussere Fahnen der Schwanzfedern an der Basis, ganzer Schwanz, auch die weissen Zeichnungen, rostbräunlich verwaschen. Flügel brauner, weniger grau, Säume viel lebhafter rostbraun. Weisses Stirnband und weisser Streifen über dem Auge bis hinter die Ohrdecken, schwarzbrauner Strich durchs Auge, nach hinten zum Graubraun der oberen Ohrdecken verbreitert. Kinn, Kehle, Wangen, untere Ohrdecken, Halsseiten und übrige Unterseite weiss mit einem Stich ins Bräunliche, an Halsseiten (nicht immer), Brust und Abdomen gelb getönt, an den Weichen grünlicher, auf den Unterschwanzdecken blass rostbräunlich. Schenkelbefiederung braun mit gelblichen Federspitzen. Unterflügeldecken weiss, Axillaren, Flügelbug ebenso, meist mit gelben Spitzen. Flügel von unten haarbraun mit blass rostbräunlichen Federsäumen. Iris blutrot, Schnabel schwarzbraun mit hellem Kiel des Unterschnabels, z. T. ganzer Unterschnabel heller. Füsse am getrockneten Balg hornfarben bis hell hornfarben (♀).

Dass das ♀ kein Gelb auf dem Unterkörper hat (Buller), stimmt nach meinem Material nicht. Die Intensität des Gelb schwankt individuell.

juv. wie ad., alles Weiss durch intensives Ocker- bis Schwefelgelb ersetzt, Stirnband aber schmaler, Schnabel, auch Oberschnabel, in einem Falle hell hornfarben, im anderen fast schwarz (1. Jahreskleid ?, Daten und Geschlecht fehlen in beiden Fällen). Diese beiden Stücke ähneln jungen *insularis*.

Material: 7 Stück (4 Tring, 2 Berlin, 1 Hamburg).

Verbreitung: Chatham-Insel, ganz gemein nach Oliver, *Birds New Zealand*, 1930, p. 457.

Masse: Flügel 60–67 mm., Flügel ♀ 66,5, o 65, juv. 60, 61,5 mm. ♂ Flügel 65,5, 66,5, 67, Schwanz 57, 55, 54, 56, 56², 49, 53, Schwanzstufung 6–8 mm. (Index 80,6–86,8). 1. Schwinge 17–21 mm., 2. Schwinge = 9.–10., 10–12 mm. kürzer als der Flügel, 2–0 mm. länger oder bis 3 mm. kürzer als die Armschwingen. Armschwingen: 2. Schwinge : Flügel = 55 : 57 : 67,56 : 53 : 65 mm. (Die Flügel sind meist schlecht präpariert). Flügelspitze von der 4. bis 6. Feder gebildet, meist die 5. ein wenig länger. 3. > 7., 2–3 mm. kürzer als die 4., Tarsus 21, 23–24,5, Mittelzehe o. Kr. 11,5, Culmen 10, 12–13,5 mm. lang, 2,5–3,5 mm. breit. Die kleinen Masse gelten für ein juv. des Hamburger Mus., dessen Heimat fälschlicherweise mit Auckland, Neuseeland, angegeben ist.

IX. GERYGONE CINEREA Salvadori (Karte 4*b* und Taf. V. fig. IX.).

Literatur u.a. Ogilvie-Grant, *Ibis, Jub. Suppl.* 1915, p. 170.
Gerygone cinerea Salvadori, *Ann. Mus. Genova* 7, 1875, p. 958 (1876—Hatam, Arfakgebirge). Typen in Genua, verglichen.

Kennzeichen: Von allen anderen Formenkreisen durch die graue Oberseite, von *G. igata mouki*, die bräunlich graue Oberseite hat, durch Fehlen der weissen Schwanzzeichnung abweichend.

♂♀ Oberseite, Wangen und Ohrdecken aschgrau (Deep Neutral Gray, Taf. 53), auf der Stirn mit dunkleren Schaftflecken (bei einem der mir vorliegenden Stücke nicht, ebensowenig bei einem ♂ vom Utakwa nach Ogilvie-Grant). Auf dem Unterrücken ein schmales, weisses Querband, von den Spitzen der

Bürzelfedern gebildet. Schwanz und Flügel graubraun, ersterer mit grauen Basissäumen und undeutlicher schwärzlicher Subapikalbinde (auf den äusseren Federn etwa 5 mm. breit), Abstand von der Spitze geringer. Ein subapikaler kleiner Innenrandfleck auf der äussersten Feder weisslich, auf den übrigen (ausser den beiden mittleren) blass bräunlichgrau. Schwingen mit weisslichgrauen Säumen. Augenring schmutzig weiss. Unterkörper hellgrauweiss, Seiten der Oberbrust und Abdomen dunkler grau. Schenkelbefiederung braun mit grauweisslichen Federspitzen. Unterschwanz-, Unterflügeldecken und Axillaren weiss. Flügel von unten braun mit bräunlich weissen Innensäumen der Federn. Iris dunkel braun. Schnabel und Füsse dunkelgrau bis schwarz.

juv. m. W. unbekannt.

Material: 2 Stück (Typen, Genua).

Verbreitung: Gebirge von ganz Neuguinea, wohl hauptsächlich über 1,000 m., bekannt von: Arfakgebirge, Wandammen (1,000 m.) (Ambernoh, Rothschild & Hartert, NOV. ZOOL. 10, 1903, p. 474, Dumas leg., Fundort zuverlässig ?), Utakwa-Fluss, Moroka (1,800 m. hoch), Aroa-Fluss, Owen-Stanley-Gebirge (etwa 2,700 m.), Eafa-Gebiet (350–1,000 m. hoch).

Masse: ♂ Flügel 49, ♀ ? 52, Schwanz 32,5, 33 mm., Schwanzstufung 2–4 mm. (Index 63,5–66,3). 1. Schwinge 15,5 mm., 2. Schwinge < 10., Armschwingen: 2. Schwinge: Flügel = 41 : 40 : 49 mm., 43 : 43 : 53 mm. 2. Schwinge also 9–10 mm. kürzer als der Flügel, 0–1 mm. kürzer als die Armschwingen. Spitze des Flügels von der 4. und 5. Schwinge gebildet, die 3. < 7., 2–3 mm. kürzer als die 4. Tarsus 17, Mittelzehe o. Kr. 7, Culmen 7,5–8 mm. lang, 3–3,5 mm. breit.

Bemerkung: Diese seltene Art steht nahe *Gerygone ruficollis* und einigen *G. igata*-Formen, besonders in der Schnabelbildung, ist aber durch den ausserordentlich kurzen Schwanz von *G. igata* unterschieden. Ueber Beziehungen zur Gattung *Acanthiza* s. den allgemeinen Teil.

X. GERYGONE RUFICOLLIS (Karte 4c und Taf. V u. VI).

Literatur u. a. Hartert, *Nov. Zool.* 36, 1930, p. 63 f.

Kennzeichen: Durch zarten Schnabel von den meisten Angehörigen der Gattung, ausser von *igata* und *cinerea*, unterschieden. Von *igata* durch kürzeren Schwanz, von *cinerea* vor allem durch braune Oberseite unterschieden. Oberseite dunkel bräunlich bis olivenbraun (bei der Nominatform etwas dunkler als Saccardo's Umber, Taf. 29, Oberkopf dunkler, zwischen Sepia und Bister, Taf. 29, Schwanz Sepia), Schwanz mit schwarzer Subterminalbinde, die etwa 10–15 mm. breit ist und auf der äusseren Feder etwa 8 mm., auf den inneren allmählich weniger weit von der Spitze entfernt bleibt. Spitze der Schwanzfedern mit Ausnahme des innersten Paares mit weissem Subterminalfleck, der sich auf der äussersten Feder auch als Binde über beide Fahnen erstrecken kann. Flügel braun, grosse Oberflügeldecken mit Säumen von der Farbe des Rückens, Schwingen mit weisslichen Säumen. Stirnfleck und Strich bis übers Auge rostbraun, Augenring weiss. Zügel schwärzlich, Kinn und Kehle blasser rostbraun (an der Kehle bei der Nominatform etwa Cinnamon Buff, Taf. 29), an den Kopf- und Halsseiten allmählich in den Ton des Rückens übergehend, Brust graubräunlich, an den Seiten dunkel graubraun, nach hinten vom trüben Weiss der hinteren Brust, der Weichen, des Bauches und der Unterschwanzdecken abgelöst. Schenkelbefiederung dunkel graubraun mit blass bräunlichen Federspitzen. Unter-

flügeldecken und Axillaren weiss, Flügelbug vorn braun, hinten blass bräunlich. Iris hell rotbraun, Schnabel und Füsse schwarz. juv. s. u.

Material: 9 Stück (2 Typen).

Verbreitung: Gebirge von Neuguinea (bekannt vom Arfakgebirge und von Südost-Neuguinea).

Masse: Flügel ♀ 48–51, ♂ 54–57, juv. 54,5; Schwanz 34–41, Stufung 2–4 mm. (Index 66,7–74,2). 1. Schwinge 14–17 mm., 2. Schwinge wenig < 8., 4–8 mm. kürzer als der Flügel, 1,5–3,5 mm. länger als die Armschwingen. Spitze des Flügels von der 4. u. 5. Schwinge gebildet, 6. u. 3. wenig kürzer. Tarsus 16–17, Mittelzehe o. Kr. 7, Culmen 7–8 mm. lang, 2–2,5 mm. breit.

1. **Gerygone ruficollis ruficollis** Salvadori (Taf. V. fig. IX, Taf. VI. fig. X 1α, β).

Gerygone? ruficollis Salvadori, *Ann. Mus. Genova* 7, 1875, p. 959 (1876—Hatam, Arfak-Gebirge). Typus in Genua, verglichen.

Gerygone bimaculata A. B. Meyer, *Zeitschr. ges. Ornith.* 1, p. 198 (1884—Hatam und Sanuibu, Arfak-Gebirge, t.t. restr. Hatam). Typus in Dresden, verglichen.

Kennzeichen s. o.

Material: 3 Stück (2 Dresden, 1 Genua).

Verbreitung: Arfak-Gebirge in Nordwest-Neuguinea (Hatam, Sanuibu, Siwi, letzteres etwa 1,000 m. hoch).

Masse: ♀ 48, 50,5, 51, Schwanz 34, 36,5, 34 mm. (Index 66,7–72,3). Tarsus 16, Mittelzehe o. Kr. 7, Culmen 7,5 mm. lang, 2,5 mm. breit. 1. Schwinge 14–15 mm., 2. Schwinge wenig < 8., einmal = 9.–10., Armschwingen: 2. Schwinge: Flügel = 42 : 44,5 : 50,5, 42,5 : 44 : 48 mm.

Bemerkung: Meyers *Gerygone bimaculata* ist unbedingtes Synonym von *ruficollis*, auch das von Mayr gesammelte Stück hat wie *bimaculata* auf beiden Fahnen der äussersten Schwanzfeder Weiss (Hartert). Es hat ausserdem eine weisse Kehle, die vielleicht im 1. Jahreskleid getragen wird. Jedenfalls glaube ich nicht, dass dieses einzige bisher bekannte "♂" das normale Alterskleid des ♂ darstellt und die ♀ durch bräunliche, bei den beiden Typen von *bimaculata* wahrscheinlich noch stark abgeblasste Kehle davon abweichen.

2. **Gerygone ruficollis insperata** De Vis.

Gerygone insperata De Vis, *Ann. Report New Guinea*, 1890–91, p. 94 (1892—Mt. Suckling, Südost-Neuguinea). Typus in Brisbane?, Beschreibung auch in *Annals Queensland Mus.* 1892, Nr. 2, p. 4.

Kennzeichen: Gute Form. Wie *ruficollis*, aber Oberkopf und Oberkörper brauner (Prout's Brown, Taf. 15) und weisse Flecken an den Steuerfedern breiter, 6 mm. breit. Kehle weniger rostbraun, reiner braun bis grauweiss. Kopf- und Halsseiten nicht röstlich, sondern schmutzig bräunlich grau.

juv. wie ad., aber Oberkopf und Oberkörper olivenbraun statt rein braun, Supraloralstreif und Augenlider, Wangen, Ohrdecken und ganzer Unterkörper mit schwefelgelbem Anflug (etwa Pinard Yellow, Taf. 4), auf der Brustmitte eher Sulphine Yellow, Taf. 4, das Weiss der Brust und des Bauches wird jedoch nicht ganz zurückgedrängt.

Material: 6 Stück (5 Berlin, 1 Dresden).

Verbreitung: Südost- und Ost-Neuguinea (Mt. Suckling, Herzog-Gebirge, Saruwaged).

Masse: Flügel 54–57, ♂ 54, 56², 57, juv. 54,5; Schwanz 39, 41, —, 41,

37 mm. (Index 67,9–74,2). (De Vis gibt Flügel 53, Schwanz 46, das wird ein Irrtum sein, Index 86,8 !) Tarsus 17, Culmen 7–8 mm. lang, 2–2,5 mm. breit. 1. Schwinge 16–17 mm., 2. Schwinge wenig < 8., Armschwingen : 2. Schwinge : Flügel = 46 : 48,5 : 54,46 : 49 : 57,46 : 49,5 : 56 mm.

XI. GERYGONE FUSCA (Karte 6 u. 7 und Taf. V. u. VII.).

Literatur u. a. Mathews, *Birds Australia* 8, 1920, pp. 158–164, 167–175.

Kennzeichen: Wegen der grossen geographischen Variabilität ist kein bestimmter Unterschied gegenüber allen anderen Formen anzugeben (s. die Bestimmungstabelle). ♂♀ Oberkörper graubraun, braun oder rostbraun, Schwanz mit einer dunkleren, etwa 1 cm. breiten Binde, hinter der sich an den 4 oder 5 äusseren Federn jederseits ein weisslicher oder weisser Fleck wenigstens auf der Innenfahne befindet. Häufig mit mehr Weiss am Schwanz. Ein mehr oder weniger ausgedehnter weisslicher oder weisser Fleck jederseits an der vordersten Stirnseite. Supraloral- und Superziliar-Streifen sowie weisser Augenring häufig vorhanden, wenn auch wohl z.T. infolge der Präparation nicht immer deutlich sichtbar. Unterseite weiss, grau, blass bräunlich oder gelb, Brustseiten und Flanken gelegentlich braun bis rostbraun. Schenkelbefiederung graubraun, mit hellen (weisslichen bis bräunlichen) Federspitzen. Iris rot in verschiedener Abtönung bis braun, Flügellänge 48–61 mm., Schwanz 34–49 mm. (Index 65,0–83,0), 1. Schwinge 14–20 mm., 2. Schwinge = 7. bis 8. und kleiner bis < 10., 4,5–7,5 mm. kürzer als die Spitze des Flügels, 4,5–0 mm. länger oder 1 mm. kürzer (1 Exemplar) als die Armschwingen. Spitze des Flügels von der 3.–6. Schwinge gebildet, die ziemlich gleich lang sind. Tarsus 16–22, Mittelzehe o. Kr. 7,5–9, Culmen 6,5–11 mm. lang, 2,5–4 mm. breit.

juv. Mit Gelb am Unterkörper, mit gelblichem Augenring, heller Basis des Unterschnabels und strohgelber bis brauner Iris.

Material: 148 Stück (23 Typen, darunter 6 Co- oder Paratypen).

Verbreitung: Australien, Südwest-Neuguinea, ferner von Timorlaut und den Key-Inseln bis nach Südwest-Siam, Celebes und den Nord-Philippinen.

Neben der Tatsache, dass sich alle hierher gerechneten Formen geographisch vertreten, sprechen auch die morphologischen Merkmale zugunsten dieser Vereinigung. Nur bei der *fusca*- und *cantatrix*-Gruppe könnte man im Zweifel sein (s.u.).

(*a*) FUSCA-GRUPPE.

1. Gerygone fusca fusca Gould (Taf. V. fig. XI*a*, Taf. VII. fig. 1*a*, *b*, *c*).

Psilopus fuscus Gould, *Synopsis Birds Australia*, Pt. 4, Taf. 61 (1.4.1838—Australien, t.t. restr. Swan River, Western Australia). Lit. nicht gesehen, aber Beschreibung bei Mathews, *Birds Australia* 8, p. 140 f. abgedruckt. Typus in Philadelphia.

Psilopus culicivorus Gould, *Proc. Zool. Soc.* (*London*), 1840, p. 174 (Juli 1841—West-Australien, t.t. restr. Swan River s. Gould, *Birds Australia*, Pt. 29 = Vol. 2, Taf. 99, 1847). Typus in Philadelphia.

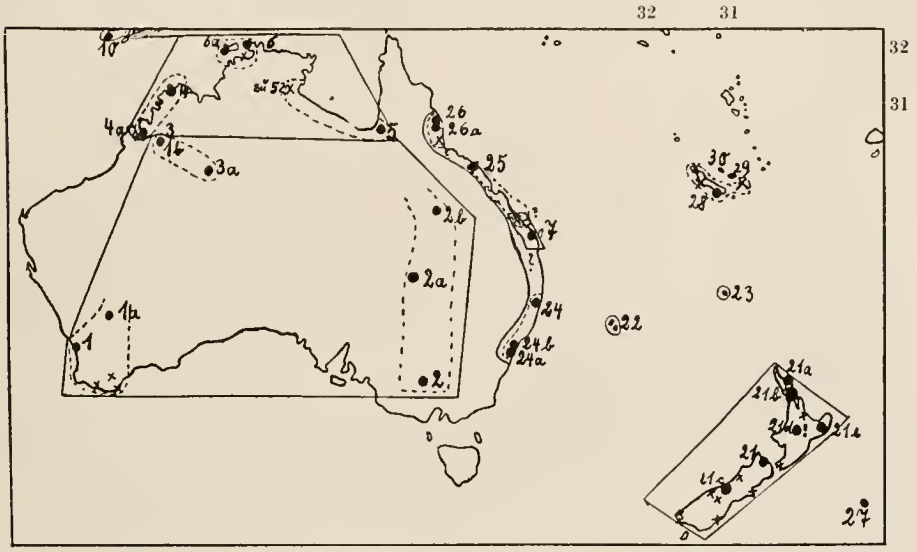
Gerygone culicivora wayensis Mathews, *Nov. Zool.* 18, p. 308 (31.1.1912—Lake Way, West Australia). Typus in Tring, verglichen.

Gerygone culicivora dendyi Mathews, *Nov. Zool.* 118, p. 309 (31.1.1912—Mungi, West-Kimberley, nördl. Western Australia). Typus in Tring, verglichen.

Abbildungen: Gould, *Birds Australia*, Pt. 29, s. nom. *G. culicivarus*.—Mathews, *Birds Australia* 8, Taf. 386 bei p. 170 (untere Figur), nicht dagegen Gould, *Birds Australia*, Pt. 25 (= Vol. 2, Taf. 98), sub nom. *G. fusca*.

Kennzeichen: ad. Ganze Oberseite einschliesslich der kleinen und mittleren Oberflügeldecken und der Oberschwanzdecken olivenbraun (Saccardo's

Umber, Ridgway, Taf. 29, bis Light Brownish Olive, Taf. 30), auf dem Bürzel etwas heller und gelblicher. Äusserste Schwanzfeder weiss mit meist braunem Schaft und drei dunkelbraunen Flecken, einem kleinen Fleck an der Basis der Innenfahne, einer 1 cm. breiten Binde, die an den Seiten weiss gerandet ist, und einem etwa ½ cm. langen Spitzenfleck. Die Aussenfahne dieser Feder zeigt also in vier etwa gleichlangen Abschnitten von der Basis her Blassbraun, Weiss, Schwarzbraun (der apikale Rand dieser Binde ist 12 mm. von der Federspitze



KARTE 6.—Verbreitung von

Gerygone **fusca** z. T. (s. a. Karte 7). Terra typica von (1) *fusca* und *culicivora*, (1*a*) *wayensis*, (1*b*) *dendyi*, (2) *exsul*, (2*a*) *jacksoni*, (2*b*) *berneyi*, (3) *mungi*, (3*a*) *musgravi*, (4) *broomei*, (4*a*) *perconfusus*, (5) *simplex*, *mastersi* und *normantoni*, (6) *laevigaster*, (6*a*) *intermissus*, (7) *cantatrix*, (10) *everetti*.

Gerygone **igata**. T. t. von (21) *igata*, (21*a*) *flaviventris*, (21*b*) *aucklandica*, (21*c*) *sylvestris*, (21*d*) *assimilis*, (21*e*) *macleani*, (22) *insularis* und *thorpei*, (23) *madesta*, (24) *richmondi*, (24*a*) *fusca* Gould 1846, (24*b*) *gouldiana*, (25) *amalia*, (26) *mouki*, (26*a*) *pallida* North.

G. (*Hapolorhynchus*) **albofrontata**. T. t. von (27) *albofrontata*.

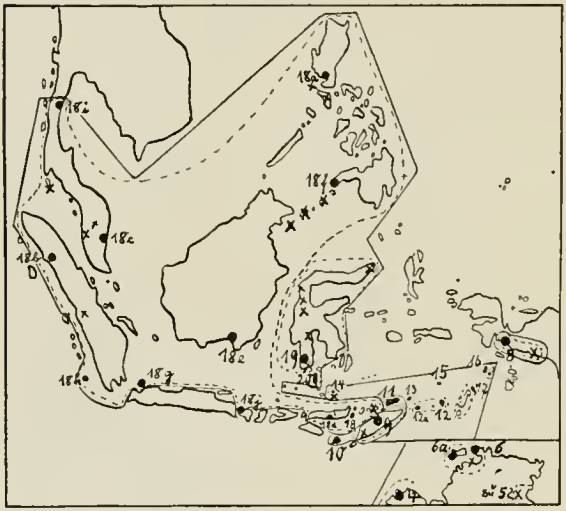
G. **flavolateralis**. T. t. von (28) *flavolateralis*, (29) *lifuensis*, (30) *rouxi*, (31) *G. f. . . . . Mayr* (Nr. VI, 4, p. 348), (32) *G. f . . . Mayr* (Nr. VI, 5, p. 348).

[ ] Gruppenareale, [ ] Rassenareale, ● Terra typica, × weitere Fundstellen.

entfernt) und Weiss (mit einem braunen Spitzenfleck). Nach der Schwanzmitte nimmt die Ausdehnung des Weiss allmählich ab, das mittelste Paar schwarzbraun mit nicht ringsherum gehenden weissen bis bräunlichen Säumen. Schwingen und grosse Oberflügeldecken dunkelgraubraun mit schmalen, blass olivenbräunlichen bis weisslichen Aussensäumen. Vorderste Stirnbefiederung weisslich, schmaler Streif von der Oberschnabelwurzel übers Auge hinweg, oberes und unteres Augenlid weisslich, vor und hinter dem Auge ein dunkler Fleck, der an diesen Stellen auch das Augenlid einnimmt und sich vorn bis zur Schnabelwurzel erstreckt. Ohrdecken und Halsseiten olivenbraun, ein wenig heller als der Oberkopf. Kinn, Kehle und Oberbrust weissgrau, übriger Unterkörper weisslicher, in der Mitte des Bauches weiss, einschliesslich der Unterschwanzdecken (besonders an Körperseiten und Flanken) bräunlich überflogen. Schenkelbe-

fiederung braun mit weisslichen Federspitzen. Unterseite des Flügels schwarzbraun, die meisten Schwingen mit weisslichen Innensäumen. Unterflügeldecken und Axillaren weisslich mit bräunlichem Anflug. Iris rot oder orangerot. Schnabel und Füsse schwarz.

juv. Oberkörper heller und lebhafter braun, weniger olivenbraun. Stirn, weisse Zeichnungen an Kopf, Kehle und Oberbrust blass ockergelb. Gestalt der Flügel- und Schwanzfedern nicht von denen ausgefärbter Tiere verschieden. Iris strohfarben, Schnabel hornfarben, Basishälfte des Untersehnabels blass gelblich.



KARTE 7.—Verbreitung von *Gerygone* **fusca** z. T. (s. a. Karte 6). Terra typica von (4) *broomei*, (5) *mastersi*, (6) *laevigaster*, (6a) *intermissus*, (8) *pallida*, (9) *inornata*, (10) *everetti*, (11) *wetterensis*, (12) *fulvescens*, (12a) *kisserensis*, (13) *sequens*, (14) *senex*, (15) *kühni*, (16) *keyensis*, (17) *dorsalis*, (18) *sulphurea*, (18a) *simplex*, (18b) *modiglianii*, (18c) *pectoralis*, (18d) *tenkatei*, (18e) *salvadorii*, 18f) *rhizopharae*, (18g) *jacobsoni*, (18h) *muscicapa*, (18i) *grisea*, (18j) *plesseni*, (19) *flaveola*, (20) *saleyerensis*.

Gruppenareale, Rassenareale,

● Terra typica, × weitere Fundstellen

1. Jahreskleid: Wie ein mauserndes Februarstück aus Albany (Tring) beweist, hat dieses Kleid auch Gelb auf dem Unterkörper, ob in der Ausdehnung des Jugendkleides, bleibt fraglich. Unterschnabel im April noch wie im Jugendkleid, Iris rot (Ex. aus Wilson's Inlet, S.W. Austr.); Mauser Februar bis April, Dezemberstücke haben ganz frisches Gefieder. Ich finde aber keine weiteren Anzeichen einer zweiten Mauser.

Variation: Rücken manchmal grauer (Stücke vom März, August und November gegenüber denen vom Dezember und Juni). Weisse Basisbinde des Schwanzes (auf der Innenfahne, einige mm. vom Schaft entfernt gemessen) 9–13 mm. breit (9 Stück aus S.W. Australien, 2 weiter nördlich gesammelt).

Material: 11 Stück (8 Tring, 2 Hamburg, 1 Wien).

Verbreitung: Süd- und Mittel-Western Australia (Ex. von Albany, King George's Sound, Wilson's Inlet, Lake Muir, Broome Hill, Perth, Vasse, Lake Way); in Mungi Rock Hole, 8 Meilen südöstlich von Mt. Alexander, West Kimberley, im Winter, am 21.6., gesammelt.

Aufenthaltsort: Offener Wald, Gebüsch. Brutzeit: Oktober bis Dezember.

Masse: Flügel 55–60 mm., Südwestaustralien ♂ 57, 58², 59, 60, o 60, ♀ 55, 58,5, 59, Lake Way o 56, Mungi ♂ 58,5 mm.; Schwanz 45,4, 45², 45, 48, 49, o 48, ♀ 45, 45,5, 45, —, 44, 45, —, 46, Stufung 3–7 mm. (Index 76,3–81,8). Lauf 17–18, Mittelzehe o. Kr. 7,5–8, Culmen 6,5–7,5 mm. lang, 2,5–3 mm. breit. 1. Schwinge 15–17,5 mm., 2. = 7.–8. oder etwas < 8., Armschwingen: 2. Schwinge: Flügel = 50 : 54 : 60,47 : 51,5 : 58 mm.

Bemerkung: Das Stück von Mungi ist im Gebiet einer anderen Rasse gesammelt worden. Die Beobachtungen von Rogers, die Mathews in *Birds Austr.* 8, p. 173 zitiert, beziehen sich auf die von Rogers bei Derby gesammelte *broomei*, die Mathews zu einer anderen Art stellt (s.u.).—*Wayensis* soll oben und unten blasser sein. Nur an der Kehle finde ich diesen Unterschied bestätigt, er reicht aber nicht aus, um die Rasse nach einem Stück anzuerkennen.—*Dendyi* soll oben blasser, auf Bauch und Flanken rostbrauner sein. Der Typ, das einzige m. W. von dort bekannte Stück, stimmt in der Färbung fast vollkommen mit dem Juni-Stück vom Broome Hill (S.W. Austr.) überein. Das etwas intensive Braun an den Körperseiten dürfte als individuelle Variation aufzufassen sein. Die helle Schnabelbasis weist auf ein 1. Jahreskleid.

2. Gerygone fusca exsul Mathews (Taf. VII. fig. 2*a*, *b*).

Gerygone culicivora exsul Mathews, *Nov. Zool.* 18, p. 309 (31.1.1912—Rutherglen, Victoria). Typus in Tring, verglichen.

Pseudogerygone jacksoni Campbell, *Emu* 11, p. 247 (1.4.1912—Mogil Mogil District, N.S. Wales). Typus in Sydney ?

Gerygone culicivora berneyi Mathews, *Austral Avian Rec.* 1, p. 119 (24.12.1912—Tambo, Queensland). Typus in Tring, verglichen.

Abbildung: Mathews, *Birds Australia* 8, 1920, Taf. 386 bei p. 170 (mittlere Figur).

Kennzeichen: Schwache Rasse, wie *G. f. fusca*, aber Schnabel länger, weisse Binde an der Schwanzbasis schmaler, 7,7,8 statt 9–13 mm., schwarze Schwanzbinde meistens breiter, Oberkörper und Oberkopf etwas grauer, nicht so braun wie bei den meisten *fusca*.

Material: 3 Stück (Tring).

Verbreitung: Inneres von Ost-Australien: nordöstl. Victoria (Rutherglen), südl. u. nördl. N.S. Wales (Riverina, Mugil Mugil), Queensland (Tambo). In Normanton am Golf von Carpentaria am 3.4., im "Herbst," gesammelt (s.u.).

Masse: 1. Rutherglen (Typus v. *exsul*), 2. ♂ Tambo (Typus v. *berneyi*), 3. ♀ Normanton. Flügel 59², 57,5; Schwanz 43, 43,5, 43 mm.; Stufung 6 mm. (Index 72,9–74,8). Culmen 8 mm. 1. Schwinge 15–17,5 mm., 2. Schwinge bei Ex. 2 wenig < 7., bei Ex. 3 etwas > 9., bei Ex. 1 fehlend.

Bemerkung: Mathews beschrieb die Rasse als brauner auf der Oberseite, was nicht stimmt. "*Jacksoni*" soll auf der Oberseite dunkler sein als Stücke aus Victoria (*exsul*). Ich sah keine Stücke aus New South Wales. Trotzdem glaube ich die angeblichen Unterschiede als Zeichen individueller Variation ansehen zu sollen (vgl. deren Grösse bei *G. f. fusca*). Bestimmt ist das Stück aus Zentral-Queensland (Tambo) nur durch reiner weisse Kehle von *exsul* unterschieden, ein Unterschied, der sich fast genau so bei zwei Ex. von *fusca* (Mus. Hamburg) aus Perth findet. Die Unterseite des Normanton-Stückes ist weisser als bei irgendeinem vorliegenden Stück von *fusca* und *exsul*. Obwohl dieses Tier ausserdem durch die Kürze der 2. Schwinge auf einer Seite (die andere nicht messbar) eher in die nächste Gruppe passt und somit als Bindeglied zwischen beiden Gruppen einer neuen Rasse angehören könnte, fasse ich es als Gast aus dem Süden auf (s. dazu *G. f. mastersi*, unten No. 5). Auch der Typ von *berneyi* vom 18.8. könnte Zugvogel sein. Sagte doch Austin nach Mathews (*Birds Australia* 8, 1920, p. 173), dass die Art Anfang Februar Cobbora im mittleren New South Wales verlässt.

3. Gerygone fusca mungi Mathews (Taf. VII. fig. 4).

Gerygone laevigaster mungi Mathews, *Nov. Zool.* 18. p. 310 (31.1.1912—Mungi, West Kimberley, nördl. West Australia). Typus in Tring, verglichen.

Ethelornis culicivorus musgravi Mathews, *Austral Avian Record* 2. p. 130 (28.1.1915—Musgrave Ranges, nördl. Zentral-Australien). Typus in Tring, verglichen.

Abbildung: Mathews, *Birds Australia* 8, Taf. 386 bei p. 170 (obere Figur, Typus von *musgravi*).

Kennzeichen: Fragliche Rasse, am ähnlichsten *exsul*, aber kleiner und mit noch schmalerer weisser Schwanzbasisbinde (3,5, 3,5 mm. gegen 7–8 mm.). Oberkörper etwas heller, im Ton wie bei *fusca*, Unterkörper heller, das dunkelste Exemplar so grau an der Kehle wie die hellsten Stücke von *exsul* und *fusca*, weisser Streif von der Stirn über das Auge hinweg deutlicher.

Material: 3 Stück (Tring).

Verbreitung: Inneres des nördlichen Western Australia (Mungi in West-Kimberley und Musgrave Ranges). Die 3 mir vorliegenden Stücke sind im Juni und Juli gesammelt worden.

Masse: Mungi Flügel ♂ 51,5, ♀ 52; Schwanz $35 + x$, 39, Stufung 2 mm. (Index 68,0–75,0). Culmen 8, 7,5 mm. Musgrave Ranges ♂ Flügel 55, Schwanz 39, Stufung 2 mm. (Index 70,0), Culmen 7 mm. 1. Schwinge 14–14,5 mm., 2. Schwinge etwas $>$ 8. oder $=$ 8.–9., Armschwingen: 2. Schwinge: Flügel = 42 : 46 : 41,5,43 : 45 : 52,45 : 49,5 : 55 mm.

Bemerkung: Diese Rasse wurde von Mathews zuletzt als Subspezies von *mastersi* (vom Golf von Carpentaria) aufgefasst, die zur nächsten Gruppe gehört. *Mungi* vermittelt zwischen den beiden Gruppen durch seine geringe Grösse, die schmale Schwanzbinde, den deutlicheren weissen Superziliarstreifen und die helle Kehle. Ob ich *musgravi* zu Recht hierher gestellt habe, hängt von der Variationsbreite der benachbarten Rassen *mungi*, *exsul*, *mastersi* und *fusca* ab. Die Schwanzbinde von 5,5 mm. Breite und die Flügellänge würden auf *exsul* weisen, der Schnabel ist aber etwas kurz.

(*b*) LAEVIGASTER-GRUPPE.

Kennzeichen: Von der bisher behandelten *fusca*-Gruppe durch die Reduktion der weissen Schwanzbasisbinde unterschieden, die bei einer Rasse nur als blassbräunliche Aufhellung zu erkennen, immer aber nach der Schwanzspitze unscharf begrenzt ist. Weisser Streif von der Stirn über das Auge hinweg mehr hervortretend, noch mehr als bei *mungi*.

Wegen der grossen Variabilität der Rückenfärbung bei *G. f. fusca* (s.o.) kann ich einige Formen von Mathews nicht anerkennen. Auch das von mir bevorzugte Merkmal, die Schwanzzeichnung, ist noch nicht in seiner ganzen Veränderlichkeit bekannt, darf aber nach dem vorliegenden Material als konstanter gelten.

4. Gerygone fusca broomei Mathews (Taf. VII. fig. 5).

Gerygone laevigaster broomei Mathews, *Austral Avian Record* 1. p. 89 (18.9.1912—Napier Broome Bay, Nördl. West Australia). Typus in Tring, verglichen.

Ethelornis levigaster perconfusus Mathews, *Birds Australia* 8, p. 161 (18.8.1920—Point Torment und Derby, N.W. Australia). Falls kein Typus fixiert ist, wähle ich von den Cotypen das ♂, Rogers leg. No. 1017, Point Torment, King Sound, 23.12.1910.

Abbildung: Mathews, *Birds Australia* 8, Taf. 385 bei p. 158 (Mittlere Figur, obere Figur wohl ein Exemplar von "*perconfusus* Mathews," was nicht besonders erwähnt wird).

Kennzeichen: Fragliche Rasse. Wie die Gruppe *laevigaster*, weisse Schwanzbasisbinde deutlich vorhanden und so breit wie bei *mungi*, aber der

Schwanzspitze zu allmählich, nicht plötzlich in die dunkelbraune Binde übergehend. Weisse Binde an der Spitze der äussersten Schwanzfeder wie bei *mungi* nicht auf die Innenfahne beschränkt. (Unterschied gegenüber *laevigaster*.) Oberseite (immer ?) blasser als bei der nächsten Form.

Material: 5 Stück (Tring).

Verbreitung: Küstengebiet des nördlichen Western Australia (King Sound, nämlich in Point Torment und Derby), Napier Broome Bay an der nördlichsten Spitze des Staates. Aufenthaltsort: Mangrove, aber auch die Creeks aufwärts (Rogers, bei Mathews fälschlich unter *G. fusca* zitiert, *Birds Australia*, 8, p. 173).

Masse: Derby und Point Torment, Flügel ♂ 52², ♀ 50, o juv. 49,5, Schwanz 40,5, 39,5, 38², Stufung 3–5 mm. (Index 76,0–77,9); Tarsus 17,5, Culmen 7,5–8 mm. Broome Bay, ♂ Flügel 54,5, Schwanz 37,5 mm. (Index 67,2); Tarsus 17, Mittelzehe o. Kr. 8,5, Culmen 8 mm. 1. Schwinge 15, 5–17,5 mm., 2. Schwinge = 8.–9. (zweimal), 9.–10. und = 10. (je einmal), Typus von *broomei* nicht messbar. Armschwingen: 2. Schwinge: Flügel = 45 : 47 : 52, beim juv. (2. = 10. !) 43 : 44 : 49,5 mm.

Bemerkung: Die blassen Stücke vom King Sound (*perconfusus*) stammen von Dezember und Januar, der oben dunkler braune Typus von *broomei* vom Juni.

5. **Gerygone fusca mastersi** (Sharpe) (Taf. V. fig. XI*b*, Taf. VII. fig. 3*a*, *b*).

Gerygone simplex Masters, *Proc. Linn. Soc. N.S. Wales* 1, p. 52 (Februar 1876—Norman River, Golf von Carpentaria). Die Stücke waren von Broadbent gesammelt worden, der später gleichartige von Normanton sandte, t.t. restr. Normanton. Typus in Sydney ? Nec *Gerygone simplex* Cabanis 1872.

Pseudogerygone mastersi Sharpe, *Cat. Birds British Mus.* 4, p. 224 (vor März 1879—nomen novum für *G. simplex* Masters).

Ethelornis normantoni Mathews, *Birds Australia* 8, p. 169 (18.8.1920—Normanton). Typus in Tring, verglichen.

Abbildung: Mathews, *Birds Australia*, 8, Taf. 384 bei p. 149 (Typus von *normantoni*).

Kennzeichen: Gute Form. Wie *broomei*, aber durch etwas braunere Oberkopf unterschieden. Oberkörper lebhaft olivenbraun (Tawny Olive, Ridgway, Taf. 29).

Material: 2 Stück (Tring).

Verbreitung: Süd- und Westküste des Golfes von Carpentaria (Norman River und Roper River, von wo Campbell, *Emu* 18, 1919, p. 182, *broomei*, also wohl *mastersi* meldet).

Masse: Normanton, Flügel ♂ 56, ♀ 51,5, Schwanz 43,5, 40, Stufung 4 und 8 mm. (Index 75,9–77,7); Culmen 8,5, 8 mm.; 1. Schwinge 18 mm., 2. Schwinge = 8.–9., Armschwingen: 2. Schwinge: Flügel = 47 : 50,5 : 56 mm.

Bemerkung: Schwach von der vorangehenden Rasse unterschieden, die vielleicht als Synonym hierher gehört. Der Typus von *normantoni*, das ♀, hat kein reines Weiss an der Schwanzbasis und ist von der nächsten Rasse nur durch lebhafteres Braun des Oberkörpers unterschieden. Unterkörper des ♂ ad. fast ganz blass bräunlich gelb getönt.——Das 3. Stück von Normanton, das durch eine scharf abgesetzte, 7 mm. breite weisse Schwanzbasisbinde und viel graueren Oberkörper der Rasse *exsul* ähnelt (s. o. S 361), weicht mit seinem völlig weissen Unterkörper, der ziemlich deutlichen Superziliarbinde und der kurzen 2. Schwinge (etwas > 9.) doch sehr von dieser Form und in dem letzten Merkmal auch von dem Typ von *berneyi* ab. Ich kann dieses Stück (Flügel 57,5, Schwanz 43 mm.,

Index 74,8, Culmen 8 mm.) vorläufig nur für ein aus dem Innern im Winter in das Küstengebiet gelangtes Exemplar einer zwischen den beiden *fusca*-Gruppen vermittelnden Rasse halten, die sich durch etwas längeren Schnabel (und breitere weisse Schwanzbinde ?) besonders von "*musgravi*" unterscheidet, ev. mit *berneyi* zusammengefasst oder neu beschrieben werden müsste.

Sollten solche Tiere unvermischt neben *mastersi* brüten, so müsste die *fusca*-Gruppe als Art abgetrennt werden.

6. **Gerygone fusca laevigaster** Gould (Taf. VII. fig. 6).

Gerygone levigaster (sic) Gould, *Proc. Zool. Soc.* (*London*), 1842, p. 133 (Februar 1843—"on the Cobourg Peninsula and on the Islands of Van Diemen's Gulf", Northern Territory, Typ von Port Essington). Von Gould selbst in *Birds Australia* 2. Taf. 101. 1848, als *G. laevigaster* bezeichnet. Typus in Philadelphia.

Ethelornis levigaster intermissus Mathews, *Birds Australia* 8. p. 160 (18.8.1920—Buchanan's Islet, Melville Insel, nordwestl. v. Australien). Typus in Tring, verglichen.

Abbildungen: Gould, *Birds Australia*. Pt. 34 (= Vol. 2, Taf. 101).—Mathews, *Birds Australia* 8, 1920, Taf. 385 bei p. 158, untere Figur.

Kennzeichen: Sehr gute Form. Oberseite olivenbraun (zwischen Saccardo's Umber, Taf. 28, und Tawny Olive, Taf. 40). Schwanz mit 8 mm. breiter dunkelbrauner und 7 mm. breiter weisser Endbinde, die an der Spitze von einem kleinen blass bräunlichen Fleck abgelöst wird. Die schwarzbraune Binde hellt sich in Richtung der Federbasis etwas auf, aber nur bis zu Blassbräunlich, nicht bis zu Weiss. Unterkörper weiss, sehr schwach graubräunlich getönt, besonders deutlich an den Halsseiten (hier grauer), Brustseiten und an den Flanken. Vgl. ausserdem die Kennzeichen der Gruppe.——Von *mastersi* durch reiner braunen, weniger olivenbraunen Oberkopf, i. allg. dunkleren, weniger lebhaft braunen Rücken, durch Beschränkung der weissen Spitzenflecke der äussersten Schwanzfeder auf die Innenfahne, besonders aber durch regelmässiges Fehlen des Weiss nahe der Schwanzbasis unterschieden, von *broomei* durch die beiden letztgenannten Eigenschaften.

Material: 5 Stück (Tring).

Verbreitung: Küstengebiet und Inseln im nördlichsten Northern Territory (Melville Insel, Port Essington). Aufenthaltsort: Mangroven.

Masse: Flügel ♂ 54², 57, ♀ 50,5, 51, Schwanz 41,5, 43, —, —, 37, Stufung 4–5 mm. (Index 73,3–76,9). Tarsus 17–18, Mittelzehe o. Kr. 7,5–8,5, Culmen 8,5 mm. lang, 2,7–3 mm. breit. 1. Schwinge = 16–18 mm., 2. Schwinge = 8.–9., Armschwingen: 2. Schwinge: Flügel = 47,5 : 48,5 : 54,49 : 50 : 57 mm.

(*c*) CANTATRIX-GRUPPE.

7. **Gerygone fusca cantatrix** Weatherill (Taf. VII. fig. VI).

Pseudogerygone cantator Weatherill, *Queensland Naturalist* 1, p. 74 (30.9.1908—Moreton Bay, Süd-Queensland). Beschreibung bei Mathews, *Birds Australia* 8, p. 162, abgedruckt. Typus in Brisbane ?

Ethelornis cantator weatherilli Mathews, *Birds Australia* 8. p. 164 (18.8.1920—Breakfast Creek, Brisbane, Süd-Queensland). Typus in Tring, verglichen.

Abbildung: Mathews, l.c., Taf. 384 bei p. 149 (Typus von *weatherilli*).

Kennzeichen: Gute Form. Wie *G. fusca laevigaster*, aber Flügel länger, Oberkörper und besonders Oberkopf dunkler und reiner braun (Saccardo's Umber nach Sepia, Taf. 29), weniger graubraun.

Material: 4 Stück (Tring).

Verbreitung: Küstengebiet des südlichen Queensland (gemeldet von verschiedenen Orten zwischen Brisbane und Gympie, etwa 150 km. weiter nördlich).

Masse: Flügel ♂ 59,5, 61, ♀ 56; Schwanz 44², 39,5, Stufung 4 mm. (Index 70,5–73,9). 1 ♂ vom März sehr abgetragen und in der Mauser. Tarsus 19, Mittelzehe o. Kr. 8,5, Culmen 8,5 mm., 1. Schwinge 19 mm. 2. Schwinge = 8.–9. (einmal < 9.) = 52 mm. (Armschwingen 50, Flügel 59,5 mm.). Aufenthaltsort: Anlagen der Stadt und Mangrove, sehr selten im offenen Wald (Chisholm, *Emu*, 17, 1908, p. 150 ff.). Bruten im Dezember und Juni festgestellt.

Bemerkung: Mathews beschreibt seine Subspezies, weil Weatherill für *cantatrix* 3,5 mm. weniger Flügellänge angibt und zwar anscheinend für ein Stück ohne Geschlechtsbestimmung. Doch hatte Mathews ein ♀ mit dem gleichen niedrigen Mass von 56 mm. vor sich. Die beiden typischen Lokalitäten sind wenige km. voneinander entfernt.——M. E. ist Mathews auf dem richtigen Wege gewesen, als er 1912 diese Form als Rasse von *laevigaster* auffasste. Bei der unberechtigten Aufspaltung dieser Art in den *Birds of Australia* musste *cantatrix* natürlich auch abgeteilt werden. Die Aufstellung einer besonderen Gruppe für diese Form würde sich sogar erübrigen, wenn sie nicht so weit von den nächstähnlichen Rassen entfernt wohnte. Sie ist der einzige Vertreter dieses Formenkreises an der Ostküste Australiens.

Das von den australischen Gruppen vorliegende Material fordert mit aller Bestimmtheit die Anerkennung von wenigstens 4 Rassen: *G. f. fusca, G. f. mastersi, G. f. laevigaster, G. f. cantatrix.* Die übrigen 3 hier anerkannten Formen bedürfen einer Nachprüfung. *Mungi* und *broomei* würden in die Synomymie von *mastersi, exsul* in die von *fusca* zu stellen sein. Dabei wäre die Unterbringung von *berneyi, musgravi* und die des mehrfach erwähnten Stückes von Normanton ev. zu ändern.

(*d*) pallida-Gruppe.

Gerygone fusca pallida Finsch (Taf. VII. fig. VI).

Gerygone pallida Finsch, ex Temminck MS. ("*Acanthiza pallida*"), *Notes Leyden Museum* 20, p. 134 (1898—West-Neuguinea, Lobobai).

Pseudogerygone sp. inc. Ogilvie-Grant, *Ibis*, 1915, *Jubilee Suppl.* p. 170. Mündung des Mimika-Flusses.

Kennzeichen: Im Alterskleide unbekannte Form. Wie *G. f. laevigaster*, mit derselben Schwanzzeichnung (Mr. N. B. Kinnear sandte freundlicherweise eine Skizze). Unterseite blasser ("pale sandy brown" gegen olivenbraun) (?, da bei dem Jungen in London die Oberseite etwas dunkler als bei Jungen der meist sehr blassen *G. f. broomei* sind, Kinnear in litt.), ohne (so deutlich ?) weissen Zügel- und Superziliarstreifen. Von *inornata* durch blassere Oberseite und dadurch unterschieden, dass der weisse Spitzenfleck an der äussersten Schwanzfeder nicht auf die Aussenfahne übergreift.

Material: Mr. N. B. Kinnear verglich in London juv. von *G. f. broomei* und andere Stücke mit dem ♀ juv. vom Mimika-Fluss. Dieses Stück hat etwas mehr gelblich grüne Stirn, Kopfseite und Unterseite, als es nach Finschs Beschreibung haben dürfte (Kinnear in litt.).

Verbreitung: Westen der Ebene von Süd-Neuguinea (von der Lobobai bis zum Mimika-Fluss).

Masse: 2 Exemplare bekannt, der Typus in Leyden, wegen des gelben

Augenringes und der weisslichen Unterseite wohl ein Stück im 1. Jahreskleid, misst nach Finsch ♂ Flügel 54 mm., Schwanz 38 mm. (Index 70,5), Tarsus 18, Culmen 8 mm. Das Stück in London misst nach freundlicher Mitteilung von Kinnear ♀ juv. Flügel 53, Schwanz 37 mm. (Index 69,8), Culmen 10 mm. (die Verschiedenheit gegenüber dem anderen Stücke dürfte auf die Methodik des Messens zurückgehen), 2. Schwinge = 8.–9., Armschwingen : 2. Schwinge : Fittich = 44 : 46 : 53 mm.

Bemerkung : Seit Finsch's Beschreibung erschien, hat sich m. W. keiner wieder mit der vorliegenden Art befasst. Es war mir schon aus der Beschreibung klar geworden, dass es sich um einen Angehörigen dieses Formenkreises handeln müsse, der nahe bei *laevigaster* steht, die Masse passen auch ganz ausgezeichnet auf diesen Formenkreis.

(*c*) INORNATA-GRUPPE.

Kennzeichen : Von der *laevigaster-* und *fusca*-Gruppe durch Fehlen des weissen Augenringes, der schwarzbraunen Flecken vor und hinter dem Auge, gewöhnlich auch des weissen Superziliarstreifens und Stirnflecks, ferner durch Vorhandensein eines versteckten bräunlichen Flecks an den Brustseiten und durch schärfere Begrenzung des Weiss der Kehle gegen Ohrdecken und Wangen im frischem Gefieder unterschieden. Schwanzzeichnung wie bei *broomei*, d.h. die weisse Zeichnung an der Spitze der äussersten Schwanzfeder stets auf beide Fahnen ausgedehnt, aber weisse Binde an der Schwanzbasis teils vorhanden, teils fehlend.

Verbreitung : Timor, Savu, Wetter.

9. **Gerygone fusca inornata** Wallace (Taf. V. fig. XI*e*, Taf. VII. fig. 7*a*, *b*).

Gerygone inornata Wallace, *Proc. Zool. Soc.* (*London*), 1863, p. 490 (April 1864—Timor. Typen aus dem Gebiet von Koepang). Cotypus in Berlin, verglichen.

Gerygone (s. *Acanthiza*) *tyrannuloides* Finsch, ex S. Müller MS., *Notes Leyden Museum* 20, 1898, p. 133—nomen nudum.

Acanthiza brachyoptera Finsch, ex Temminck MS., *Notes Leyden Museum* 20, 1898, p. 134—nomen nudum.

Abbildung : *Catalogue Birds British Mus.* 4, 1879, Taf. 5, Fig. 1.

Kennzeichen : Wie die der Gruppe. Sehr gute Form. Oberkopf, Rücken, Bürzel, Oberschwanzdecken graubraun (etwa Saccardo's Umber, Ridgway, Taf. 29), auf dem Oberkopf teils dunkler und weniger oliven (in frischem Gefieder), teils gleichfarbig, teils heller (Drab, Taf. 46) in individueller Variation, die auch bei der Schwanzzeichnung beträchtlich ist. Schwarzbraunes, etwa 8–10 mm. breites und 10 mm. von der Spitze entferntes Band auf der äussersten Schwanzfeder teils scharf, teils undeutlich begrenzt, der weisse Spitzenfleck auf der Innenfahne 7–9 mm. breit, weisse Basisbinde, wenn vorhanden, 3–6 mm. breit, auch in frischem Gefieder manchmal nur durch eine schwache Aufhellung angedeutet. Flügeldecken mit der Farbe des Rückens, Schwingen schmal weisslich gerandet. An der Schnabelbasis bei 2 Stücken in frischem Gefieder ein kleiner weisslicher Stirnseitenfleck, der bei den Stücken in abgetragenem Gefieder fehlt. Untere Wangenpartie und ganze Unterseite, Unterschwanzdecken, Unterflügeldecken, Axillaren weiss, schwach grau und an den hinteren Körperseiten gelblich getönt. An den oberen Brustseiten ein blassbräunlicher Fleck jederseits, der durch Streichen der Federn ziemlich weit auf die Brust hinauf gelegt werden

kann, wobei je nach Präparation ein Zwischenraum von 7–10 mm. in der Brustmitte weiss bleibt.

juv. Mit den Merkmalen des juv. von *fusca*, auch mit gelbem Augenring.

Material: 15 Stück (2 Berlin, 11 München, 2 Dresden).

Verbreitung: Timor (Koepang, Atapupu, Lelogama, Bonleo, Timau), in der Ebene und im Gebirge (1,200 m. Höhe).

Masse: Flügel 50–58 mm., ♂ 52, 53, 55, 57, 58[2], juv. 51, ♀ 51[2], 53, 54, o juv. 50, o ad. (Cotypus) 54; Schwanz 40, 42,5, —, 40[2], 41, —, 36, 38, 39, 36, 36,5 mm., Stufung 3–6 mm. (Index 66,7, 69,0[2], 70,2, 71,3, 71,7, 72,2, 73,0, 76,9, 80,2, 80,4). Tarsus 17–19, Culmen 9–10 mm. lang, 3 mm. breit. 1. Schwinge 16–19 mm., 2. Schwinge = 8. (1 mal), 8.–9. (3 mal), 9. (1 mal), 9.–10. (1 mal), < 10. (1 mal). Armschwingen: 2. Schwinge: Flügel = 49 : 52,5 : 58,46 : 46,5 : 53 mm.

Bemerkung: Die ausserordentliche Variationsbreite der sonst so konstanten Schwanzflügelverhältnisse, der Länge der 2. Schwinge wie auch anderer Masse und der Schwanzzeichnung ist sehr auffällig, zumal ich mausernde und sehr abgetragene Federn nicht berücksichtigt habe.

10. Gerygone fusca everetti Hartert.

Gerygone everetti Hartert, *Nov. Zool.* 4, p. 267 (1897—Savu und Timor, t.t. restr. Savu s. Hartert, *Nov. Zool.* 27, 1920, p. 494). Typus in Tring.

Kennzeichen: Schwache Form. Wie *inornata*, aber mit verwaschenem, hellgrauem Superziliarstreifen, Schwingen im Durchschnitt kürzer, Schnabel i. allg. schlanker und länger, Tarsus länger.

juv. Unterkörper schmutzig zitronengelb, schmaler Augenring und Zügel blassgelblich übertönt, Stirn vorn etwas grünlicher.

Material: 3 Stück (1 Budapest, 2 Dresden).

Verbreitung: Savu westl. von Timor.

Masse: Flügel ♀ 48,5, 50, ♂ juv. 50, Schwanz 35, 38, 40, Stufung 4–6 mm. (Index 72,2, 76,4, 80,0). Tarsus 20–22, Culmen 10–10,5 mm. Nach Hartert messen 4 Stück am Flügel 50–53 mm. 1. Schwinge 15–17,5 mm., 2. Schwinge = 9–10., = 10., < 10., Armschwingen: 2. Schwinge: Flügel = 44 : 45 : 50, 41 : 42 : 48,5 mm.

11. Gerygone fusca wetterensis Finsch.

Gerygone wetterensis Finsch, *Notes Leyden Museum* 20, p. 132 (1898—Wetter). Typus in Leyden. Abbildung: *Notes Leyden Mus.* 22, 1901, Taf. 4, Fig. 2.

Kennzeichen: Schwaehe Form. Wie *inornata*, aber wohl im Durchschnitt kleiner, gleich *everetti* mit meist schlankerem und längerem Schnabel, ferner mit schwachem rostgelblichen Anflug auf den Körperseiten hinter den beiden bräunlichen Stellen an den oberen Brustseiten. Steuerfedern ebenso gezeichnet, aber weisse Binde nicht so breit (an der äussersten Feder 6–8 mm.) und Basisbinde fehlend.

Material: 4 Stück (Tring).

Verbreitung: Wetter.

Masse: Flügel ♂ 51,5[2], ♀ 51, Schwanz 39[2], 40, 39,5 mm. (Index 75,7–77,7). Tarsus 20, Mittelzehe o. Kr. 8, Culmen 9–9,5 mm.

Bemerkung: Finsch vergleicht bei der Urbeschreibung die Schwanzzeichnung mit der von *pallida* Finsch. Sie sollen fast gleich sein, d.h. bei dem Typus von *wetterensis*, einem juv. mit gelblichweisser Zügel- und Augenringzeichnung

und ebensolchen vorderen Wangen wäre der weisse Fleck der äussersten Schwanzfeder auf die Innenfahne beschränkt.

(*f*) DORSALIS-GRUPPE.

Kennzeichen: Von der *inornata*-Gruppe durch rostbraunen, weniger graubraunen Rücken, braun getönte Brustseiten und Flanken sowie starke, ja fast völlige Reduktion der weissen Zeichnung des Schwanzes unterschieden.

juv. Rücken, Flanken- und Brustseiten etwas blasser braun, Unterkörper, Augenring und Supraloralstreifen gelb oder gelblich. Stirn ganz vorn oft gelblich getönt.

Die Jungen der einzelnen Rassen sind nach den Merkmalen für ausgefärbte Tiere zu unterscheiden.

1. J.-Kl. wahrscheinlich mit dunklem Schnabel und ohne Gelb an Kopf, Kehle und Oberbrust, sonst wie juv.

Verbreitung: Kalao tua, Madu und Inseln zwischen Wetter, Timor einerseits, den Aru-Inseln und Neuguinea andererseits.

12. **Gerygone fusca fulvescens** A. B. Meyer (Taf. VII. fig. 8).

Gerygone fulvescens A. B. Meyer, *Abh. Ges. Isis*, 1884, p. 27 (1884—Babar). Typus in Dresden, verglichen.

Gerygone kisserensis Finsch, *Notes Leyden Museum* 20, p. 133 (1898—Kisar). Typus in Leyden. Abbildung: *Notes Leyden Museum* 22, 1901, Taf. 4, Fig. 1.

Kennzeichen: Sehr gute Form. Wie *inornata*, aber Oberkörper einschliesslich Oberschwanzdecken viel brauner, weniger grau, Oberkopf nur wenig brauner, mit blassgrauem Oberaugen- und Zügelstreifen wie *everetti*, Schnabel länger, so lang wie bei *everetti*, ohne deutlich weisse Schwanzzeichnungen, Schwanz mit weisslichen, auf die Innenfahne aller ausser den beiden mittelsten Federn beschränkten Subapikalflecken (etwa 4 mm. lang und 3 mm. von der Spitze entfernt) und einer verwaschenen schwarzbraunen Binde basalwärts davon. Unterflügeldecken, Brustseiten und Weichen rostbraun. Axillaren und Flügelbug blass gelblich rahmfarben.

Material: 8 Stück (7 Tring, 1 Dresden).

Verbreitung: Kisar, Moa, Babar, Sermata, Letti (Südwest-Inseln, zwischen Timor und Timorlaut).

Masse: Babar Flügel "♀" 55 mm., ♂ 1. J.-Kl. 51 mm., Kisar ♂ 56 mm., ♀ 52,5, 54, ♂ juv. 53, Letti ♂ ad. 55, ♀ juv. 51 mm.; Schwanz —, 39, 42, 39, 41, 40,5, 40, 37 + x; Stufung 4–5 mm. (Index 72,7–76,5). 1. Schwinge 16 mm., 2. Schwinge = 8.–9., 9.–10. (zweimal), 10. und < 10., Armschwingen: 2. Schwinge: Flügel = 47 : 49 : 55,48 : 47 : 56 mm.

Zur Systematik dieser Form vergl. Hartert, NOV. ZOOL. 11, 1904, p. 205; 13, 1906, p. 297; 18, 1911, p. 165; Hellmayr, *Avifauna v. Timor*, 1912, p. 26.

13. **Gerygone fusca sequens** Hartert.

Gerygone kisserensis sequens Hartert, *Nov. Zool.* 11, p. 205 (1904—Roma). Typus in Tring, Paratypen verglichen.

Kennzeichen: Gute Form. Wie *fulvescens*, aber Oberkörper und Oberflügeldecken rötlicher braun (Brussel's Brown, Ridgway, Taf. 3), besonders auf den Oberschwanzdecken, Oberkopf dunkler graubraun, sich also schärfer vom Rücken abhebend.

Material: 5 Stück (3 Tring, 1 Dresden, 1 Berlin).

Verbreitung: Roma.

Masse: Flügel 52–55 mm., ♂ 55, ♀ 53, 55, o 53, ♂ juv. 52; Schwanz 40[2], 40,5, 38, —; Stufung 5 mm. (Index 71,7–75,5). Tarsus 20, Culmen 10,5 mm., 1. Schwinge 20 mm., 2. Schwinge wenig < 8. = 49,5 mm., Armschwingen etwa 47 mm.

14. Gerygone fusca senex Meise (Taf. V. fig. XI*f*).

Gerygone inornata senex Meise, *Journ. Ornith.* 77, p. 450 (1929—Kalao tua zwischen Celebes und Flores). Typus in Berlin, verglichen.

Kennzeichen: Schwache Form. Wie *sequens*, aber Oberkopf noch dunkler und grauer, Rücken weniger rötlich braun, reiner braun (zwischen Cinnamon und Dresden Brown, Taf. 15). Brustseiten und Flanken weniger rötlich braun, dunkler und brauner.

juv. Stirnrand und Zügel etwas gelblich getönt, Unterkörper blassgelb (Amber Yellow, Taf. 16).

Material: 26 Stück (z. T. in Berlin, z. T. jetzt in New York).

Verbreitung: Kalao tua und Madu (zwischen Celebes und Flores).

Masse[1]: 26 Stück, Sammlung v. Plessen: Kalao tua 9 ♂♂ ad. 7.7.–13.6., 5 ♀♀ ad. 7.5.–8.6., 1 o ad. 2.5., 6 ♂♂ juv. 2.5.–5.5., 2 ♀ juv. 6.5.–19.5., 1 ♀ ? juv. 5.5.——Madu: 2 ♂♂ ad. 27. und 31,5.1927. Flügel: ♂ 54, 53[3], 56[6] (und 1 in Mauser), o 56, ♀ 53, 55[3], 56[2], ♂ juv. 54[5], 56, ♀ juv. 52, 53, ♀ ? juv. 54 (davon im ganzen 6 in Mauser); Schwanz ♂ 40, 41[4], 42[2], 42,5, 44, 42[2], 43, 44, 40[5], 41, 39, 40, 41 (und 3 in Mauser); Stufung 5 mm. (1 Mass) (Index 71,4–78,6). Tarsus 22, Culmen 11 mm. lang, 3,8 mm. breit.

15. Gerygone fusca kühni Hartert.

Gerygone kühni Hartert, *Nov. Zool.* 7, p. 15 (1900—Damar). Typus in Tring, verglichen.

Kennzeichen: Gute Form. Wie *sequens*, aber Brustseiten und Weichen intensiver rostbraun gefärbt (etwa Ochraceous Tawny, Taf. 15). Schwanz wie bei *fulvescens* und den anderen Rassen, aber die Basis wieder heller, so dass sich die schwarze Binde mehr abhebt.

Material: 10 Stück (8 Tring, 1 Berlin, 1 Dresden).

Verbreitung: Damar (Wuhler und Kuweij).

Masse: Flügel 51–56, ♂ 53[3], 54, 55[2], 56, ♂ juv. 51, ♂♀ 1. J.-Kl. 51, 54; Schwanz 39, 41, 41,5, 43[2], 44, 46,5, 40, 39, 42,5; Stufung 6,5–9 mm. (Index 76,5–83,0). Tarsus 20–21, Culmen 10–11 mm. 1. Schwinge 19 mm., 2. Schwinge = 8.–9. (wenige Male = 9.–10.–), Armschwingen: 2. Schwinge: Flügel = 48: 49: 56 mm.

16. Gerygone fusca keyensis Büttikofer (Taf. VII. fig. 10).

Pseudogerygone keyensis Büttikofer, *Notes Leyden Museum* 15, p. 258 (1893—Kleine Kei-Inseln). Typus in Leyden.

Kennzeichen: Nach Vergleich junger Tiere: Schwache Form. Wie *fulvescens*, aber grösser (nach Harterts Massen), Schwanzspitze kaum weisslich, nur schwach aufgehellt, Weichen vielleicht etwas lebhafter rotbraun, doch nicht so sehr wie bei *kühni*. Schnabel im allgemeinen kürzer.

Material: 3 Stück (2 Tring, 1 Dresden).

[1] Als Nachtrag zur Bearbeitung der Sammlung v. Plessens in *Journ. Ornith.* 77, 1929, p. 451.

Verbreitung: Kleine Kei-Inseln (Soa, Eer, Kilsoein, Komeer, Tiandoe, Manggoer-Inseln, Taam).

Masse: Flügel 53–54,5 mm., ♂ 1. J.-Kl. 53 mm.; juv. ♂ 54, 54,5; Schwanz 38², 40; Stufung 5 mm. (Index 70,4–73,4). Tarsus 20, Culmen 10 mm. 1. Schwinge 18 mm., 2. Schwinge = 8.–9., Armschwingen: 2. Schwinge: Flügel = 47 : 50 : 54,5 mm. (Nach Hartert, Nov. Zool. 10, 1903, p. 244, Flügel ♀ 54, ♂ 59–60,5 mm. lang).

17. **Gerygone fusca dorsalis** Sclater (Taf. VII. fig. 9).

Gerygone dorsalis Sclater, *Proc. Zool. Soc.* 1883, p. 199 (1.8.1883—Tenimber). Typus in London
Abbildung: Gould, *Birds New Guinea*, Pt. 16 (= Bd. 2, Taf. 11), 1884.

Kennzeichen: Gute Form. Wie *kühni*, aber Oberkörper und Oberflügeldecken viel heller und rötlicher, lebhaft zimtbraun (Sudan Brown, Taf. 3), am lebhaftesten auf den Oberschwanzdecken, Oberkopf etwas heller olivenbraun (Olive Brown, Taf. 40). Brustseiten und Weichen nicht so ausgedehnt rotbraun getönt (etwa Ochraceous Tawny, Taf. 15, etwas heller und gelblicher als bei *kühni*). Weissliche Flecken auf den Schwanzfedern nicht so auffällig und wenigerausgedehnt.

juv. mir unbekannt.

Material: 3 Stück (1 Tring, 2 Dresden).

Verbreitung: Tenimber-Inseln (Larat, Loetoe, Moloe, Yamdena, Selaru).

Masse: Flügel 51,5–56 mm., ♂ 51,5, ♀ 56, o 52,3; Schwanz —, 40, 37; Stufung 4–5 mm. (Index 70,5–71,4). Tarsus 20, Culmen 10 mm. lang, 3,5 mm. breit. 1. Schwinge = 17,2. = 9.–10., Armschwingen: 2. Schwinge: Flügel = 47 : 49 : 56 mm.

(*g*) SULPHUREA-GRUPPE.

Kennzeichen: Unterscheidet sich von allen Gruppen durch die Beibehaltung der gelben oder gelblichen Unterseite im Alters-Kleid, von der *inornata*-, *fusca*- und *pallida*-Gruppe durch die Reduktion der weissen Schwanzzeichnung zu einem weissen oder weisslichen Fleck nahe der Spitze der Innenfahne der äussersten Schwanzfeder und zu entsprechend weniger weissen Zeichen an den übrigen Steuerfedern, von der *laevigaster*-, *fusca*-, und *cantatrix*-Gruppe durch die Reduktion der weissen Supraloral- und Superziliarstreifen, wenigstens im Alterskleide (ein weisslicher Augenring und weissliche Zügel sind häufig undeutlich feststellbar), von der *fulvescens*-Gruppe durch viel graueren, weniger braunen Oberkörper, von der *cantatrix*-Gruppe durch geringere Grösse. Das Jugendkleid aller Gruppen lässt sich von dem der *sulphurea*-Gruppe fast immer nach denselben Merkmalen trennen, nur beim Vergleich mit *f. laevigaster* gilt es zu bedenken, dass der gelbe Ton bei den jungen Australiern nur selten mit dem besonders blasser *sulphurea*-Exemplare übereinstimmt, dass diese also meist intensiver gelb gefärbt sind. Dass die gelbe Kopfzeichnung bei jungen *sulphurea* zurückträte gegenüber der bei jungen *laevigaster*, kann ich nach den 4 Jungen (z. T. wohl 1. Jahreskleid) der *sulphurea*-Gruppe, die mir zu Gesicht gekommen sind, nicht bestimmt sagen. Das Celebes-Junge hat aber grünliche Ohrdecken, und die Jungen von *G. f. sulphurea* dürften sich durch Reduktion der gelben Zügelzeichnung, weniger gelbe Stirn und intensiver gelbe Kehle unterscheiden.

Schwanzstufung 0–2, selten 3 mm.

Verbreitung: Von Südwest-Siam (11° 50′ N.) über die Malakka-Halbinsel und die Kette der Sunda-Inseln bis Alor, ferner auf Borneo, den Philippinen, Celebes und Saleyer.

18. **Gerygone fusca sulphurea** Wallace (Taf. V. fig. XI *g*1, Taf. VII. fig. 11*a*, *b*).

Gerygone sulphurea Wallace, *Proc. Zool. Soc. (London)*, 1863, p. 490 (April 1864—Solor). Je ein Cotypus in Berlin und London, ersteren verglichen.

Gerygone modesta Cabanis, *Journ. Ornith.* 14, p. 10 (1866—Luzon), nomen nudum.

Gerygone simplex Cabanis, *Journ. Ornith.* 20, p. 316 (1872—Luzon, Philippinen). Typen in Berlin, verglichen.

Gerygone modiglianii Salvadori, *Ann. Mus. Genova* (2) XII. 1891, p. 52 (1893—Balige und Si Rambé, südl. Nord-Sumatra). Cotypen in Genua, einen aus Tring (Salvad. Nr. d.) verglichen.

Gerygone pectoralis Davison, *Ibis*, 1892, p. 99 (1892—nahe der Mündung des Pahang, Ostküste der Malakka-Halbinsel). Typus in Singapore ?

Acanthiza tenkatei Büttikofer, *Notes Leyden Museum* 14, p. 195 (1892—Flores). Typus in Leyden.

Gerygone salvadorii Büttikofer, *Notes Leyden Museum* 15, p. 175 (1893—Borneo). Schwaner leg., S. Borneo, Typus in Leyden.

Gerygone rhizophorae Mearns, *Proc. Biol. Soc. Washington* 18, p. 7 (1905—Zamboanga auf Mindanao, Philippinen). Typus in Washington.

Gerygone modiglianii jacobsoni v. Oort, *Notes Leyden Museum* 31. p. 207 (1909—Moeara Karang-Inseln bei Batavia, Java). Typus in Leyden, Cotypus verglichen.

Gerygone modiglianii muscicapa Oberholser, *Smithsonian Misc. Coll.* 60, Nr. 7, p. 11 (1912—Insel Engano, westl. v. Sumatra). Typus in Washington.

Gerygone griseus Gyldenstolpe, *Ornith. Monatsber.* 24, p. 27 (1916—Koh Lak = Prachuap Kirikan, Südwest-Siam, 11° 50′ N.). Typus in Stockholm, Topotypen verglichen.

Gerygone sulphurea plesseni Stresemann, *Ornith. Monatsber.* 34, p. 22 (1926—Nordwest-Bali). Typus in Berlin, verglichen.

Abbildung: *Kongl. Sv. Vet.-Akad. Handl.* 56, No. 2, 1916, Taf. II, Fig. 2 (“*griseus*”).

Kennzeichen: Sehr gute Form. Mit den Charakteren der Gruppe. Oberkörper olivenbraun, mehr oder weniger mit Grau getönt (Brownish Olive, Ridgway, Taf. 30, Buffy Brown, Taf. 40, Drab. Taf. 46), sowie heller und dunkler als diese Farben. Oberkopf häufig, besonders in abgetragenem Gefieder, wesentlich heller als der Rücken, häufig grauer und dunkler. Zusammengelegter Flügel wie der Rücken, Handschwingen mit ganz schmalen weisslichem Säumen. Schwanz graubraun, äusserste Schwanzfeder auf der Innenfahne mit weisslichem Subapikalfleck (innen 2, am Aussenrande etwa 5 mm. breit), den nach der Basis eine schwarzbraune Binde begrenzt (auf der äussersten Feder etwa 10 mm. breit, auf den innern allmählich versehmälert). Ein Fleck jederseits an der Basis des Oberschnabels weisslich. Ebensolcher Augenring, Superziliarstreifen und Supraloralstreifen oft nicht wahrnehmbar, oft vorhanden. Kopfseiten wie Oberkopf. Grenze zwischen dem Graubraun der Ohrdecken und Wangen und dem Gelb der Kehle scharf. Unterkörper schwefelgelb, teils blass, teils intensiv (Pinard Yellow, Taf. 4, zwischen Amber und Citrine Yellow, Taf. 16 und blasser). Obere Brustseiten mit einem bräunlichen Fleck, der leicht unter die Flügel, aber auch so weit auf die Brust gestrichen werden kann, dass in der Brustmitte ein freier gelber Raum von etwa 7–10 mm. Breite bleibt. Unterschwanzdecken, Unterflügeldecken, Axillaren und Flügelbug gelblich weiss. Schwingen von unten mit schmalen, blass weinfarbenen bis weisslichen Innensäumen.

juv. mit gelblichem Augenring (1 Stück Gunong Tahan, 1 Stück S.W. Siam). Basis des Unterschnabels hell hornfarben. Sonst kein durchgängiger Farbunterschied.

Material: 25 Stück (10 Singapore, 1 Leyden, 3 Tring, 10 Berlin, 1 Dresden).

Verbreitung: Alor (Rensch, *Journ. f. Ornith.* 77, Erg.-Bd. 2, 1929, p. 203), Solor, Flores, Bali, kleine Inseln bei Batavia (Java), Sumatra (Batak-Gebiet im Norden und Korintji im südlichen Westen), Banka (U.S. Nat. Mus., Riley in litt.), Engano (westlich des südlichen Sumatra), Malakka-Halbinsel nordwärts bis 11° 50′ N. (Südwestlichstes Siam) und zwar an der Ostseite Pahang-Gebiet und Koh Lak (Siam), im Westen Perak (Taiping, Matang, Trang, Bagan Datoh), Pulau Panjang Anak (kleine Insel bei Junk Seylon = Salanga), im Innern Gunong Tahan (700–1,700 m. hoch), Süd-Borneo, Pulo Raboe Raboe und Pulo Samama (zwei Inseln östl. von N.O. Borneo), Philippinen (Lubang, Luzon, Mindoro, Tataan, Verde, Mindanao, Sulu, Tawi Tawi, Bongao). Aufenthaltsort: Im Gebirge (780, 1,500 m. Sumatra, Alor 1,200 m.) und im Tiefland, in Malakka in oder bei Mangrove sowie im Gebirge, auf einigen Inseln fehlend.

Masse: Flügel 47–54 mm., ♀ 47–50 (8 Exemplare), 52 n. Gyldenstolpe für den Typus von "*griseus*," ♂ 51–53, 54, (13 Exemplare), 50 mm. für den Typus von "*salvadorii*" nach Büttikofer. Nach Salvadori für die Typen von "*modiglianii*," o Flügel 48, Schwanz 33 (4 Stück), Schwanz 31–38,5 mm. (22 Stück), (Index 65,0–72,6 (22)). Tarsus 16,5–17,5, Culmen 7,5–9 mm. lang, 3–4 mm. breit. 1. Schwinge 15–17 mm., 2. Schwinge = 8.–9., bei dem Typus von *sulphurea* 2. > 8., bei den meisten von der Malakka-Halbinsel, Siam und einem von Luzon 2. = 9.–10., Armschwingen: 2. Schwinge: Flügel = 45 : 47,5 : 52 (Java), 41 : 43 : 47,5 (Taiping), 45 : 47 : 52 (Luzon), 40 : 43 : 48 (Solor), 43 : 44 : 52 (Flores). Die Flügelmasse seien geographisch geordnet wiedergegeben, in runden Klammern Masse aus der Literatur, in eckigen von J. H. Riley brieflich mitgeteilte: ♂ Alor 52, Flores 51, 52, Java 52 (53), Sumatra 52, 53 (54), Engano [53,5], Malakka 51, 51,5, Siam 51,5, 52, Borneo (50) [50,5, 51, 52,5], Philippinen 51, 52 (51 i. D. bei 5 ♂♂ nach Bourns & Worcester s. Maegregor) [50,5, 52,5].—— ♀ Flores 47, 48, Bali 48,5, Java (49), Engano [49, 49,5], Malakka 47,5, 48, 48,5, 49, Siam 50 (52), Borneo [48,5, 49,5], Philippinen (52 i. D. bei 5 Stück nach Maegregor).—o Solor 48, Siam 53, Luzon 51, 52, Mindanao, Sulu, Tawi Tawi [48², 49², 51², 54 letzteres wohl ♂?].

Bemerkung: Viele der oben zitierten Beschreibungen wurden ohne Vergleich mit anderen Populationen dieser Rasse verfasst. "*Simplex*" und "*tenkatei*" waren mit *inornata*, "*modiglianii*" und "*salvadorii*" mit *flaveola* verglichen worden, "*pectoralis*," "*muscicapa*," "*jacobsoni*," "*griseus*," "*plesseni*," "*rhizophorae*" zwar mit Stücken von nahe benachbarten Orten, aber unter zu starker Wertschätzung ihrer (individuellen) Abweichung. Wenn man die grosse Variabilität in der Färbung, der Schnabelgrösse und -gestalt sowie der Schwingenformel bei der Flores- und der Malakka-Serie kennt, muss man nach dem vorhandenen Material alle genannten Rassen zusammenfassen. *Tenkatei* wurde nach einem Spiritus-Exemplar ohne Gelb beschrieben, *plesseni* nach einem jungen Stück mit merkwürdig rötlich gelber Brustmitte, das ich für eine individuelle Variation halten möchte (alle anderen Unterschiede gegenüber *sulphurea* bestehen nicht). *Jacobsoni* wurde zwar von Salvadori-van Oort für etwas abweichend von *modiglianii* erklärt, aber die Unterschiede, die hellere Oberseite und der grosse weissliche Zügelfleck, sind Merkmale eines äusserst abgetragenen Kleides (die Typen scheinen alle im November erlegt worden zu sein). 2 Stücke aus Sumatra und 10 aus dem Gebiet der Halbinsel von Malakka sind teils von Hartert, teils von Robinson & Kloss ausführlich besprochen worden (*Nov. Zool.* 9, 1902, p. 552; *Journal F.M.S.*

Mus. 8, pt. 2, 1918, p. 161 f.; *Ibis*, 1918, p. 591 f.; *Journal Nat. Hist. Soc. Siam*, 1924, p. 235). Während Hartert *pectoralis* einzieht, möchten die beiden letztgenannten Autoren eine Ebenen- (Seeküsten-) Form *pectoralis* anerkennen, die evtl. Wanderung nach Java ausführt und eine Gebirgsform *modiglianii*, die ausser in Sumatra auch auf den Gebirgen der Halbinsel Malakka leben soll (z. B. auf dem Gunong Tahan). Brieflich teilt mir Mr. C. Boden Kloss jetzt freundlicherweise mit, dass er eine lokale Wanderung dieser Tiere für wahrscheinlich hält, da sie entweder auf den Bergen oder an der Küste getroffen werden. Das mag sein und befürwortet die Vereinigung der Halbinsel-Formen, zumal *griseus* von Gyldenstolpe selbst in die Synonymie verwiesen wurde (*Ark. f. Zool.* 19A, Nr. 1, p. 63, 1926). Die Serie unterscheidet sich jedenfalls nicht von der aus Flores. Die Inselrasse Oberholsers, *muscicapa*, wurde ohne Masse beschrieben, und nach den Unterlagen, die mir Mr. J. H. Riley freundlicherweise durch Vergleich und Messen der Typen gab, ist sie wahrscheinlich synonym (s.a. Robinson & Kloss, *Journ. F.M.S. Mus.* 8, Pt. 2, p. 161 f., 1918). Ausser von ihrem Herkunftsort habe ich von dem zweier weiterer Rassen kein Material gehabt, aus Borneo und von den südlichen Inseln der Philippinen. Doch erhielt ich von diesem Material Auskunft durch Mr. Riley, der Stücke von kleinen Inseln nordöstl. von Borneo für übereinstimmend mit Büttikofers Beschreibung erklärt (*Proc. U.S. Nat. Mus.* 77, art. 12, p. 16, 1930). Die Borneo-Rasse habe ich danach in die Synonymie stellen können, da Büttikofers Hauptmerkmal, die auffällig olivenbraunen Seiten der Brust, nicht anders als bei *simplex* ausgeprägt ist. Die übrigen Kennzeichen, auch das Fehlen des weissen Zügelflecks, halte ich nicht für wichtig. Mearns, der bei der Beschreibung von *rhizophorae* aus Zamboanga einen Vergleich mit *salvadorii* ausführt, hat anscheinend kein Stück dieser Rasse in Händen gehabt, da auch er von einer Verschiedenheit des gelben Tons nichts weiss, seine neue Rasse (7 Stück lagen vor!) aber nach Maegregor (*Manual Philippine Birds*, Vol. 2, p. 447, 1909), der 1 ♀ von Zamboanga hatte, nur durch einen etwas dunkleren Scheitel von *simplex* (Nord-Philippinen) abweichen soll. Das bedeutet mit ziemlicher Sicherheit die Unhaltbarkeit der Mearns'schen Form, die auch die mir brieflich gemachten Ausführungen Rileys nicht sützen können. Nun unterscheidet sich aber *simplex* nach dem mir vorliegenden Material in keiner Weise von *sulphurea*, und darum halte ich es für wahrscheinlich, dass die zwischen den Philippinen und Sumatra in Borneo lebenden Tiere keine besondere Rasse darstellen. Das mir vorliegende und wohl auch das in Museen überhaupt vorhandene Material zwingen m. E. zu dem eben vertretenen Schluss,[1] womit aber nicht auf einen späteren Vergleich von Stücken in frischem Gefieder von den verschiedenen Inseln verzichtet sein soll.

19. **Gerygone fusca flaveola** Cabanis (Taf. V. fig. XI*g*2, Taf. VII. fig. 12).

Gerygone flaveola Cabanis, *Journ. Ornith.* 21, p. 157 (1873—Makassar). Typus in Berlin, verglichen. Abbildung: *Cat. Birds British Mus.* 4, 1879, Taf. 5, Fig. 2.

Kennzeichen: Sehr gute Form. Von *sulphurea* durch die starke Reduktion der weissen Schwanzzeichnung unterschieden: An der äussersten Schwanzfeder ist der weisse Fleck nur etwa 3 mm. breit und erstreckt sich kaum über die Hälfte der Innenfahne hinaus, während er bei *sulphurea* fast bis an den Schaft

[1] Supraloralstreif nach dem Material des U.S. Nat. Museums (Riley in litt.) vorhanden bei *simplex*, *rhizophorae* und *muscicapa*, fehlt bei *salvadorii* und *modiglianii*. Ich habe von Malakka Stücke mit und ohne diesen Streifen und lege ihm keine grosse Bedeutung bei.

reicht und an der Federkante etwa 4–5 mm. breit ist. Das Gelb der Unterseite ist viel intensiver im Ton und etwas nach Orange verschoben (zwischen Lemon Chrome und Lemon Yellow, Taf. 4). Unterschwanzdecken und manchmal der Bauch durch ihre gelblichweisse bis fast rein weisse Färbung mehr von der Brust abgehoben. Flügelbug intensiver gelb. Wangen und Ohrdecken auffällig mit Gelb getönt, im ganzen etwa olivengrün wirkend. Weisser Ring um das Auge und weisslicher Zügelstreifen manchmal deutlich, manchmal (nicht nur als Folge von Präparation) nicht wahrnehmbar. Im Durchschnitt grösser als *sulphurea*.

juv. mit gelbem Augenring, gelblichgrauem Zügel und grünlicher Stirn. Basis des Unterschnabels hell hornfarben.

Material: 21 Stück (9 Berlin, 8 Tring, 4 Dresden).

Verbreitung: Celebes (Makassar, Indrulaman, Bonthain Peak, Latimodjong) (800–1,600 m. hoch), Koelawi, Rano Rano (1,800 m.), Dongala, Tawaya, Kwandang, Toli Toli (an der Westküste des Basisteils der Nordhalbinsel), Rurukan (Minahassa, Weigall coll., 1 Stück in Tring).

Masse: Flügel 51–56, i. D. (21 Ex.) 53,3 mm., ♂ Süd-Celebes 52[3], 55,5, 56, Latimodjong 54[3], West-Celebes 51 (juv.), 52, 53, ♀ Süd-Celebes 53[2], 54,5, Latimodjong 52,5[2], 53, West-Celebes 52, o Latimodjong 53, 55, Nord-Celebes (Rurukan) 55 mm.; Schwanz 36[2], 37, 39 ?, 40, 37, —, —, —, —, 39, 36, 35, 39, 35, —, 39, 35, 37, —, 38,5 mm. (Index 66,0–74,5). Tarsus 16–16,5, Mittelzehe o. Kr. 9, Culmen 8,5–9,5 mm. lang, 3–3,5 mm. breit. 1. Schwinge 19 mm., 2. Schwinge meistens = 10., etwa = Armschwingen. 2. Schwinge: Flügel = 48 : 52,46 : 53 mm., bei einigen Stücken 2. = 9.–10., einmal 2. = 8.–9.

20. **Gerygone fusca saleyerensis** subsp. nov.

Kennzeichen: Schwache Form. Von *flaveola* durch kürzere Flügel und blassere, mehr dem Schwefelgelb von *sulphurea* sich nähernde Färbung der Unterseite unterschieden.

Typus im Tring Museum, " ♂ ", Saleyer, A. Everett leg. 22.11.1895.

Material: 2 Stück (Tring).

Verbreitung: Saleyer.

Masse: ♂ ad. Flügel 48, 49 mm., bei *flaveola* ♂ ad. 52–56 mm., Schwanz (sehr abgetragen) 34, 34 mm. (Index 69,4–70,8). 2. Schwinge = 10.

XII. GERYGONE (EUGERYGONE) RUBRA (Karte 4*d* und Taf. V u. VI).

Kennzeichen: Von allen anderen *Gerygone*-Arten durch ausgedehntere weisse Spitzenzeichnung des Schwanzes und durch eine Schwanzstufung von 11,5–14 mm. unterschieden, ausserdem in den meisten Kleidern durch eine weisse Querbinde auf den inneren Handschwingen, im ausgefärbten männlichen Kleide vor allem durch die dunkel kirschrote Oberseite. Flügel 57 (–62,5 nach der Literatur), Schwanz 47–48, Stufung 11,5–14 mm. (Index 82,5–84,2). 1. Schwinge 17,5, 2. Schwinge = 8.–9., 7–9 mm. kürzer als der Flügel, 3 mm. länger als die Armschwingen. Spitze des Flügels von der 3.–6. Schwinge gebildet. Tarsus 16,5–17 mm., Culmen 9–9,5 mm. lang (2,5–3 mm. breit ?).

Material: 2 Stück (1 Typus).

Verbreitung: Gebirge von Neuguinea.

1. Gerygone (Eugerygone) rubra rubra (Sharpe).

Pseudogerygone rubra Sharpe, *Notes Leyden Mus.* 1878, p. 29–30 (1879–Tjobonda, Arfak-Gebirge, Nordwest-Neuguinea). Typus in Leyden.

Kennzeichen: Oberseite dunkel kirschrot, auf dem Oberkopf dunkler, Schwanz schwarz, auf den äusseren drei Federn mit weissen Spitzen, deren Grenze gegen die Basis auf der äussersten Feder sehr schräg nach aussen basalwärts zieht. Flügel dunkelgrau, auf der Aussenfahne der 5. Handschwinge, etwas mehr der Spitze als der Basis genähert, ein kleiner weisser Fleck, dem auf der Innenfahne ein ebensolcher Fleck am Rande der Fahne entspricht. Auf den nächsten nach innen folgenden Federn vergrössert sich die weisse Zeichnung durch Ausdehnung auf beiden Fahnen, auf der Innenfahne geht in der Höhe des Flecks der Aussenfahne ein schräges weisses Band basalwärts bis zum Federrand. An den weiter innen gelegenen Armschwingen ist dieses schräge Band eher ein Querband, da es immer breiter wird. Stirn in geringer Ausdehnung und schmaler Augenring weiss, ein schmaler Streif über dem weissen Stirnband, Zügel, Wangen und Ohrdecken schmutzig grau (letztere Fuscous, Taf. 46), mit roten Federspitzen, die aber fast nicht auffallen. Halsseiten, Kinn, Kehle grau, nach hinten heller werdend, Bauch und Unterschwanzdecken weiss. Seiten des Körpers schwach oliven getönt. Schenkel schwärzlich mit dunkel rotem Anflug. Unterflügeldecken und Axillaren weiss. Flügel von unten grau, mit einer undeutlichen weissen Querbinde. Iris dunkelbraun, Schnabel schwarz bis rauchbraun, Füsse bräunlichgelb. ♀ wie ♂, statt des Rot der Oberseite braun mit röstlichem Ton (s. Hartert, Nov. Zool. 36, 1930, p. 64). ♂ semiad. mit gelblicher Tönung des Rot der Oberseite.

juv. wie ♀, aber Stirnbasis gelblich statt weiss, Ohrdecken blass gelblich braun und Unterkörper blass gelb, an den Seiten oliven getönt. Schwingen ohne weisse Binde (Rothsch. & Hartert gaben diese Merkmale, Nov. Zool. 10, 1903, p. 474 f., als solche des ♀ an).

Material: nicht gesehen.

Verbreitung: Arfak-Gebirge (Tjobonda, Anggi gidji, Ditschi).

Masse: ♂ nach Sharpe 58 mm., nach Hartert 58–62,5 mm., ♀ nach Hartert 57,5 mm.

2. Gerygone (Eugerygone) rubra . . . Mayr 1931 (Taf. VI. fig. XII 2).

Kennzeichen: ♂♀ Wie *rubra*, aber auf der Oberseite viel lebhafter gefärbt (Rücken beim ♂ etwa Morocco Red, Taf. 1, beim ♀ Orange Citrine, Taf. 4), Unterseite des ♂ nicht mit oliv überflogen. Basishälfte des Unterschnabels bei dem von mir untersuchten Stück hell hornfarben, Rücken mit Rändern von Orange Citrine, Taf. 4, also wohl 1. J.-Kl. (z. T. nach Mayr, M.S.).

Material: 2 Stück (Berlin).

Verbreitung: Gebirge Ost-Neuguineas (Saruwaged, Schneegebirge, Aroa-Fluss-Gebiet, Mt. Cameron im Owen Stanley-Gebirge).

Masse: ♂ Junzaing, Saruwaged Flügel 57, Schwanz 48, Stufung 11,5 mm. (Index 84,2). ♀ Ogeramnang, Saruwaged Flügel 57, Schwanz 47, Stufung 14 mm. (Index 82,5). Tarsus 16,5–17, Culmen 9–9,5 mm. lang, 2,5–3 mm. breit (s.u.). 1. Schwinge 17,5 mm., 2. Schwinge = 8.–9., Armschwingen: 2. Schwinge: Flügel = 47 : 50 : 57.– : 49 : 57 mm.

Bemerkung: Wenn ich auch nur von der letzten Rasse Exemplare gesehen

habe, kann ich die noch zu beschreibende Form Mayr's anerkennen, da sie sich augenscheinlich auffällig von der Nominatform unterscheidet.——Der Schnabel soll nach Salvadori zuden breiteren der Gattung gehören nach Finsch, *Notes Leyden Mus.* 22, 1901, p. 200, dem von *Sericornis rufescens* (Salvadori) ähneln (s. Taf. V. fig. 5). Bei den Berliner Stücken ist er durch das Zubinden des Schnabels so schlank wie der von *Gerygone magnirostris tenebrosa* geworden.

VERZEICHNIS DER NAMEN, DIE MIT DEM GENUS *GERYGONE* IN VERBINDUNG STEHEN ODER GESTANDEN HABEN.

affinis = magnirostris affinis, p. 337.
albofrontata = G. (Hapolorhynchus) albofrontata, p. 355.
albogularis = o. olivacea, p. 324.
amalia = igata amalia, p. 353.
apsleyi = c. chloronota, p. 344.
arfakiana = Sericornis a. arfakiana (Salvadori), p. 318.
aruensis = chloronota aruensis, p. 345.
assimilis = i. igata, p. 349.
aucklandica = i. igata, p. 349.
berneyi = fusca exsul, p. 361.
bernsteini = magnirostris conspicillata p. 336.
bimaculata = r. ruficollis, p. 357.
brachyoptera = fusca inornata, p. 366.
broomei = fusca broomei, p. 362.
brunnea = " murina," p. 317.
brunneipectus = magnirostris brunneipectus, p. 335.
cairnsensis = m. magnirostris, p. 333.
cantator = fusca cantatrix, p. 364.
chlorogaster = c. chrysogaster, p. 341.
chloronotus = c. chloronota, p. 344.
christophori = magnirostris tenebrosa, p. 339.
chrysogaster = c. chrysogaster, p. 341.
cinerascens = olivacea cinerascens, p. 325.
cinerea = cinerea, p. 355.
cinereiceps = chloronota cinereiceps, p. 345.
conspicillata = magnirostris conspicillata, p. 336.
culicivorus = f. fusca, p. 358.
darwini = c. chloronota, p. 344.
decolorata = magnirostris conspicillata, p. 336.
dendyi = f. fusca, p. 358.
dohertyi = chrysogaster virescens, p. 342.
dorsalis = fusca dorsalis, p. 370.
everetti = fusca everetti, p. 367.
exsul = fusca exsul, p. 361.
flaveola = fusca flaveola, p. 373.
flavida = palpebrosa flavida, p. 327.
flavigasta = olivacea flavigasta, p. 324.
flavilateralis = f. flavolateralis, p. 346.
flaviventris = i. igata, p. 349.
flavolateralis = f. flavolateralis, p. 346.
fulvescens = fusca fulvescens, p. 368.
fusca *Bernstein* = magnirostris conspicillata, p. 336.
fusca *Gould* 1846 = igata richmondi, p. 352.
fusca *De Vis*, nec *Gould* 1898 (S.O. Neuguinea) = ?
fuscus *Gould* 1838 = f. fusca, p. 358.
giulianettii = Phylloscopus trivirgatus giulianettii.
gouldiana = igata richmondi, p. 352.
griseus = fusca sulphurea, p. 371.
guineensis = c. chrysogaster, p. 341.
hypoxantha = (olivacea ?) hypoxantha, p. 326.
igata = i. igata, p. 349.
inconspicua = palpebrosa inconspicua, p. 330.
inornata = fusca inornata, p. 366.
insperata = ruficollis insperata, p. 357.
insularius = igata insularis, p. 351.
intermissus = fusca laevigaster, p. 364.
jacksoni = fusca exsul, p. 361.
jacobsoni = fusca sulphurea, p. 371.
johnstoni = palpebrosa johnstoni, p. 328.
keyensis = fusca keyensis, p. 369.
kisserensis = fusca fulvescens, p. 368.

ERLÄUTERUNGEN ZU TAFEL V.

SCHNÄBEL VON *Gerygone* UND VERWANDTEN FORMEN.

(Die römischen Nummern entsprechen denen der Formenkreise.)

I. *G. o. olivacea* ♂ Paramatta, N.S. Wales, Nov. 1909, Schrader leg.
II. *G. p. wahnesi* ♂ Typus (Mus. Dresden) (Ähnlich bei *G. hypoxantha* in Mus. Dresden).
IIIa. *G. m. magnirostris* Melville-Insel, Rogers leg. 2921.
IIIb. *G. m. tenebrosa* Point Torment, Rogers leg. 1492.
IV. *G. c. chrysogaster* Berlin-Hafen (Mus. München).
V. *G. c. chloronota* ♂ Melville-Insel, J. P. Rogers 3554.
VI. *G. f. flavolateralis* Coné, Neu-Caledonien (Mus. Basel).
VIIa. *G. i. igata* ♂, Katikati, Tauranga, Kemp leg 4685.
VIIb.[1] *G. i. insularis* ♂, Lord Howe Insel, 24.7.1913.
VIIb.[2] *G. i. mouki* ♂, Tolga, N. Queensland, August 1911, Schrader leg.
VIII. *G. albofrontata* ♂, Chatham-Insel.
IX. *G. cinerea* ♀, Typus, Hatam, Arfakgebirge (Mus. Genua) (ebenso *G. ruficollis*).
XIa. *G. f. fusca* ♂, Perth (Mus. Hamburg).
XIb. *G. f. masteri* ♀, Normanton, Juli 1884.
XIe. *G. f. inornata* ♂, Timor, Fuss des Timao 1,200 m. (Mus. München).
XIf. *G. f. senex* ♀, Kalao tua (Mus. Berlin 28,670).
XIg1. *G. f. sulphurea* ♂, Alor (Mus. Berlin 30,115).
XIg2. *G. f. flaveola* Dongala, Celebes, August 1896.
1. *Sericornis frontalis* Vig. & Horsfield (Mus. Dresden 5015).
2. *Acanthiza pusilla diemenensis* Gould, Tasmanien (Mus. Dresden 14537).
3. *Seicercus burkii tephrocephala* (Anders.), ♂ (Mus. Dresden 23229).
4. *Sericornis rufescens* (Salvadori), ♂ Typus (Mus. Genua).
5. *Sericornis p. perspicillata* Salvadori, ♂ Typus (Mus. Genua), ebenso nach Finsch *G.* (*Eugerygone*) *rubra*.
6. *Sericornis arfakiana olivacea* Salvadori, ♀ Typus (Mus. Genua).

(Wenn nicht anders vermerkt, Exemplare des Tring Museums. Vergrösserung 2 ×.

ERLÄUTERUNGEN ZU TAFEL VI.

ÄUSSERSTE SCHWANZFEDER VON

Ia. *Gerygone o. olivacea* ♂ (Mus. Dresden 19550).
Ib. *G. o. flavigasta* ♂, Normanton, R. Kemp leg. 4176.
Ic. *G. o. cinerascens* ♂, Aroa-Fluss, Meek leg. 134.
Idα. *G. o. rogersi* ♀, Parry's Creek, Rogers leg. 293.
Idβ. *G. o. rogersi* ♀, Derby, Typus.
IIIa. *G. magnirostris affinis* ♂, Typus (Mus. Dresden).
IIIb. *G. m. tenebrosa* ♂, Carnarvon, Typus von *christophori*.
V2. *G. chloronota cinereiceps* ♀, Sattelberg, Typus v. *placida* (Mus. Budapest) (fast genau so wenig gezeichnet *G. palpebrosa*, noch weniger *G. cinerea*, gar nicht *G. chrysogaster*).

[1] Obere Reihe [2] Untere Reihe.

VI1α. *G. f. flavolateralis* Coné (Mus. Basel).
VI1β. *G. f. flavolateralis* Maré (Mus. Basel).
VI3. *G. f. rouxi* ♀, Ouvéa, Typus (Mus. Basel).
VII*a*. *G. i. igata* ♀, Teremakau (Mus. Wien).
VII*c*. *G. i. modesta* Typus (Mus. Wien).
VII*d*α. *G. i. amalia*, Bowen, Paratypus (Mus. Hamburg), ebenso *G. i. mouki*.
VII*d*β. *G. i. richmondi* ♂, Gosford, Typus v. *gouldiana*.
VIII. *G.* (*Hapolorhynchus*) *albofrontata* ♂, Chatham (Mus. Berlin 33570).
X1α. *G. r. ruficollis* ♀, Hatam, Typus (Ex. a, Mus. Genua).
X1β. *G. r. ruficollis* ♀, Hatam, Typus v. *bimaculata* (Mus. Dresden).
XII2. *G.* (*Eugerygone*) *rubra* . . . Mayr, ♂ Saruwaged (Mus. Berlin), 3.2.1. = dritte, zweite und erste Feder von aussen.

(Wenn nicht anders bemerkt, Exemplare des Tring Museums. Vergrösserung $1\frac{1}{2}$ ×).

ERLÄUTERUNGEN ZU TAFEL VII.

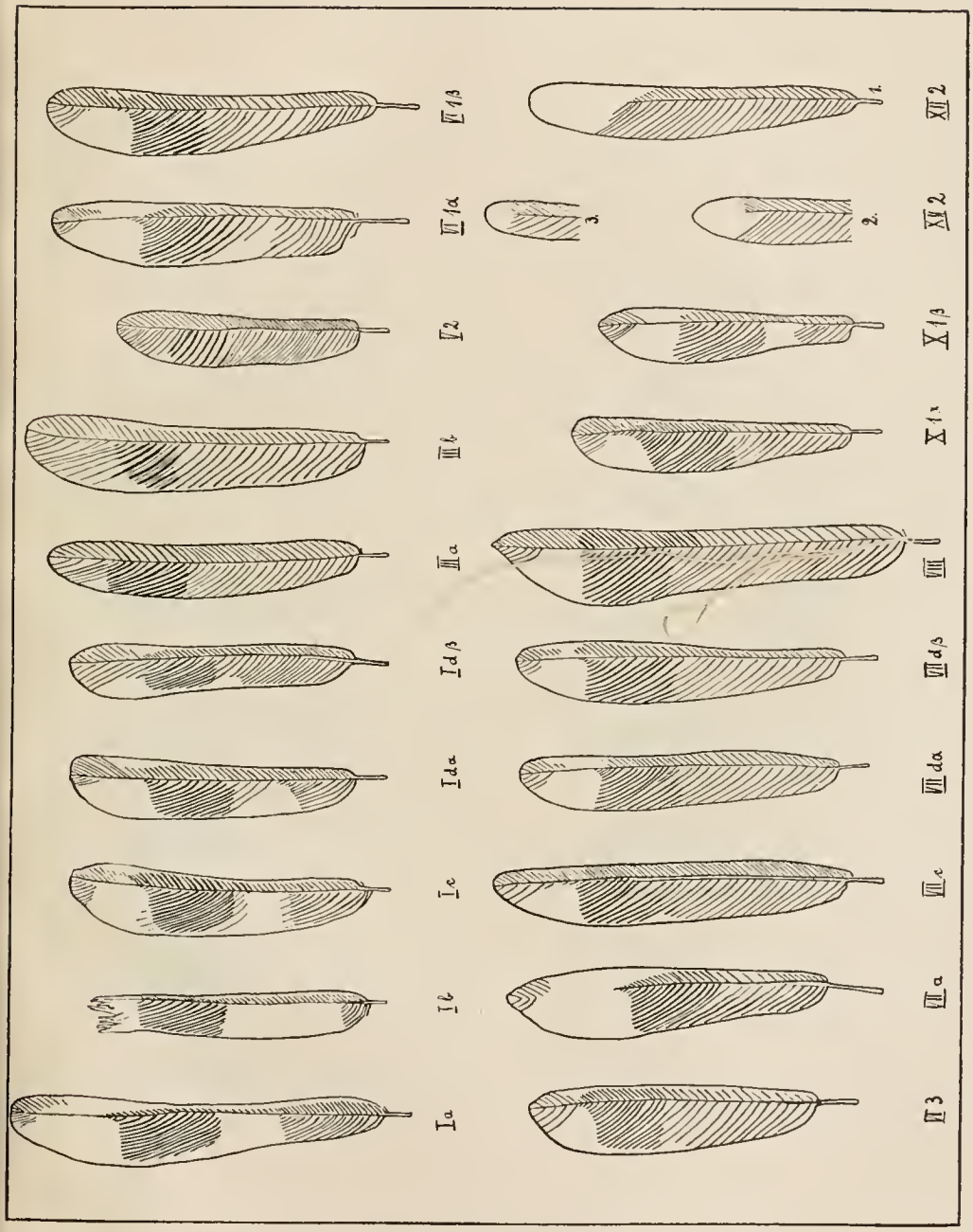
Äusserste Schwanzfeder von *Gerygone fusca*-Formen.

1*a*. *fusca* ♂, Lake Muir, S.W. Australien, Carter leg.
1*b*. *fusca* King Georges Sound (Mus. Wien).
1*c*. *fusca* ♀, Albany, Carter leg.
2*a*. *exsul* ♂, Typus.
2*b*. *exsul* ♂, Normanton, Kemp leg. 4268.
3*a*. *mastersi* ♂, Normanton, Kemp leg. 4005.
3*b*. *mastersi* ♀, Typus von *normantoni*.
4. *mungi* ♂, Typus.
5. *broomei* ♂, Typus.
6. *laevigaster* ♂, Sampan Creek (ebenso bei *cantatrix* und *pallida*).
7*a*. *inornata* ♂, Bonleo, Timor 1,100 m. (Mus. München, Haniel leg. 237).
7*b*. *inornata* ♂, Bonleo, Timor 1,100 m. (Mus. München Haniel leg. 301).
8. *fulvescens* ♂, Kisar, Kühn leg. 4970.
9. *dorsalis* Timorlaut (Mus. Dresden C7512).
10. *keyensis* ♂ (Mus. Dresden C19292).
11*a*. *sulphurea* ♂, Alor (Mus. Berlin).
11*b*. *sulphurea* ♂, Anao, Tarlac Province, Luzon (Mus. Dresden C20646).
12. *flaveola* Typus (Mus. Berlin).

(Wenn nicht anders bemerkt, Exemplare des Tring Museums. Vergrösserung $1\frac{1}{2}$ ×).

I
II
III a
III b
IV
V
VI
VII a
VII b
VIII b
VIII
IX
X a
X b
X c
X f
X g1
X g2
1
2
3
4
5
6


NATURAL HISTORY


I a
I b
I c
I d α
I d β
II a
II 3
III a
III b
IV 2
V 1 α
V 1 β
VI 1 α
VI 1 β
VII a
VII c
VII d α
VII d β
VIII
IX 1 x
X 1 β
XII 2
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1.
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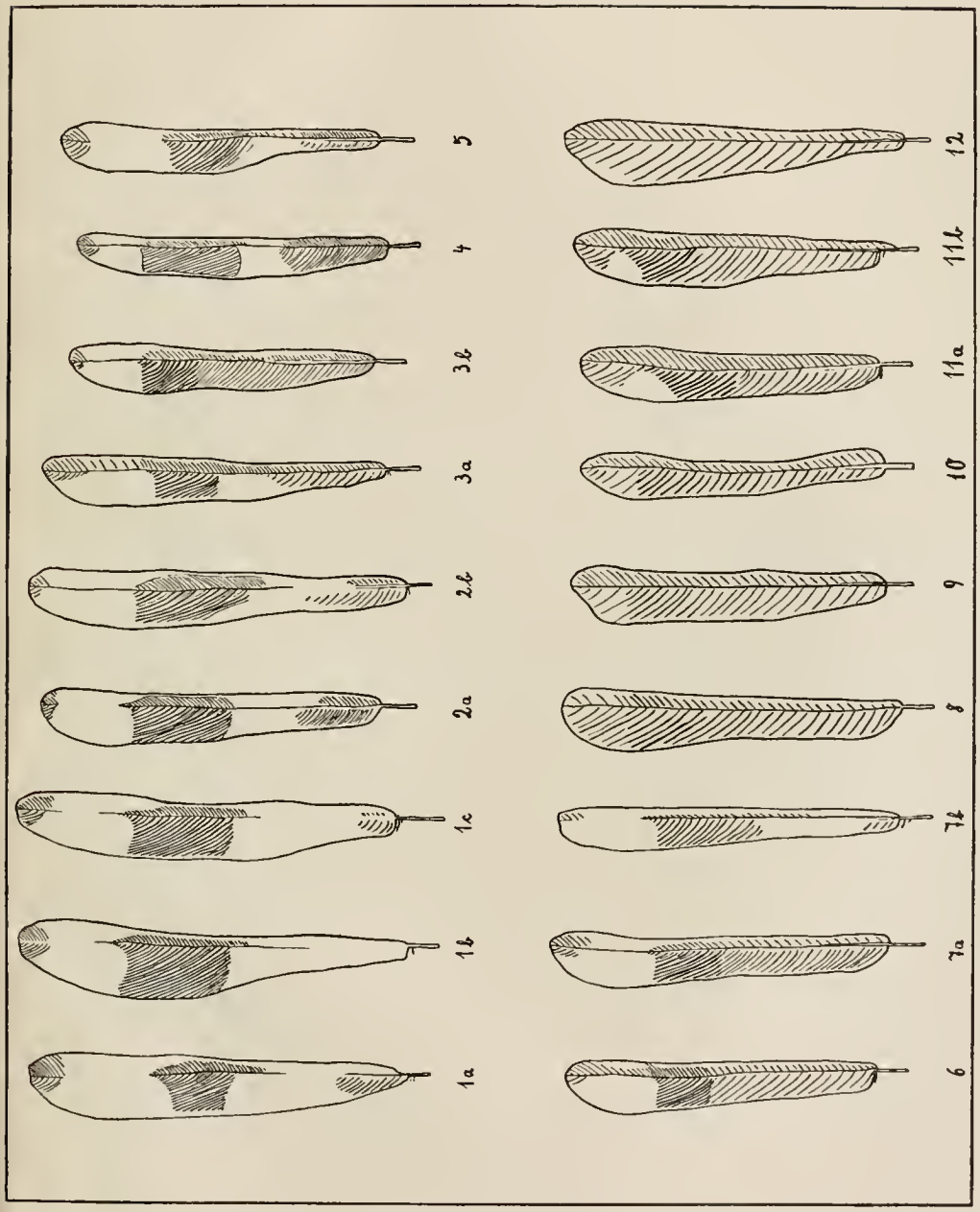
5
4
3b
3a
2b
2a
1c
1b
1a
12
11b
11a
10
9
8
7b
7a
6

LEPIDOPTERA

COLLECTED BY THE

British Ornithologists' Union and Wollaston Expeditions in the Snow Mountains, Southern Dutch New Guinea

WITH TWO COLOURED PLATES

By the Hon. WALTER ROTHSCHILD, Ph.D.

(LORD ROTHSCHILD)

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