FAUNA BURUANA.

LEPIDOPTERA, FAM. GEOMETRIDAE

by

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(London).

(With one plate).

Our knowledge of the Geometrid fauna of Buru has hitherto been extremely inadequate and the 81 species obtained by the Buru Expedition of 1921 and 1922 form a very material contribution to it. Eight species and six subspecies are here brought forward as new, and the number of the latter could be added to if all the slight geographical modifications noticed — often on single specimens — were assumed to be racial.

The only systematic list of Buru *Geometridae* yet published is Holland's (Nov. Zool. VII. 578—581, Nos. 307—344), based on the collection made by W. Doherty in December 1891 and January 1892. I have not seen the specimens, but with the aid of my knowledge of the nomenclature used in the British Museum and by Sir George Hampson at that time (who assisted in the determinations), I am able to place most of them with tolerable precision and have referred to a number of them in the following pages. The rest, together with the very few other published Buru species which are not there alluded to, are given in the subjoined list.

Urapteryx infuscataria Bsd., Voy. Astrol., Faun. Ent. I. 256 (1832), (Buru) (not recognized, perhaps not Geometrid).

Leucetaera subfuscata Warr., Nov. Zool. VI. 342 (1899) (Buru).

Craspedosis xanthosoma Warr., tom. cit. 346 (1899) (Buru) (also known from Obi).

Celerena obiana Prout, Gen. Ins. CIV. 97 (1910) (Obi); Seitz Macrolep. XII. 42 (Buru).

„*Pseudoterpna ruginaria* Guen." Holl., Nov. Zool. VII. 581 (1900) (*Pingasa* sp., ? *porphyrochrostes* Prout, 1922, Ceram).

„*Hemithea tritonaria* Walk.", Holl., loc. cit. (? *wuka* Pagenst., 1886, Key).

[„*Timandra*"] *Gnamptoloma aventiaria* Guen. (1858, Australia), Holl., loc. cit.

„*Anisodes argentispila* WARR.", HOLL., loc. cit. (*ceramis* MEYR., 1886, Solomons).

„*Craspedia remotata* GUEN.", HOLL., loc. cit. (*Scopula*, sp., possibly an undetermined species near *attentata* WALK., taken in a single ♀ example at Kako Tagalago by the PRATTS).

[„*Phibalapteryx*"] *Collix ghosha* WALK., (1862, Ceylon) HOLL., tom cit. 580.

Sauris eupitheciata SNELL. (1881, Celebes), HOLL., loc. cit.

„*Amblychia tetragonata* WALK." HOLL., loc. cit. (*Maidana pallidiplaga cinnamomaria* ROTHSCH., 1915, Ceram). The PRATTS took 1 ♀ at Gamoe 'Mrapat.

„*Boarmia acaciaria* BSD.", HOLL., loc. cit. (*Cleora*, sp. near *illustraria* WALK., 1862).

„*Boarmia concentraria* SNELL.", HOLL., loc. cit. (*Cleora*, sp., possibly a new species collected in numbers by the PRATTS, related to the preceding).

„*Boarmia detrataria* WALK.", HOLL., loc. cit. (? *subdetractaria* PROUT, nom. nov., 1923, Sarawak).

[„*Macaria*"] *Semiothisa perfusaria* WALK. (1866, Malaya), HOLL., tom. cit. 579.

Luxiaria euchlorata HOLL., tom. cit. 579 (1900) (Buru) (sinks to *Euippe undulataria* (PAGENST.) 1886).

[„*Eumelea*"] *Pareumelea eugeniata* GUEN. (1858) (Amboina), HOLL., tom. cit. 580.

A further extensive collection, not yet quite completely worked out, but embracing some 130 species, was made on the island in February—May 1922 by Messrs. C., F. and J. PRATT on behalf of Mr. J. J. JOICEY, The Hill Museum. Their principal stations were (I) Gamoe' Mrapat, Central W. Buru, 5000 ft., February—April and (II) Kako Tagalago, Central Buru, 2700 ft., May. The species which they obtained in common with Mr. TOXOPEUS are recorded in their places. The additions are as follows.

Sarcinodes holzi PAGENST. (1888) (Amboina). I and II.

Alex continuaria brunnescens, subsp. n.

Pingasa lariaria WALK. (1860) (Sarawak). II.

P. porphyrochrostes PROUT. (1922) (Ceram). I, II.

P. blanda PAGENST. (1900) (New Britain). II.

Hypodoxa involuta sp. n.

Æolochroma sp. n.

Agathia diversilinea WARR. (1896) (Fergusson I.). I.

Alloeopage cinerea cinerea WARR. (1896) (Fergusson I.). II.

Ornithospila viridimargo PROUT (1916) (sine loc.). It is highly probable that the unique type in Mus. Tring, which had lost its label, was from Buru and it is very satisfactory to have properly localised material.

Anisozyga rufipunctata WARR. (1903) (British New Guinea). II.

A. subvenusta diargema PROUT (1922) (Ceram). II.
A. absona WARR. (1896) (Fergusson I.). I, II.
Uliocnemis partita WALK. (1861) (India). I.
U. subornataria ROTHSCH. (1915) (Ceram). I, II.
Agathiopsis basipuncta WARR. (1896) (Fergusson I.). I, II.
Rhomborista undiferata WALK. (1866) (Celebes). II.
Argyrocosma phrixopa MEYR. (1897) (Sumbawa). I (subsp.?)
Gelasma submixta PROUT (1913) (Dutch New Guinea). I.
G. pervicax PROUT (1922) (Ceram). I.
Thalassodes minor WARR. (1903) (British New Guinea). I, II.
Th. curiosa SWINH. (1902) (Penang). I.
Th. retusa PROUT (1922) (Ceram). I.
Prasinocyma absimilis WARR. (1901) (Dutch New Guinea). I.
P. vagilinea PROUT (1911) (Dutch New Guinea). I, II.
P. oxycentra MEYR. (1888) (N. Queensland). II. (I now believe the provisional sinking to *floresaria* WALK., 1866, Flores, was right).

P. coerulea WARR. (1903) (British New Guinea). I.
P. punctulata leucogramma PROUT (1922) (Ceram). I, II.
Comostola flavifimbria WARR. (1906) (British New Guinea). II (subsp.?)
Pyrrhorachis cornuta WARR. (1896) (Fergusson I.). I, II.
Anisodes auricosta PROUT (1916) (Snow Mountains). I.
Anisodes flavissima WARR. (1907) (British New Guinea). I.
A. porphyropis MEYR.? (1888) (Australia). I.
A. furcata WARR. (1896) (British New Guinea). II.
A. nepheloscia sp. n.
Antitrygodes parvimacula WARR. (1896) (Trobriand Is.). II.
Problepsis evanida sp. n.
Sterrha rufula WARR.? (1899) (Solomons). I.
Xanthorhoë simplicata sp. n.
Chaetolopha ornatipennis peregrina subsp. n.
Propithex alterata WARR. (1899) (Roon I.). I.
Collix examplata WARR. (1906) (British New Guinea). I.
Micromia (Tripteridia) subcomosa WARR. (1907) (British New Guinea). I.
Chloroclystis (Ardonis) dentifera WARR. (1906) (British New Guinea). I.
Ch. (Ceratorhynchus) malachitis WARR. (1903) (British New Guinea). I. II.
Ch. (Gymnodisca) viridescens WARR. (1895) (Malaya). I.
„Pomasia" amplificata praelustris subsp. n.
Acolutha canicosta WARR. (1906) (British New Guinea). I (subsp.?). Both probably subspecies of *pictaria* MOORE (1888, Sikkim).

Abraxas joiceyi sp. n.
Arycanda hypanis CRAM. (1777) (Amboina). I, II.
Eucharidema joiceyi sp. n.
Ctimene ocreata brachypus subsp. n.

Bordeta posticigutta decocta PROUT (1923) (Buru). I, II.
Xylinophylla maculata WARR. (1897) („S. America", err. loc.) ♀ *ochrea* WARR. (1898) (Key Is.). II.
Anisographe dissimilis WARR. (1897) (Queensland). I. II.
Xerodes albisparsa WARR. (1896) (Fergusson I.). I. II.
„*Cusiala*" *semiumbrata semialbida* WARR. (1896) (Batjan) (vel subsp. n.?). II.
Hemerophila canidorsata instigata subsp. n.
Cleora alienaria illustraria WALK. (1862) (Queensland). I, II.
C. sp. n. near *alienaria* WALK.
C. sp. n.
Catoria olivescens MOORE? (1888) (N. India). II. (subsp.?)
Paradromulia sp. I (♀ ♀ only).
Ectropis (*Ruttelerona*) *cessaria* WALK. (1860) (Ceylon). I. (subsp.?)
E. obsequens sp. n.
E. pallidistriga mixtistriga subsp. n.
E. melancroca sp. n.
E. boarmioides ROTHSCH. (1915) (Ceram). I, II.
Diplurodes sp. II (♀ ♀ only).
Racotis cogens sp. n.
Semiothisa avitusaria violavittata PAGENST. (1888) (Amboina). I, II.
Zeheba stenocrossa sp. n.
Krananda vitraria FELD. (1875) (Java). I, II.
Luxiaria subrasata rescripta PROUT (1926) (British New Guinea). I, II.
L. submonstrata WALK. (1861) (Sarawak). II. (subsp.?)
Nadagara sp. n.
Nadagarodes duplicipuncta WARR. (1899) (Sud-est I.). I, II.
Xenographia omorhusia sp. n.
Plutodes discigera argentilauta subsp. n.
Synegia nigrellata WARR. (1906) (British New Guinea). I (1 ♂, of the ab. *scutigera* WARR.).
S. nephelotis sp. n.
S. (*Eugnesia*) *correspondens* WARR.? (1897) (Luzon). II (subsp.?)
S. (*E.*) sp. n., near *intensa* WARR. (1897).
Petelia immaculata HMPSN. (1893) (Ceylon). I (subsp.?).
Eurychoria oenoptila PROUT (1916) (Dutch New Guinea). I.
Myrteta cymodegma sp. n.
Leucetaera lucens WARR. (1896) (Java). II (subsp.?).

The new species will be published on the earliest opportunity, either in the Bulletin of the Hill Museum or elsewhere. They are enumerated for the sake of making the present as complete a register as possible of the Buru *Geometridae*. One further record I am able to add from the Tring Museum:

Borbacha pardaria GUEN. (1858) (Borneo). Kayeli (DOHERTY).

In the following catalogue the ascertained range of each species is recorded, although our knowledge thereof is still only partial or even fragmentary as regards many of the more obscure membe.s of the family. In any case, Geometrid studies in this direction are so incomplete that it would be premature to venture much theorizing as to the origins of the fauna. I have thought it might not be without some value, however, to make a rough preliminary analysis of the distribution not only of these but also of the addenda enumerated above and put on record a brief summary of the results.

About 30 are very widely distributed species in the Indo-Australian Region. Of these perhaps two-thirds have not yet even been worked out into geographical forms and are probably, at least in part, insects of cultivation. To these may most likely be added, when the morphology of their groups has been studied, *Scopula actuaria* and *Chloroclystis admixtaria*, if not also some others. About 10 are common to Malaya and the Moluccas, partly in separable races; 3 to Celebes and the Moluccas, 2 to the Philippines and Moluccas, in both categories with some geographical variation established or indicated. A very considerable number — perhaps about 64 — are common to the Moluccas and New Guinea, without much ascertained racial divergence; of these, not less than 40 are here for the first time recorded westward of New Guinea. About a dozen species are essentially Moluccan, sometimes with differring races on the different islands. Finally, about 30 species and about 20 races are known from Buru only, apart from a considerable number of further races which, as suggested in the opening paragraph, will presumably be definable when more extensive material is to hand.

The types of the new forms, together with other valuable material, have very generously been presented to the Tring Museum.

Subfam. **OENOCHROMINAE.**

1. *Eumelea unipuncta latiparies* PROUT.

Eumelea unipuncta latiparies PROUT, The Entom. LVIII. 168 (1925) (Central Buru).

Ehu, 600—1100 m., 20—30 September 1921, 1 ♀; 1200 m., 3 March 1922, 1 ♀.

Only known hitherto from the localities cited in the original description.

2. *Eumelea ludovicata enantia* PROUT.

Eumelea ludovicata enantia PROUT in SEITZ, Macrolep. XII. 31 (1921) (Celebes).

Leksula (station 1), 8 December 1921, 1 ♂; 8 & 21 August 1921 & September 1921, 3 ♀ ♀. Wa'Ha (st. 2), 12 March 1921, 1 ♂. Ehu, 2000—3600

ft., 20—30 September 1921, 1 ♀. Also from Kako Tagalago, 2700 ft. (PRATT bros.) in coll. JOICEY.

This race, as at present understood, is represented in the Tring Museum from Celebes, Sula Mangoli, Batjan, Buru (Mt. Mada, a curiously mottled ♂ ab., Bara, 1 ♀, Kayeli, 1 ♀), Ceram, Amboina, Goram, Manovolka, Teoor, Little Kei and even Mefor. As already noted, further subdivision may prove possible, but with so variable a species it will probably be difficult.

A smaller ♀, more heavily irrorated and strigulated and with the postmedian spot of the forewing placed very near the cell-spot, was taken at Bah'lalè (st. 22), 22 January 1922 and may possibly represent a separate species or even a new race of *sanguinifusa* WARR. (1896), from which it differs in its weakened apical patch, reduced midcostal spot of hindwing, smaller size, etc.

3. **Eumelea polymita** sp. n. (Pl. IX, fig. 4).

♂, 44—46 mm.; ♀, 52—53 mm.

Coloration almost exactly as in the deeper-coloured examples of *ludovicata enantia*. Forewing with the blackish strigulation of costal margin rather strong, the veins also more or less blackened in distal area; proximal area more regularly strigulated with red than is normal in the species named, the first band and the dark spot at its costal end undeveloped; discal ring extremely indistinct, long-oval; the line beyond arising, as in *ludovicata*, from a blackish costal spot but more distally placed (in the ♂ 11 or 12 mm. from base, 9 or 10 from apex; in the ♀ 13 or 15 mm. from base, 10 or 12 from apex), the purple line itself thinner, not band-like, gently curved instead of angled; a redder, less defined line sometimes traceable, just proximally to this line, coalescing with it posteriorly; the yellow spots beyond, as well as those at apex and midtermen, very clear, recalling those of *rubrifusa* WARR. and *sanguinifusa* WARR.; the broad purple band of distal area rather well developed; fringe generally mixed with grey. — Hindwing differing chiefly from that of *ludovicata* ♂ in the more distally placed, less bent postmedian line.

Underside similar.

Leksula (st. 1) 15 August 1921, type ♂; 15 March 1922, paratype ♂; August 1921, 1 ♀. Mnges'Waen (st. 4) 31 January 1922, 1 ♀. (L. J. TOXOPEUS).

Also, in coll. JOICEY, a ♂ and a ♀ from Leksula, February to March 1922, a ♀ from „S. Coast" May 1922 and one from Kako Tagalago, 2700 feet, May 1922 (PRATT brothers).

4. *Eumelea rosalia* (STOLL).

Phalaena Geometra rosalia STOLL in CRAM., Pap. Exot. IV. 152, 251, t. CCCLXVIII. F (1781) (Amboina).

Leksula (st. 1), 3 December 1921, 1 ♀. Tifu (st. 3) 18 March & 17 December 1921, 1 ♂, 1 ♀. Ehu, 600—1100 m., 20—30 September 1921, 1 ♂, 2 ♀♀.

As I have pointed out in SEITZ (Macrolep. XII. 33), it is not certain that STOLL's unsatisfactory figure really represents the present species, but I am not prepared to upset the synonymy there given. *E. rosalia* in this sense inhabits the Moluccas and New Guinea with races in the Sunda Islands (*aurigenaria* WARR.), ? Sangir (*sangirensis* WARR.) and Queensland (*australiensis* WARR.). It is already known from Buru (HOLL., Nov. Zool. VII. 580) and a pair from Central Buru (MARTIN exped.) stand in Mus. Tring.

5. *Eumelea semirosea phoenissa* WARR.

Eumelea phoenissa WARR., Nov. Zool. XII. 418 (1905) (Obi Major).

Near Goh' Reman, 26 April 1921, 1 ♂, at light. Between Goh' Reman and Nal'Besi, 26 April 1921, 1 ♀, at light. Nal'Besi, 12 May 1921, 1 ♂, at light. Wai Eno (st. 6), early April 1921, 1 ♀. Leksula, En'biloro & Kako Tagalago in coll. JOICEY.

In addition to the distinctions from *rosalia* pointed out in SEITZ (XII. 33), it ought to have been noticed that the ♂ hindtibia is smooth or nearly 50, whereas in *rosalia* it is fringed with long soft hair. *E. semirosea semirosea* WARR. (1897) is from the North Moluccas. No other localities for the species are certainly known, but I find that strikingly similar forms (probably a race) from Nias, Borneo, etc., have been confused among *rosalia*.

6. *Derambila strigicosta dentiscripta* (BASTELB.).

? „*Rambara luminaria* HB." HOLL., Nov. Zool. VII. 580 (1900) (Buru).
Rambara dentiscripta BASTELB., Soc. Ent. XXIV. 65 (1909) (Moluccas).
Rambara obiana TH.-MIEG, Le Nat. XXXII. 7 (1910) (Obi).
Derambila dentiscripta PROUT, Gen. Ins. CIV. 74 (1910).

Leksula (st. 1), 29 October 1921, 1 ♂.

The specimen is small and of a rather clean white, with the brown spots less coarse than usual, the postmedian series rather distally placed, the subterminal faint. Probably a differentiable subspecies, rather recalling an undersized *s. strigicosta* WARR. (New Guinea and satellite islands) or especially — except in the enlargement of the spots at hindmargin of forewing — *aetherialis* BUTL. (Solomons and Bismarcks). I only know typical *dentiscripta* from Batjan and Obi, the former small, perhaps another separable race.

7. *Derambila zincaria melagonata* (WALK.)

Zanclopteryx melagonata WALK., List Lep. Ins. XXVI. 1619 (1862) (Ceram).

Leksula (st. 1), August 1921, 1 ♂.

Distributed from the Sula Islands to Mysol and Aru. Name-typical *zincaria* (GUEN., 1858) inhabits the Malay Peninsula, Borneo, etc. and a slightly intermediate form is known from Balabac and Palawan.

8. *Noreia papuensis* WARR.

Noreia papuensis WARR., Nov. Zool. IV. 387 (1897) (Dutch New Guinea).
? „*Noreia perdensata* WALK." HOLL., op. cit. VII. 580 (1900) (Buru).

Ehu, 2000—3600 ft., 20—30 September 1921, 3 ♂♂.

Already known from Batjan, Obi, Ceram, Manovolka, Jobi, coasts of Dutch New Guinea, Sariba Island, Bismarck and Solomon Islands. Variable in colour (grey or brown) and in the strength of the markings. The Buru examples are almost exactly like WARREN's type from Kapaur. *N. albifimbria* WARR. (1897), from Celebes and Sula Mangoli differs in its whiter fringes but may probably prove a race, in which case the species will stand as *albifimbria papuensis*. The Malayan representative *unilineata* WALK. (1866), on the other hand, has the ♂ sexual tufts much less developed and must be kept separate.

9. *Ozola macariata* (WALK.)

Zarmigethusa macariata WALK., List Lep. Ins. XXVI. 1637 (1862) (Ceram).
Macaria elongaria SNELL., Tijd. Ent. XXIV. 86, t. X. 3 (1881) (Celebes).
Ozola indefensa WARR., Nov. Zool. VI. 16 (1899) (Dutch New Guinea).
Ozola macariata HOLL., Nov. Zool. VII. 580 (1900) (Buru).

Leksula (st. 1) 12 October 1921, 1 ♂; 6 and 25 December 1921, 1 and 2 January 1922, 4 ♀♀. Also a ♀ bred from a pupa labelled „Pupa No. 1." Kako Tagalago, 2 ♀♀ in coll. JOICEY.

Distributed nearly throughout the Indo-Australian region, with the exception of India on the one hand and the further Pacific Islands on the other. The pupa, so far as I am aware, has not been described. It seems to be of moderate proportions (a good deal ruptured and distorted in dehiscence). The surface is highly polished, the segmentation moderate, the general colouring yellowish brown, only more red-brown at the extremities and in an abdominal belt. Cremaster blunt, with a group of slender hooklets, to which much silk adheres, speaking of a firm attachment.

10. *Ozola atrifasciata* (PAGENST.)

Macaria atrifasciata PAGENST., Jahrb. Nass. Ver. Nat. XXXVII. 260 (1884) (Amboina).
Ozola marginata WARR., Nov. Zool. III. 358 (1896) (Dutch New Guinea).
Ozola productata (ZELL. M.S.) HOLL., Nov. Zool. VII. 580 (1900) (nom. nud.) (Buru).

Wa'Kasi (st. 18, erroneously), 21 December 1921, 1 ♀.

Known from the Moluccas, the north coasts of New Guinea and from Vulcan and Dampier Islands. Everywhere very constant.

11. **Ozola exotrigonia** sp. n. (Pl. IX, fig. 21).

♀♂, 45—47 mm.

Head and body nearly as in *ramifascia* PROUT (Bull. Hill Mus. I (2) 279). Hindtibial dilation, as in that species, rather slight, with short femorotibial pencil; in one ♂ two long, presumably retractile pencils are extruded from the tympanal orifice — their point of origin would appear to be in the metathorax, but their exact attachment cannot be made out without dissection.

Forewing elongate, as in *ramifascia*; brownish black; a large white patch on hindmargin, 8 or 10 mm. long at the margin, rounded or bluntly pointed anteriorly, reaching or (in a ♀ ab.) crossing vein M; a large white distal triangle, its base on termen from R^3 to SM^2, its apex at C or at costal margin or in cellule 6, its proximal margin very slightly bulging about M^2, its anterior forming shallow steps on R^2 and R^3; terminal line interrupted, indicated on the base of the triangle; fringe slightly pale-spotted anteriorly, largely white opposite the triangle. — Hindwing shaped nearly as in *ramifascia*, termen slightly more prominent about R^1—R^2; white, narrowly blackish at base and still more narrowly along abdominal margin; a brown-black apical patch about 4 mm. broad at costa, decreasing to 2 mm. at R^3, its proximal border forming a series of very shallow steps; a much smaller tornal patch, not reaching M^2; an extremely narrow black border between the patches; fringe black.

Tagalago, 1100 m., 4 February 1922, the type, collected by L. J. TOXOPEUS. Also in coll. JOICEY, collected by the PRATT brothers, 1 ♂ and 2 ♀♀ from Gamoe'Mrapat, Central West Buru, 5000 feet, March—April 1922 and 1 ♂ from Kako Tagalago, Central Buru, 2700 feet, May 1922.

Represents *albimacula* WARR. (1897) and *ramifascia* PROUT on Buru, but again very distinct.

12. *Celerena perithea perithea* (CRAM.).

Phalaena Noctua perithea CRAM., Pap. Exot. II. 116 & 150, t. CLXXII. D (1777) (Amboina).

Celerena connexa WALK., List Lep. Ins. XXXI. 168 (1864) (Amboina).

Wa'Tina, 2 January 1922, 1 ♂, 1 ♀.

The ♀ is a small aberration, with the black markings somewhat reduced, particularly the central band of the forewing, which is blurred and posteriorly evanescent.

Name-typical *perithea* is only found on the southern Moluccas [1]), being represented on the northern Moluccas by *spreta* WALK., on Obi by a race of the latter, *substigmaria* WARR., and on Great Key by a large, deeply-coloured form which I have named *perithea keiensis* (1916).

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[1]) A single example in Mus. Tring labelled „Timor Laut" must surely bear an erroneous locality or have been conveyed thither by shipping or other accidental agency.

Subfam. **HEMITHEINAE.**

13. *Pingasa chlora chlora* (STOLL).

[*Phalaena Geometra*] *chlora* STOLL in CRAM., Pap. Exot. IV. 233, t. CCCXCVIII. C (1782) (*Phalaena Pyralis* p. 248, ex err. typogr.) (Amboina).

? *Pseudoterpna chlora* HOLL., Nov. Zool. VII. 581 (1900) (Buru).

Leksula (st. 1) June 1921, 1 ♂. Also taken at Kako Tagalago by the PRATT brothers, 5 ♂♂.

The Buru specimens may be slightly more tinged with olive-grey than those from further eastward.

P. c. crenaria GUEN. from India, *paulinaria* PAGENST. from Nias, *javensis* WARR. from Java, *latifascia* WARR. from Batjan, *subdentata* WARR. from Celebes, *sublimbata* BUTL. from the Bismarcks and *candidaria* WARR. from Queensland are races, probably in some cases eventual synonyms or casual aberrations, as the variation seems nowhere very great or very stable.

14. *Dysphania numana buruensis* PROUT.

Dysphania numana buruensis PROUT, Nov. Zool. XXIII. 10 (1916) (Buru).

Wa'Msisi (st. 15), 2—4 October 1921, 2 ♀♀, 15 October 1921, 1 ♀. Wa'Tina, 12 January 1922, 2 ♀♀.

If (as seems clear, although no anatomical researches have yet been undertaken) the groups of *tentans* WALK., *tyrianthina* BUTL., etc. belong also to this collective species, it has a wide distribution eastward as far as the Solomons and is as subject to local variation as most of the diurnal Lepidoptera. The present examples agree entirely with the Kayeli ♂♂ from which I described the race. The PRATTS took 2 ♂♂ at Kako Tagalago and 1 ♀ at Leksula.

15. *Dysphania poeyii* (GUÉR.).

Deileptena poeyii GUÉR., Voy. Coquille, t. XIX. 3 (1831) (Waigeu).
Hazis agorius BSD., Faune Ent. Pacif. I. 204, t. v. 1 (1832) (Waigeu).
Hazis mars BSD., tom. cit. 205 (1832) (Waigeu).
Euschema remota WALK., List Lep. Ins. XXXI. 176 (1864) (Mysol).
Euschema binotata WALK., loc. cit. (1864) (Ceram).
Euschema luteopicta WALK., tom. cit. 177 (1864) (Ceram).
Heleona bernsteinii FELD., Reise Novara Lep. Het. t. CIV. 2 (1874) (Waigeu).
Hazis kühnii PAGENST., Jahrb. Nass. Ver. Nat. XXXIX. 162 (1886) (Aru).
Dysphania confluens WARR., Nov. Zool. II. 86 (1895) (Obi).
Dysphania auristriga (WALK. M. S.) WARR., Nov. Zool. II. 86 (1895) (male condita, sine loc.).
Euschema cyanoptera PAGENST., Ent. Nachr. XXII. 54 (1896) (Batjan).
Dysphania remota ab. *bicolor* WARR., Nov. Zool. VIII. 193 (1901) (Mysol).
Euschema remota var. *auctata* TH.-MIEG, Le Nat. XXVII. 181 (1905) (Waigeu).

Euschema remota var. *albimacula* TH.-MIEG, loc. cit. (1905) (Waigeu).
Euschema vulcanus TH.-MIEG, Le Nat. XXIX. 175 (1907) (Waigeu).

Leksula (st. 1), 7 September 1921, 1 ♂.

I am convinced that all the names cited above refer to a single polymorphic species. Almost all the forms occur on Waigeu, where it appears abundant. In the Moluccas it seems more stable, although the band of the forewing everywhere (unless on Batjan) varies between white and yellow. Like the only specimen hitherto recorded from Buru (vide Ent. Nachr. XXII. 54), the Leksula ♂ has the band yellow (ab. *auristriga* WARR.). This seems also the commonest coloration on Ceram.

16. *Ornithospila bipunctata* PROUT.

Ornithospila bipunctata PROUT, Nov. Zool. XXIII. 201 (1916) (Natuna Is.).

Fakal (st. 13), 2950 ft., 27 August 1921, 1 ♀.

Not hitherto known east of Celebes. The Moluccan specimens (Kako Tagalago, 3 ♂♂, 4 ♀♀, Ceram, 2 ♀♀) are probably racial, the costal edge of forewing cleaner white proximally, the terminal line generally darker red, almost without red edging proximally, the hindwing beneath with less definite green border.

17. *Ornithospila odontogramma* PROUT. (Pl. IX, fig. 7).

„*Thalassodes avicularia* (GUEN.)" HOLL., Nov. Zool. VII. 581 (1900) (Buru).
Ornithospila odontogramma PROUT, Nov. Zool. XXIII. 202 (1916) (Obi).

Ehu Road (st. 7), September 1921, 2 ♂♂. Leksula (st. 1), 23 January 1922, 1 ♀.

The ♀ is aberrant in having lost the red mark on DC^2 of the forewing and in having the postmedian line a little less deeply dentate than usual, thus rather suggestive of a large *submonstrans moluccensis* PROUT (1916). It may possibly represent a new species, but this is unlikely, especially as an Amboina ♀ in Mus. Tring is somewhat intermediate.

This species also has been taken by the PRATTS in Central Ceram and Buru (Kako Tagalago and Gamoe'Mrapat).

18. *Agathiopsis maculata unanimis* WARR.

Agathiopsis maculata unanimis WARR., Nov. Zool. XIX. 68 (1912) (Dutch New Guinea).

Nal' Besi, 12 May 1921, 1 ♂.

The specimen is slightly faded, but agrees virtually with the form to which WARREN gave the above name. More material may establish some racial distinctions. On the other hand, the validity of the name *unanimis* is by no means assured, as the forms seem to intergrade across New Guinea to the name-typical *maculata* WARR. (1896) of Fergusson Island. The further range covers the Bismarck Archipelago (*m. benedicta* PAGENST. 1900) and the Solomons (*m. angustifascia* WARR. 1912).

19. *Gelasma orthodesma* (LOWER).

Euchloris orthodesma LOWER, Tr. Roy. Soc. S. Austral. XVIII. 86 (1894) (Queensland).

Thalassodes albifusa WARR., Nov. Zool. III. 293 (1896) (Fergusson I.).

Rana (st. 9) 10 June 1921, 1 ♂; 11, 22 & 28 May & 26 June 1921, 4 ♀♀.

The ♂ is an interesting aberration, with the white bands almost entirely obliterated by the density of their green irroration. There is always more tendency in this direction in the ♂♂ than in the ♀♀, but I have never before seen so extreme a development and should have suspected it of being racial but that 2 ♂♂ from Kako Tagalago collected by the PRATTS are typical, as also Mr. TOXOPEUS' 4 ♀♀. These latter, in their small size, more yellowish green tone and rather broad median band, more approach the Queensland than the average New Guinea specimens, which are larger and of a more bluish green, with the median and subterminal bands often more uniform in width (*albifusa* WARR.).

20. *Thalassodes immissaria rhytiphorus* (LOWER).

Iodis rhytiphorus LOWER, Tr. Roy. Soc. S. Austral. XVII. 156 (1893) (N. Australia).

Leksula (st. 1), 16 November 1921 (L. J. TOXOPEUS), 1 ♂; September 1921, 1 ♀.

Distributed and generally common in the Moluccas and New Guinea, with races — hitherto unnamed — in the Bismarcks and Solomons. In Lepidoptororum Catalogus (XIV. 96) I cited the name of *immissaria* WALK. (Ceylon) with a query to *depulsata*, but subsequent study has shown that it is the species of which *opalina* BUTL. is the N. Indian representative and *rhytiphorus* the Papuan. So far as I can make out, the Malayan agree more accurately with the Ceylon than with the N. Indian.

21. *Eretmopus marinaria* (GUEN.)

Thalassodes marinaria GUEN, Spec. Gén. Lép., IX. 361 (1858) (Borneo).

Leksula (st. 1), July 1921, 1 ♀.

A widely distributed species, but nowhere common. The Tring Museum has examples from Arracan, Manila, Borneo, Djampea, Amboina, Little Key, Waigeu, Etna Bay and — more remarkably — 1 ♀ from „near Oetakwa River, Snow Mountains, up to 3500 feet (MEEK)", which one can only surmise to have been collected at the beginning of the ascent. TURNER records it from N. Australia.

22. *Prasinocyma nivisparsa* (BUTL.).

Comibaena nivisparsa BUTL., Ann. Mag. Nat. Hist. (5) X. 232 (1882) (Duke of York Island).

Rana (st. 9), 8 & 12 May & 16 July 1921, 3 ♂♂; 22 May 1921, 1 ♀.

Previously known from New Guinea and the Bismarck Archipelago. The PRATTS also collected it on Buru for Mr. JOICEY (Kako Tagalago, May 1922).

Remarkably constant, except in size. The white dots vary a little in size and the one in the end of the cell of the forewing is occasionally even suppressed, as in the ♂ dated 8 May.

23. *Berta chrysolineata* WALK.

Berta chrysolineata WALK., List Lep. Ins. XXVI. 1621 (1862) (Canara).

Mnges'waen (st. 4), 24 October 1921, 1 ♀.

Distributed throughout a great part of the Indo-Australian Region, extending, with only slight racial variation, to the northern Solomons. *B. zygophyxia* PROUT (1912), with little less extended range — commencing westward at the Malay Peninsula — must be either a valid species or a remarkable dimorph with different venation, in any case not a race as I once supposed.

Subfam. **STERRHINAE.**

24. *Anisodes penumbrata acrobeles* PROUT. (Pl. IX, fig. 18).

Anisodes acrobeles PROUT, Bull. Hiil Mus. I (2) 287 (1922) (Ceram).

Rana (st. 9), 4 & 5 July 1921, 2 ♂♂.

Slightly transitional towards *penumbrata* WARR. (1895) from S. Celebes, of which species it seems safe to regard *acrobeles* as being a race.

25. *Scopula perlineata* (WALK.)

Acidalia perlineata WALK., List Lep. Ins. XXIII. 775 (1861) (Ceram).

Acidalia spatiosaria WALK., List. Lep. Ins. XXXV. 1631 (1866) (New Guinea).

Craspedia discata WARR. Nov. Zool. IV. 218 (1897) (subsp.?) (Trobriand Islands).

Craspedia perlineata HOLL., op. cit. VII. 581 (1900) (Buru).

Leksula (st. 17), 3 December 1921, 1 ♂.

A fairly large, whitish, sharply marked specimen, rather recalling the Celebes representative, *graphidata* PROUT (1920). A ♀ from Kayeli, March 1897 (DOHERTY) is quite typical. The range of the species extends from the Moluccas to the Bismarcks, with a subspecies (united by WARREN, loc. cit., with his *discata*) from the Solomons.

26. *Scopula oppilata* (WALK.)

Acidalia oppilata WALK. XXIII. 776 (1861) (Queensland).

Craspedia crossophragma (MEYR., 1886) HOLL., Nov. Zool. VII. 581 (1900) (Buru).

En'Biloro, 1 Feb. 1922, 1 ♀.

One of the most widely distributed of the island (and coastal) *Scopula*, known from Tukan Besi, the whole range of islands from Bali to Tenimber,

Amboina to Key, Astrolabe Bay (New Guinea), Admiralty Islands, St. Matthias, Solomons and Loyalty Islands.

27. *Scopula amala* (MEYR.).

Acidalia amala MEYR., Tr. Ent. Soc. Lond. 1886, p. 207 (British New Guinea).

Leksula (st. 1), 20 May 1921, 1 ♀. En'Biloro, 1 Feb. 1922, 1 ♀.

The Leksula specimen is quite normal, the En'Biloro smaller, with a more pinkish-grey tinge, the markings rather finer.

This species has not quite such an extended range as the last, being unknown from the Sunda and Loyalty Islands, but the two often occur together. I suspect *lacteisabulosa* ROTHSCH. (1915, Utakwa River) is merely a slight aberration of it.

28. *Scopula inactuosa* PROUT (?)

Scopula inactuosa PROUT, Nov. Zool. XXVII. 296 (1920) (Sumbawa).

Leksula (st. 1), 18 January 1922, 1 ♀.

Not unlike the brownest examples from the Key Islands and Timor, but rather duskier still. As, however, the postmedian line looks slightly more proximal and less sinuous the Buru specimen may perhaps be a different species. The group is extremely difficult to determine with the aid of ♂ series and sometimes impossible from a single ♀. All the localities yet known for *inactuosa* are registered in my original description.

29. *Scopula actuaria* (WALK.)

Acidalia actuaria WALK., List Lep. Ins. XXII. 752 (1861) (Ceylon).
Craspedia actuaria HOLL., Nov. Zool. VII. 581 (1900) (Buru).

Rana (st. 9), 30 June and mid July, 1921, 2 ♀♀.

The later specimen is rather large and pale, with the markings — especially the median shade — rather strong. The other is less extreme, though tending somewhat in the same direction.

Forms which pass under this name, and which at any rate agree essentially in structure and markings, occur everywhere from Ceylon and India to Formosa in one direction and to the Moluccas in another. DOHERTY collected it on Ternate, Batjan and Amboina, KÜHN on Ceram Laut and Little Key, but I do not think it has been previously taken on Buru.

Subfam. **LARENTIINAE.**

30. *Xanthorhoë vinosa* WARR. (Pl. IX, fig. 13).

Xanthorhoë vinosa WARR., Nov. Zool. XIV. 150 (1907) (British New Guinea).

Rana (st. 9) 15 & 20 May and 4 July 1921, 3 ♂♂.

Hitherto only known from the Owen Stanley Range and Hydrographer Mountains. WARREN described it from a single ♂ from Biagi, with the

median band rather redder and less dark than usual, having determined the specimens earlier brought from the Upper Aroa River as „*Visiana repentinata* WALK." (i.e. *brujata* GUEN.). *Visiana* is at present treated as a compact group within the extensive genus *Xanthorhoë*, embracing *sordidata* MOORE (1888), *brujata* GUEN. (1858), *vinosa* WARR. and a few unnamed species or forms. The Buru specimens of *vinosa* may represent a race, being rather large and with the proximal lines of the hindwing appearing slightly less crenulate than in the type. The latter, however, seems also to apply to a series from Kumusi River (low elevation) which are otherwise quite typical; the difference is in any case very slight.

31. **Horisme praemaculata** sp. n. (Pl. IX, fig. 9).

♀, 29 mm. Similar to *olivata* WARR. (1901, as *Pseudocollix*). Forewing broader, termen considerably less oblique anteriorly than posteriorly, roundly bent about R^3; cellspot obsolete above, rather less large than in *olivata* beneath; lines still weaker than in that species, the costal spots remaining strong, the postmedian one more extended, measuring 2 mm. along the costa; dark proximal streak of costa obsolete; instead, a small basal-costal brown patch, partly margined with black. — Hindwing with cell-spot obsolete above, very small and weak beneath.

Underside with the postmedian line rather less intense than in *olivata*, on forewing angled only at R^3, on hindwing scarcely so produced at R^3 as in *olivata*.

Fakal (st. 9), 2 September 1921 (L. J. TOXOPEUS), the type only.

32. **Horisme grandescens** sp. n. (Pl. IX, fig. 6).

♀, 43 mm. Close to *xylinata* WARR. (1906, as *Coenocalpe*) = *aorista* TURN. (1907), possibly a giant form, though much larger than anything hitherto known in the group. Otherwise differing chiefly in having the postmedian line of the forewing markedly intented between SC^2 and R^1, the outward sweep behind this indentation appearing broader, scarcely culminating in a definite angle behind R^3. Hindwing with the postmedian showing a similar, though slighter, tendency to curve inward near costa, its bend behind R^3 broader and less acute than in *xylinata*. In addition, the subbasal and antemedian lines of the forewing appear slightly less oblique than in *xylinata*, but the former is only developed between hindmargin and M.

Underside less sharply marked than in *xylinata*.

Rana (st. 9), 1 ♀, July 1921 (L. J. TOXOPEUS).

The unique type belongs to the form with whitish maculation on forewing in end of cell, at costa outside the postmedian, etc., on hindwing outside the posterior half of postmedian, but will no doubt prove as variable as in the allies — *suffusa* HMPSN. 1891, probably *hoarmiata* SNELL. 1881

(Celebes, unknown to me in nature) and *xylinata* WARR., all of which may easily prove races of a single species. The postmedian costal spot is, however, ampler than is usual in the allied forms.

33. *Chloroclystis dentatissima* WARR.

Chloroclystis nigrilineata WARR., Nov. Zool. V. 23 (1898) (nom. praeocc.) (Queensland).

Chloroclystis dentatissima WARR., tom. cit. 428 (1898) (Key Islands).

6 November 1921.

Leksula (st. 1), 1 ♂, August 1921, 1 ♀.

An extremely widely distributed island species, represented in the Tring Museum from Ceylon, Java, Sumbawa, Timor, Dammer, Tenimber, Key, Queensland (one only, possibly an accidental introduction, cf. TURNER, Proc. Roy. Soc. Vict. XVI. 234) and — perhaps in a separable race — Vulcan, Rook, St. Matthias and Squally Islands.

34. *Chloroclystis admixtaria* (WALK.)

Eupithecia admixtaria WALK., List Lep. Ins. XXIV. 1243 (1862) (Ceylon).

Rana (st. 9), 27 April and 15 May 1921, 2 ♀♀.

In its typical form this species has not, I think, been hitherto taken eastward of Celebes, where DOHERTY took 4 at Bonthain in August 1896. I suspect, however, that *fragilis* WARR. (Nov. Zool. VI. 38) from Little Key, New Guinea, the Louisiades, etc., is a smaller and more weakly coloured form of it; probably also the more greenish *bryodes* TURN. (Proc. Linn. Soc. N. Sth. Wales XXXI. 694) of N. Queensland. From Sumbawa I have seen a diminutive specimen apparently quite like *fragilis* but not very fresh (September 1891) and a typical *admixtaria* (Tambora, 2500—4000 ft., April—May 1896).

35. *Chloroclystis inops* (WARR.)

Gymnoscelis inops WARR., Nov. Zool. V. 428 (1898) (Key Islands).

Leksula (st. 1), September 1921, 1 ♀. Bah'lalè (st. 22), 22 January 1922.

WARREN described from a single ♀, but as the hindlegs of his type are intact, his generic placing must have been due to negligence. The same form occurs also on Amboina. In New Guinea, N. Queensland and eastward it is represented by *sordida* WARR. (Nov. Zool. X. 378) and it seems not unlikely that both are races of *recensitaria* WALK., from Ceylon.

36. *Chloroclystis biangulata* WARR.

Chloroclystis biangulata WARR., Nov. Zool. XIV. 152 (1907) (Owen Stanley Range).

Rana (st. 9), 19 May 1921, 1 ♀.

Apart from WARREN's type, I only know three specimens, all from Goodenough Island. The Buru specimen is smaller than either, but otherwise

agrees better with the other island form than with the type, the antemedian line of the forewing being better indicated and the red shade proximal to the postmedian somewhat strengthened. The ♂ is still unknown and it would manifestly be premature to attempt any racial discriminations on the material as yet available.

37. *Calluga* sp.

Road Leksula-Fakal, above 4000 ft. (st. 17), 1 ♀.

Perhaps a stunted and pale (but not very fresh) form of *cissocosma* TURN. (Proc. Roy. Soc. Vict. XVI. 232) = *albiviridis* WARR. (Nov. Zool. XIV. 160) which is distributed in New Guinea and Queensland and is very doubtfully distinct from *costalis* MOORE (India and Ceylon to Celebes). In erecting a genus *Sillophora* for this species, WARREN apparently overlooked that MOORE had already (Lep. Ceyl. III. 480) founded *Calluga* on its Indian representative. The ♂ characters vary according to the species, but the 3-spurred hindtibia proves as serviceable a structure group as the 4-spurred (*Chloroclystis*) or 2-spurred (*Gymnoscelis*).

38. **Calluga psaphara** sp. n. (Pl. IX, fig. 15).

♂, 13 mm. Superficially similar to a rather light *Chloroclystis sordida* WARR. (1903) or, in its rather more rounded forewing, a dark ♀ *Chl.* (*Bosara*) *pelopsaria* WALK. (1866). Head, as in *sordida*, pale with frontal cone and outside of palpus largely blackish, but the face with a pair of central dark dots. Antennal ciliation minute (in *sordida* ♂ 1). Hindtibia with a rather long proximal spur and a pair of very unequal terminal ones.

Forewing with nearly the markings of *C. sordida*, but (especially in outer part of median area) with some vinous suffusion; black run on irroration very sparse; median area with the double outer lobe slightly narrower, its indentation at R^2 slighter; terminal line fairly strong, interrupted at veins. — Hindwing with the terminal concavities much slighter than in *sordida*; postmedian line much more rounded, the area beyond, especially in posterior half, pale-mixed.

Underside much as in *Chl. sordida*.

Wa' Katīn, 1675 ft. (st. 5), April 1921 (L. J. TOXOPEUS), the type only.

39. *Gymnoscelis festiva* WARR.

Gymnoscelis festiva WARR., Nov. Zool. X. 380 (1903) (Owen Stanley Range).

Road Leksula-Fakal, from 2800—3700 ft. (st. 16), 20 October 1921, 1 ♀.

Here again I am constrained by shortage of material to merge a form which may probably prove a race, or possibly even, when the ♂ is discovered, a separate species. Only WARREN's type (Upper Aroa River) and one other ♀ (Angabunga River) were previously known to me. The Buru specimen differs slightly from them in the clearer ground, rather redder central band and just appreciably more proximally placed postmedian line, which on

the forewing is rather strong and thick, obscuring the secondary sinuosities, on the hindwing thinner.

40. *Symmimetis cristata* (WARR.)

Gymnoscelis cristata WARR., Nov. Zool. IV. 229 (1897) (Jaintia Hills).
Neoscelis rivula HMPSN., Journ. Bomb. Nat. Hist. Soc. XIV. 639 (1903) (Ceylon).

Ehu Road (st. 7), September 1921, 1 ♀.

Specimens which pass under this name, and are in any case extremely closely related, are found scattered throughout the greater part of the Indo-Australian Region — Ceylon, Assam, the Andamans, Penang, Bali, New Guinea, Rossel Island, Feni Island (E. of New Ireland), Bougainville and even Fiji are known localities. The genus is clearly a specialized offshoot of *Gymnoscelis* and required a separate name, but the one proposed by HAMPSON (loc. cit. supra) is unavailable, being preoccupied. TURNER's *Symmimetis* (Proc. Linn. Soc. N. Sth. Wales XXXI. 683), proposed for a close ally or probably race, *muscosa* TURN., must be substituted. I have not seen specimens of the latter and its ♂ is apparently unknown.

41. *Phthonoloba definita* (JOICEY & TALB.)

Sauris definita JOICEY & TALB., Ann. Mag. Nat. Hist. (8) XX. 68, t. IV. f. 15 (1917) (Arfak Mountains).

Ehu Road (st. 7), September 1921, 1 ♂.

The original description was from a ♀. The ♂ shows the structural characters of *Phthonoloba* (*Hypocometa*) *clauda* WARR. (1896). Besides the type, Mr. JOICEY has now a ♂ from Manusela, Central Ceram, and a ♀ from Mt. Kunupi, Weyland Mountains, Dutch New Guinea, while the Tring Museum has a ♂ from Angabunga River, British New Guinea. The Moluccan form may be a little paler than that of New Guinea, the hindwing a little suggesting the tone of *rufulata* WARR. (1899), from Flores. In any case, it is highly probable that all these three „*Hypocometa*" will prove forms of a single species.

42. *Sauris marginepunctata* (WARR.)

Holorista marginepunctata WARR., Nov. Zool. VI. 339 (1899) (Negros).

Rana (st. 9), 28 May 1921, 1 ♂; 16 May 1921, 1 ♀.

Also in coll. JOICEY from Gamoe'Mrapat, 5000 feet, March—April 1922, 3 ♀♀ and from Manusela, Central Ceram, 1 ♂, 4 ♀♀.

WARREN's type from Negros is extremely faded and as further material is still wanting it is impossible to say wherein this Moluccan insect differs, though it should certainly represent a distinct race. Perhaps differentiable by the presence of cloudy purplish spots in the postmedian and subterminal regions before the radial fold and behind M^2 (much as in *usta* WARR., 1895, though rather less strong), which do not s h o w in *marginepunctata*. A

subcostal indentation of the postmedian band (as in the rest of the group) and two slightly broadened white marks 3 mm. from the termen, the former running from R^1 to the radial fold, the latter commencing about M^2 and curving out to SM^2 at termen, are common to the Philippine and Moluccan forms, though not mentioned by WARREN. The structure of the hindwing (which is anteriorly whitish, only posteriorly „pale ochreous") and of the hindtibia places the species with *usta* rather than with *remodesaria* WALK., the „vesicle" of the abdominal margin (HMPSN., Faun. Ind. Maths. III. 409) being reduced and the hair of the hindtibia less long. It may be that *marginepunctata* is even a race of *usta*, an unnamed form from Dutch New Guinea having its forewing similar to the Buru *marginepunctata*, its hindwing at least as dark as in *usta*.

43. **Sauris seminigra buruensis** subsp. n. (Pl. IX, fig. 10).

♂, 29 mm. Hindwing slightly broader than in *S. s. seminigra* WARR. (Nov. Zool. X. 383, British New Guinea), basal lobe not black-edged in distal half, black streak interrupted before the terminal lobe.

♀, 29 mm. Both wings paler than in *s. seminigra*, the forewing with the median band only materially darkened posteriorly (scarcely to M and SM^2) and in a costal spot at its proximal margin.

Gamoe'Mrapat, 5000 feet, March—April 1922 (C., F. and J. PRATT) type and another ♂ in coll. JOICEY. Fakal (st. 13), 3400—4600 feet, 24 October 1921 (L. J. TOXOPEUS) allotype ♀.

44. *Bihastina albolucens* PROUT.

Bihastina albolucens PROUT, Nov. Zool. XXIII. 26 (1916) (Dutch New Guinea).

Ehu Road (st. 7), 1 October 1921, 1 ♀.

New for the Moluccas. Mr. JOICEY has received a damaged ♂ from Gamoe'Mrapat. Both Buru specimens are pale, recalling *mera* PROUT (Nov. Zool. XXXIII. 19).

45. *Hydrelia flavidula* (WARR.)

Hastina flavidula WARR., Nov. Zool. XIV, 162 (1907) (British New Guinea).

Fat'Koton, 1450 m., 1 March 1922, 1 ♀.

Likewise new for the Moluccas. The specimen is as large as the largest I have seen from New Guinea and as heavily marked as the darkest, perhaps representing a local race.

Subfam. **GEOMETRINAE.**

46. *Abraxas clara* (WALK.)

Nyctemera clara WALK., List Lep. Ins. XXXI. 202 (1864) (Buru).

„*Abraxas hypsata* FELD." HOLL., Nov. Zool. VII. 580 (1900) (Buru).

Ehu Road (st. 7), September 1921, 1 ♂. Wa' Tawa, 29 September 1921, 1 ♀. Leksula, September 1921—January 1922, 2 ♂♂, 2 ♀♀. Wa'Ha, 12 December 1921, 1 ♀. Bah'lalè, 22 January 1922, 1 ♂.

This „species" and *punctifera* WALK. (loc. cit., Aru), together with a number of others which have not yet been thoroughly worked out, evidently constitute a number of races of a single collective species which extends from Celebes and the Philippines to Dutch New Guinea.

47. **Abraxas ischnophragma** sp. n. (Pl. IX, fig. 22).

♂, 44—49 mm.; ♀, 54—58 mm. Head orange, with a few black scales; a large black spot on crown. Palpus with 3rd joint and part of 2nd black. Antenna of ♂ with the normal fascicles of cilia. Body orange; collar and wing-tegulae with black spots; abdomen with rows of black spots about as in the allies (*sesquilineata* WARR., *extralineata* WARR., etc.). Fore and middle legs mostly black; hindfemur pale, with a black spot at middle and one at end; hindtibia of ♂ strongly dilated, innerside and base of outerside pale, distal ⅔ of outerside black; tarsus not quite ⅔ of tibia, black.

Forewing creamy white; a round black cell-spot, 1—2 mm. in diameter; a small black basal patch, enclosing an orange one; a black costal and distal border, over 1 mm. in breadth to near end of costa, thence narrower; fringes black. — Hindwing with base of costa not much expanded; cell-spot wanting; a narrow black distal border; fringe black.

Underside similar.

Efrarat, 4400 feet, 2 March 1922 (L. J. TOXOPEUS), ♂ type, ♂ paratype; 1 March 1922, ♀ allotype. Ehu Road (st. 7) September 1921, 1 ♂. 'Msuma Lawan, 13 October 1921, 1 ♂. Mnges'Waen, 31 January 1922, 1 ♀. Fakal, February 1922, 1 ♂.

Extreme aberrations of *discata* WARR. 1897 (*subhyalina* RÖB. 1891 subsp. vel syn.) with the longitudinal streak obsolete slightly recall this species, but have larger cell-spot and much ampler, differently shaped borders, as well as rather more rounded costal margin of forewing.

48. *Abraxas extralineata* WARR. (Pl. IX, fig. 17).

Abraxas extralineata WARR., Nov. Zool. VI. 346 (1899) (Mount Mada, Buru).

Ehu Road (st. 7), 3900 ft., 12 April 1921, 1 ♂; 2 June 1921, 1 ♂; 2000—3600 ft., 20—30 September 1921, 1 ♂. Road from Leksula to Fakal 3840 ft., 27 August 1921, 1 ♀. 'Msuma Lawan, 3300—3600 ft., 3 November 1921, 1 ♂, 1 ♀.

Besides WARREN's type, the Tring Museum possesses a ♂ labelled „Kapala Madang, Buru, March 1902 (H. KÜHN)". Otherwise the species was unknown to me until the PRATT brothers sent a good series to Mr. JOICEY from Gamoe'Mrapat, 5000 ft., February—April 1922.

49. *Abraxas sesquilineata* WARR. (Pl. IX, fig. 20).

Abraxas sesquilineata WARR., Nov. Zool. VI. 347 (1899) (Mount Mada, Buru).

Ehu Road (st. 7), 2000—3600 ft., 20—30 September 1921, 6 ♂♂.

Of this species, so far as I am aware, WARREN's type hitherto remained unique. It and the two preceding seem to be remarkably constant.

50. *Ctimene obnubilata* (WARR.)

Bursada obnubilata WARR., Nov. Zool. V. 246 (1898) (Kayeli, Buru).

Bursada obnubilata ab. *inversa* WARR., Nov. Zool. VI. 343 (1899) (Mt. Mada, Buru).

Leksula (st. 1), April 1921, 1 ♀; August 1921, 2 ♂♂. Wai Eno (st. 6), 1 ♀. Ehu, 2000—3600 ft., 20—30 September 1921, 1 ♀. Wai Temoen 17 February 1922, 1 ♂.

Ab. (?) *inversa* WARR.: Wai Eno (st. 6), April 1921, 1 ♀. Goh'Reman, 26 April 1921, 1 ♂. Ehu, 2000—3600 ft., 20—30 September 1921, 1 ♂.

This excessively variable and very interesting *Ctimene* is clearly the Buru representative of *tricinctaria* LINN. from Ceram, Amboina, Nusa Laut and doubtless Saparua, and should probably be regarded as a subspecies, differing chiefly in the great increase of the black markings and in the different direction of the antemedian band of the forewing. Although WARREN registers his *inversa* as „ab.", he opines at the same time that it is a „local form" — a view which seemed justified by the fact that all the Kayeli specimens collected by DOHERTY belonged to the *obnubilata* form, but which is only partially borne out by subsequent material. The essential distinction between the two forms is that the median orange area of the forewing is encroached upon by the black in opposite directions: in the most *tricinctaria*-like *obnubilata* it is clear throughout, yet much broader posteriorly than anteriorly; more commonly (as in WARREN's type) it is triangular or pyramidal and not reaching the costa, sometimes indeed not even entering the cell; in the form *inversa* it persists only in the anterior part of the wing and a correlated modification of the hindwing pattern is nearly always observable, namely that the abdominal margin is there blackened. In both forms the subapical yellow patch of the forewing can be reduced or almost suppressed and in extreme melanic aberrations (which, judged from their hindwings, have developed through the *inversa* series) the forewing can be entirely black, or only with a few orange scales or minute spots here and there. It appears from a magnificent series collected by the PRATTS that the coastal districts tend to produce *obnubilata* while the higher elevations yield a large percentage of melanic forms (perhaps 40 %). But the ♀ taken at Leksula in April by Mr. TOXOPEUS has the forewing melanic except for a small posteriorly yellow triangle tapering to a point at M; whereas the two palest ♀♀ are from stations 6 and 7 at altitudes of not less than 1600 feet. I shall hope on another occasion to make a more detailed analysis of the PRATTS' booty.

The only other obviously close relative of *tricinctaria* and *obnubilata* is *conjunctiva* WARR. (1905) from Obi; but the whole genus is very uniform in external structure and it is possible that a closer anatomical study may reveal that at least the white-winged *fidonioides* WALK. (1864) of Celebes enters into the immediate group.

51. *Bracca bajularia* (CLERCK).

Phalaena bajularia CLERCK, Icones Ins. Rar. II, t. 54, f. 3 (1764) [Amboina].

Nal'Besi, 31 May 1921, 1 ♂. Ehu Road (st. 7), 2950 ft., 12 April 1921, 1 ♀; 2000—3600 ft., 20—30 September 1921, 3 ♂♂, 5 ♀♀. Wai Eno (st. 8), 6 June 1921, 1 ♂. Rana (st. 9), 29 May 1921, 1 ♂. Wa'Bohi, 1000 ft., 20 & 23 January 1922, 1 ♂, 1 ♀. Wa Temoen, 8 & 20 January 1922, 2 ♂♂. Fakal, February 1922, 1 ♀.

The Buru specimens may show a slight racial tendency in the very general enlargement of the white spot in (and behind) the cell of the forewing, but a very long series from Ceram in Coll. JOICEY, is variable in this respect and shows all intergradations, while even on Buru it is far from constant. Evidently widely distributed on the latter island, already recorded by HOLLAND (Nov. Zool. VII. 580) and collected on Mount Mada by DUMAS and KÜHN. Races are known from Aru, New Guinea, Rossel I., the Bismarck Archipelago and North Queensland. I have not seen examples from the last-named locality, but the description of *Praesos catadela* TURN. (Proc. Linn. Soc. N. Sth. Wales XII. 385) fits *B. b. ribbei* PAGENST. (Aru) in every detail.

52. **Cosmethis rotundata buruensis** subsp. n. (Pl. IX, fig. 5).

♂♀, 59—78 mm.

Generally larger than *r. rotundata* BUTL. (Ent. Mo. Mag. XIV. 108, 1877, as *Tigridoptera*, Queensland).

Forewing slightly broader, with tornus a little less rounded off; the white parts somewhat more extended; postmedian lines generally more strongly outbent at the radials (but variable in both races); subterminal spots in anterior half less elongate; an interrupted grey line more or less developed beyond (edging the white area); terminal dots sometimes indicated. — Hindwing slightly more produced at SC^2 (beginning to suggest the shape of *barbara* CRAM.); anterior subterminal spots (though large) less elongate than in *r. rotundata*; a terminal spot or elongate mark in middle of cellule 6.

Underside with more white on both wings, especially in the subterminal area between M^1 and R^2 or R^3, where it is generally very clear and conspicuous.

Wa'Bohi, 20 January 1922, type ♂ and allotype ♀. Leksula (st. 1) September 1921, (L. J. TOXOPEUS), 1 ♂. Also from Kako Tagalago and Gamoe'Mrapat (PRATT bros.), a series in coll. JOICEY.

53. *Craspedosis ernestina norbeata* Swinh.

Craspedosis norbeata Swinh., Cat. Lep. Het. Oxf. Mus. II. 312 (1900) (Buru).
„*Craspedosis sobria* Walk." Holl., Nov. Zool. VII. 580 (1900) (Buru).

Leksula (st. 1), August 1921, 1 ♂. Rana (st. 9), 9 June 1921, 1 ♂. Fer' Poe, 1 November 1921, 2000 ft., 1 ♀, 700 m., 1 ♂. Wa'Ha, 6 December 1921, 1 ♀. Wai Eno, 1 February 1922, 1 ♀.

Range about as in *Bracca bajularia*. Several races have already been named.

54. **Milionia glaucans coccinata** subsp. n. (Pl. IX, fig. 2).

Milionia glauca Holl., Nov. Zool. VII. 580 (1900) (Buru).

♂♀. Forewing with the band considerably narrower than in *g. glaucans* Stoll[1]), measuring only 3—4 mm. in its widest part, of a uniform bright red colour like the hinder end of the band of *g. glaucans*. Beneath similar, though with the band tinged with orange at the extreme ends. Hindwing as in *g. glaucans*.

Wa'Tina, 14 January 1922 (L. J. Toxopeus), type ♂. Nal'Besi (Leksula), 23 January 1922, 1 ♂. Between Wai Eno and Nal'Besi "Swampy forest", 26 April 1921, 1 ♀. Also in Mus. Tring from Mount Mada, 3000 feet, September 1898 (Dumas) and Kayeli, March 1897 (Doherty) and in coll. Joicey from Koentoeroen, 3000 feet, May 1922 and Gamoe'Mrapat, 5000 feet, April—May 1922 (Pratt brothers).

As in *g. glaucans* from Amboina and Ceram, the aberration with a red patch at base of forewing occurs occasionally (ab. *basirubra* Th.-Mieg, Le Nat. XXVII. 181). The Nal'Besi example and that from Gamoe'Mrapat belong to this form.

55. *Sabaria semifulva* (Pagenst.)

Eurymene semifulva Pagenst., Jahrb. Nass. Ver. Nat. XXXIX. 153 (1886) (S. W. New Guinea).

Prionia semifulva Swinh., Tr. Ent. Soc. Lond. 1886. 608.

Leksula (st. 1), July 1921, 1 ♀ (bred). Tifu, 17 December 1921, 1 ♂. Also in coll. Joicey from Kako Tagalago, 2 ♀♀, rather large and dark.

Widely distributed and variable in the Moluccas, New Guinea and North Queensland.

The pupa-case from which the Leksula ♀ was bred is moderately stout, polished, very finely shagreened, the cremaster short and blunt, with a cluster of fine hooklets, the middle hair only a little strengthened; deep red-brown, in places almost black, at the sutures light-brown.

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[1]) [*Phalaena*] *glauca* Stoll in Cram., Uitl. Kapell. IV (31) 152, t. CCCXLVIII f. D (1781) (nom. praeocc.) = *Phalaena Bombyx glauca* Stoll in Cram., Uitl. Kapell. IV (34), 249 (1782) = *Phalaena Bombyx glaucans* Stoll, ibid. Proeve Rangschik. Lep. 21 (1782) (nom. nov.) = *Epidesma pyrrho* HB. Verz. bek. Schmett. p. 176 [1822] (nom. nov.) (Amboina).

56. *Sabaria haematopis* (WARR). (Pl. IX, fig. 16).
Prionia haematopis WARR., Nov. Zool. V. 255 (1898) (Kayeli, Buru).

Leksula (st. 1), 6 July 1921, 1 ♀; 12 December 1921, 1 ♀. Air berboenji, 16 January 1922.

I feel scarcely any doubt that this is a ♀ form of the preceding, at present only known from Buru, whence, in addition to the type, the Tring Museum possesses 2 labelled „N. Coast, November 1897 (W. DOHERTY)". But I am prepared to await further evidence before merging it. In any case, if this red ♀ is the prevailing form on the island (and even the bred *semifulva* ♀ may be a trifle redder than the average from other localities) it may prove possible to establish a racial separation. There is at present a regrettable shortage of Buru ♂♂.

57. *Hypochrosis pachiaria obnubilata* PROUT.
Hypochrosis pachiaria obnubilata PROUT, Bull. Hill Mus. I (2), 299 (1922) (Central Ceram).

Wa'Temoen, 14 February 1922, 1 ♀.

H. pachiaria WALK. is common in India and reaches the Andamans and even Borneo with little modification. A form akin to, if not identical with, *p. obnubilata* has been taken sparingly in Dutch New Guinea.

58. *Hyposidra incomptaria* (WALK.)
Lagyra incomptaria WALK., List Lep. Ins. XXXV. 1539 (1866) (Aru).

Ehu Road (st. 7), September 1921, 1 ♂; 2000—3600 ft., 20—30 September 1921, 1 ♀.

A partial synonymy of this excessively variable species, which is distributed from Malaya to the Solomons, is given by SWINHOE, Tr. Ent. Soc. Lond. 1902, p. 610. A ♂ from Amboina has been named *lutosaria* PAGENST. (Jahrb. Nass. Ver. Nat. XXXVII. 261, t. VII, f. 3, 1884) and one from Ceram *alfuraria* PAGENST. (Iris I. 44, t. III., f. 3, 1886), but I cannot as yet see that any racial name is required.

59. *Hyposidra talaca* (WALK.)
Lagyra talaca WALK., List Lep. Ins. XX. 59 (1860) (Celebes; Philippines).
Hyposidra talaca HOLL., Nov. Zool. VII. 579 (1900) (Buru).

Leksula (st. 1), August 1921, 1 ♀; 2—20 January 1922, 1 ♂, 2 ♀♀. Rana, July 1921, 1 ♀.

Even more widely distributed than *incomptaria*, extending westward to India, the variation slight.

60. *Orsonoba clelia* (CRAM.)
Phalaena Geometra clelia CRAM., Uitl. Kapell. III. (24) 172, 174, t. CCLXXXVIII, f. B., C. (1780) (Coromandel).

Leksula (st. 1), October 1921, 1 ♀. There is also a ♀ from Bara, Buru,

August 1898 (DUMAS) in coll. Tring Mus. and the PRATTS took 1 ♂ at Kako Tagalago and 2 ♂♂ at Gamoe'Mrapat.

Distribution about as with *Hyposidra talaca*, variation — excepting the sexual dimorphism — not great.

61. **Amblychia nefrens** sp. n. (Pl. IX, fig. 1).

? „*Ambychia angeronaria* GUEN." HOLL., Nov. Zool. VII. 579 (1900).

♂, 80 mm. [1]) Smaller than *angeronaria* GUEN.; hindtibia pale, only very feebly spotted with grey.

Forewing with apex not produced, termen not concave between apex and R^2, only with a small and excessively slight inward curve at SC^5, observable with close attention; paler and less brown than the most unicolorous ♂-form of *angeronaria*, more suffused with drab-grey; cell-dot not enlarged; markings weak, but with the straightish dark-grey line from beyond ⅔ costa to beyond middle of M^2 relatively well developed; the white spots proximal hereto reduced to a dot in cellule 3, a half-moon in cellule 2 (its longitudinal measurement less than 2 mm.) and a comma behind M^2; terminal area pale, becoming more so at tornus. — Hindwing with the excisions in termen shallower than in *angeronaria*, the tail at R^3 short; concolorous with forewing; cell-dot not enlarged; all the lines weak.

♀, 102 mm. Equally distinguishable from that of *angeronaria* by the non-excavated termen of forewing (with apex not produced) and the shallow excisions of hindwing; well variegated with buff and hazel, with the curved median shade broad and with the white markings of forewing ample, including besides the large apical triangle and the macular postmedian, a costal half-band between the median and postmedian, analogous to that of *schistacea* WARR. (1905), and a tornal patch reaching M^2.

Fakal (st. 13), 3400—4600 ft., 20—30 September 1921, ex larva, (L. J. TOXOPEUS), the type ♂. Ehu, 2000—3600 feet, 20—30 September 1921, allotype ♀.

Pupa stout, brown-red, polished, finely shagreened; cremaster of the „Group D" type (MOSHER, Classif. Lep. Pupa, 1915, p. 130), roughly comparable with that of *Cleora repandata* LINN. or perhaps *Biston strataria* HUFN., the rough, swollen part large, giving place even more abruptly to the slender terminal rod.

This species will probably prove as variable as the other *Amblychia* forms, but the shape at least is distinctive. Although it seems nearer to *schistacea* WARR. (Batjan and Gilolo) and an unnamed species from Celebes, I have made the comparisons with *angeronaria* GUEN. (N. India, Burma, Hainan) as being the only well-known form. I have had in hand for the past two years the preliminary notes for an analysis of the group, which

[1]) Probably somewhat stunted through breeding.

extends from Ceylon and India to the D'Entrecasteaux and Bismarck Islands; but have had to postpone it indefinitely owing to the pressure of other work.

62. **Buzura nephelistis ordinans** subsp. n. (Pl. IX, fig. 3).

♂, 83—84 mm.; ♀, 94—99 mm.

Considerably larger than *n. nephelistis* MEYR. (Tr. Ent. Soc. Lond. 1897, p. 77, Talaut, = *atomaria* WARR., Nov. Zool. IV. 244, Celebes), much more definitely banded. Forewing with two bands almost free of the blackish irroration, one in the cell and hindwards (in the ♂ narrow anteriorly), the other between the median shade and postmedian line, clear in both sexes. Hindwing with median dark shading narrow.

Leksula (st. 1), September 1921, (L. J. TOXOPEUS), type ♀. Rana (st. 9), e.l. 19 June 1921, 1 ♀. Also from Mt. Mada, 3000 ft., September 1898, 1 ♂, 1 ♀, in Mus. Tring and from Kako Tagalago 2700 feet, May 1922 (PRATT brothers), 3 ♂♂ in Coll. JOICEY.

SWINHOE (Tr. Ent. Soc. Lond. 1902, p. 819), in sinking this species to *insularis* WARR., must have overlooked the antennal structure.

63. *Cleora inflexaria* (SNELL.)

Boarmia inflexaria SNELL., Tijd. v. Ent. XXIV. 72, t. 8, f. 2, 2 a (1881) (Celebes & Saleyer); SWINH., Tr. Ent. Soc. Lond. 1902, p. 624 (synonymy).

Cleora inflexaria TURN., Proc. Linn. Soc. N. Sth. Wales XLII. 375 (1917) (N. Australia & Queensland).

Leksula (st. 1), July 1921, 2 ♂♂; August 1921, 1 ♂; 18 January 1922, 1 ♂, 1 ♀. Wa'Katin, 24 March 1921, 1 ♀.

Very widely distributed and generally common, Nias to the Solomons; already represented from Buru in Mus. Tring in a single ♂ from Kayeli, March 1897 (W. DOHERTY).

64. **Cleora argicerauna** sp. n. (Pl. IX, fig. 14).

♂, 27 mm. Near *hoplogaster* PROUT (Nov. Zool. XXIII. 51, Mount Goliath) and *discipuncta* JOICEY & TALB. (Ann. Mag. Nat. Hist. (8) XX. 74, t. IV, f. 8, Arfak Mountains). Markedly smaller. Forewing on the whole dark, especially in the median area; cell-spot less large than in the allies, relatively narrow, more ringed with white, its oblique pose more manifest; postmedian line bent behind M^2 instead of behind M^1 (in all three species occasionally more evenly curved); area distally to the postmedian more uniformly tawny or russet (in some aberrations ochraceous-buff), the black markings proximally to the subterminal reducsed; subterminal line complete, though rather slender, the proximal streak at R^1 typically long, an acute proximal tooth between R^3 and M^1; terminal area generally pale, except for the oblique blackish patch just behind the apex. Hindwing with cell-spot reduced, terminal dots obsolescent.

Rana (st. 9), 1 July 1921 (L. J. TOXOPEUS), type ♂.

A series of 10 ♂♂ and 9 ♀♀ from Gamoe'Mrapat, 5000 feet, March—April 1922 (C., F. and J. PRATT) shows the species to be moderately variable and has been taken into account in the above description. The ♂ has long pectinations, with a rather short apical part merely ciliated, the hindtibia dilated, the fovea well developed, the abdomen beneath without the special organ of *hoplogaster* and *discipuncta*. The ♀ has the antenna simple and the fovea wanting and is perhaps on an average a little less dark than the ♂ but does not differ materially. In both sexes, SC^1 and SC^2 are free.

65. *Catoria camelaria* (GUEN.)

Boarmia(?) *camelaria* GUEN., Spec. Gén. Lép. IX. 256 (1858) (Australia).
? „*Boarmia sublavaria* GUEN." HOLL., Nov. Zool. VII. 580 (1900) (Buru).

1 ♀, the locality label lost, possibly Leksula, 15 March 1922.

Probably a race of this species, rather large, well dusted, with more blurred, broadly bordered underside. I have seen a very similar race from the mountains of New Guinea.

66. *Catoria delectaria* (WALK.)

Ophthalmodes delectaria WALK., List Lep. Ins. XXXV. 1595 (1866) (Aru).
Boarmia viridaria PAGENST., Jahrb. Nass. Ver. Nat. XLI. 168 (1888) (Amboina); Lep. Bism.-Archip. II. 137, t. I, f. 9 (1900) (New Britain).
Selidosema viridis TURN., Tr. Roy. Soc. S. Austral. XXX. 133 (1906), (N. Queensland).
Ophthalmodes plesia SWINH., Ann. Mag. Nat. Hist. (7) XX. 80 (1907), (Sumatra).

Wa' Katin (st. 5), 2 July 1921, 1 ♂. Rana, July 1921, 1 ♂. Tg. Li'Boli 25 September 1921, 1 ♀. Wa'Ha, 12 December 1921, 1 ♂.

Distribution nearly as that of *Cleora inflexaria*, though the present species is generally much less common. In the Solomon Islands it only reaches Nissan, the closely related *parva* BUTL. (1887) replacing it from Bougainville to Guadalcanar and in the western group. The variation is generally slight, though the forms from the Bismarck Archipelago are possibly separable by their deep colour and strong markings and the Queensland form by its small average size.

67. *Ectropis sabulosa* WARR. (Pl. IX, fig. 19, ab.).

Ectropis sabulosa WARR., Nov. Zool. IV. 94 (1897) (Amboina).
Scioglyptis semifascia WARR., tom. cit. 99 (1897) (Dutch New Guinea) (ab.)
Heterostegane semifasciata WARR., Nov. Zool. VII. 111 (1900) (Kayeli, Buru) (ab. = praec.).
? *Nadagara obrussata* HOLL. tom. cit. 578 (1900) (Buru) (? = ab. praec.).
„*Boarmia bhurmitra* WALK." HOLL., tom. cit. 580 (1900) (Buru).

Ectropis sabulosa ab. *insulsa* WARR., Nov. Zool. IX. 368 (1902) (Guadalcanar) (ab.).

Leksula (st. 1), undated, 1 ♂; 15 March 1921, 1 ♂ ab.; July 1921, 1 ♂; 1 ♀ both bred from pupae; 28 August 1921, 1 ♀; 15 October 1921, 1 ♀; 18 November 1921, 1 ♂. Rana (st. 9), 20 May 1921, 1 ♂ ab. *semifascia*; 4 July 1921, 1 ♂.

E. sabulosa is probably a race of *bhurmitra* WALK. 1860 (India, also Hainan, the Malay Peninsula, Java, etc.) but experience of the Palaearctic representatives of the group — *bistortata* GOEZE, *crepuscularia* SCHIFF., etc. — has taught how extremely obscure the differentiations of the species can be and I prefer to quote *sabulosa* as distinct in the present state of our knowledge. Thus considered, it extends from the Moluccas to the Solomons, accompanied (not replaced) in the latter group by a very washed-out form which WARREN named *insulsa* and which may possibly prove a separate species. The variation is as a rule only slight but the March specimen recorded above is a very fine aberration with the median shade broad and blackish, very proximally placed, on the forewing confluent with the antemedian line. Still more startling is the ab. *semifascia* WARR. which appears to have its head-quarters on Buru. The weakening of most of the markings, concurrently with the development on both wings of a strong dark, posterior half-band, filling the space between the postmedian and subterminal lines, gives it such a strange appearance that Mr. WARREN, on the two occasions on which Tring received it, totally failed to recognize its true affinities and referred it respectively to *Scioglyptis* and still worse — without remembering his earlier „species" — to *Heterostegane*. I suspect, from the description, that Dr. HOLLAND's *Nadagara obrussata* is in like case.

The larva, of which I have seen preserved specimens from Queensland, and the pupa-cases, preserved by Mr. TOXOPEUS, bear out the closeness of the relationship to *bistortata* GOEZE, though the imago — together with that of *bhurmitra* — differs structurally from those of *bistortata*, *crepuscularia* SCHIFF. and *dentilineata* MOORE in having a hair-pencil on the ♂ hindtibia. PAGENSTECHER (passim) and SNELLEN (Tijd. v. Ent. XLIII. 258), overlooking the structure, even recorded „*crepuscularia*" from the Moluccas, the Bismarcks and New Guinea. Cremaster rather less tapering than that of *bistortata*, its terminal fork thus more U-shaped than V-shaped, the prongs a little stronger.

Beside the type of „*Heterostegane semifasciata*", the Tring Museum has 9 ♂♂, 6 ♀♀ from Kayeli, all of the normal forms. The PRATT brothers brought 1 ♂ from Kako Tagalago.

68. *Ectropis flexilinea* (WARR.) (Pl. IX, fig. 12).

Myrioblephara flexilinea WARR., Nov. Zool. X./392 (1903) (Owen Stanley Range).

Road Leksula-Fakal, above 4000 ft. (st. 17), 21—22 October 1921, 2 ♀♀.

Perhaps a race of *simplaria* SWINH. (1894, N. India, Burma, Java). Several closely similar species or forms occur together in New Guinea and the PRATTS collected on Ceram and Buru both the present species and *boarmioides* ROTHSCH. (1915, Ceram), which latter seems to agree perfectly with some forms of *submarginata* WARR. (1906).

69. *Racotis inconclusa nigrofasciata* (PAGENST.).

Boarmia nigrofasciata PAGENST., Jahrb. Nass. Ver. Nat. XL/I. 169 (1888) (Amboina).

Leksula (st. 1), May 1921, 2 ♂♂; 7 December 1921, 1 ♂.

HAMPSON (Faun. Ind. Moths III. 261), ignoring a difference in the ♂ antennal structure, as well as the maculation of the underside, has merged two common Indian species: the true *boarmiaria* GUEN., with the fascicles of cilia almost sessile, merely arising from quite rudimentary teeth; and *inconclusa* WALK., with the teeth strong, triangular, almost as long as the diameter of the shaft. The former, of which *plenifasciata* WARR. is a synonym and *obliterata* WARR. an interesting dimorph (? seasonal), is known to me from N. India, Burma and S. China, but has evidently only a restricted range. The latter, in a number of races or very closely related species, is represented very generally from Ceylon to the Solomon Islands.

R. i. nigrofasciata is known to me from Ceram and Amboina and I do not think the form from the Key Islands will need separating.

70. *Semiothisa albapicaria* (HOLL.)

Macaria albapicaria HOLL., Nov. Zool. VII. 579 (1900) (Buru).

Fakal (st. 13), 30 August 1921, 1 ♀.

HOLLAND described from a single ♂, which I have not seen and which had the proximal area irrorated with „brown", whereas in the ♀ before me the irroration is „iron-grey", little differentiated from the solid dark border. The species of the genus often show considerable variation in colour, however, and the determination, though not quite certain, is in most ways very satisfactory.

71. *Semiothisa funebris* (WARR.)

Azata funebris WARR., Nov. Zool. VI. 354 (1899) (Milne Bay, British New Guinea).

Iulocera albinigra WARR., Nov. Zool. XIII. 155 (1906) (Owen Stanley Range).

Mnges'Waen, 24 October 1921, 1 ♂.

The specimen is much worn, but appears from the slender elongate abdomen, rather narrow wings, general coloration and small white subapical spot to belong to this species, probably in a new race, as the postmedian line looks more excurved anteriorly. I only know the type form from British and Dutch New Guinea and an unnamed race from the Bismarck Archipelago.

72. *Semiothisa goramata* (RÖB.)
Macaria goramata RÖB., Tijd. v. Ent. XXXIV. 331 (1891) (Goram).
Azata variegata WARR., Nov. Zool. III. 302 (1896) (Fergusson I.).
Rana (st. 9), 29 June 1921, 1 ♂.
Commencing with the Sula Islands, the range of this pretty and distinct *Semiothisa* extends through Obi and the South Moluccas to New Guinea and its islands.

73. *Semiothisa connotata* WARR.
Semiothisa connotata WARR., Nov. Zool. III. 304 (1896) (Trobriand Is.).
Leksula (st. 1), July 1921, 1 ♀.
Distributed in New Guinea and its islands, but new to the Moluccas. It is, however, highly probable that it is a race of *drepanata* RÖB. 1891 (Flores), which I have not seen from the type locality, but which seems safely identifiable with 2 ♂♂ from Sumba in Mus. Tring, besides 2 ♂♂ from Dutch Timor; the latter have received the name of *angustimargo* WARR. (1896).

74. **Luxiaria exclusa perichila** subsp. n. (Pl. IX, fig. 8).
Luxiaria exclusa HOLL., Nov. Zool. VII. 578 (1900) (indescr.) (Buru).
On an average larger than *e. exclusa* WALK. (List Lep. Ins. XXI. 320, India; with similar forms on Ceylon, Hainan, Borneo and Java). Nearly always less brown, proximal part of hindwing and anterior part of forewing (except at base) more or less mixed with hoary whitish; fringe of both wings dark fuscous except at base; forewing with the costal marks strong, the median much thicker than in *e. exclusa*, commonly triangular or wedge-shaped, but not connected by a longitudinal brown shade with the post-median as in many *e. exclusa*, the postmedian always broken up into a strong costal spot and a small dash on SC^5; hindwing with the angle at R^3 acute, especially in the ♂; both wings beneath with the proximal markings tending towards obsolescence.
Wai Eno, beginning of April 1921 (leg. ESTRIN), type ♀. Also from Batjan, Obi, Buru (Kayeli, 1 ♂, 2 ♀♀), Amboina and Goram in Mus. Tring, Ceram in coll. JOICEY and in scarcely, if at all, distinguishable forms from New Guinea and its islands and from Queensland.
I cannot find that there is any available name for this race, which has long been known to me. If *frenata* FELD. (Reise Novara, Lep. Het. t. CXXIX, f. 21) is really from the „Moluccas", which I doubt, there must be two species there; I know no other specimen precisely matching it, but it is very suspiciously like some dark Borneo aberrations of *e. exclusa*.

75. *Eutoea heteroneurata* (GUEN.)
Cassyma heteroneurata GUEN., Spec. Gén. Lép. X. 19 (1858) (Borneo) (♂).
Cassyma tephrosiata GUEN. tom. cit. 18 (1858) (Borneo) (♀).

Eutoea heteroneurata PROUT, Nov. Zool. XXXII. 62 (1925) (synonymy and distribution).

Rana (st. 9), 24 May 1921, 1 ♂; 22 May and 3 July 1921, 2 ♀♀. Road Leksula-Fakal from 2800—3700 ft. (st. 16), 27 August 1921, 1 ♂.

I have recently (Nov. Zool. XXXIII. 26) named a race from the Bismarck Archipelago.

76. *Syrrhodia simplex* (WARR.)

Hyperythra simplex WARR., Nov. Zool. VI. 60 (1899) (Sula Besi).

Leksula (st. 1), July 1921, 1 ♀; beginning of September 1921, 1 ♀.

Apparently a very rare or overlooked species. WARREN's type ♂ is the only brown specimen known: the Tring Museum has in addition a yellow ♂ and 2 ♀♀ from Celebes and a yellow ♀ from Sula Mangoli.

77. *Nadagara comprensata* WALK.

Nadagara comprensata WALK., List Lep. Ins. XXIV. 1095 (1862) (Sarawak).

Leksula (st. 1), 18 January 1922, 1 ♀.

This is also rare or overlooked; indeed nearly all the *Nadagara* are evidently retiring in their habits. Of the present species the Tring Museum possesses only 5 examples, yet they are from such scattered localities as the Nicobars (2), Penang (1) and Tukan Besi (2). Mr. TOXOPEUS' record further extends its range. There is no appreciable variation.

78. *Nadagarodes mysolata* (WALK.)

Nadagara mysolata WALK., List Lep. Ins. XXXV. 1665 (1866) (Mysol).

Nadagarodes mysolata SWINH., Cat. Lep. Het. Oxf. Mus. II. 265 (1900) (synonymy).

Nadagarodes subfasciata WARR., Nov. Zool. III. 143 (1896) („Khasias" in err. [Amboina?]).

Rana (st. 9), 18 May 1921, 1 ♂; 15 & 30 June 1921, 2 ♀♀. Wai Eno, beginning of April 1921, 1 ♀; 1 February 1922, 1 ♂. Mnges'Waen, 30 January 1922, 1 ♂. Near Mefa, 7 September 1921, 1 ♀.

Range: South Moluccas, N. Queensland, New Guinea and its satellite islands. Recorded for Buru by HOLLAND (Nov. Zool. VII. 580) under the synonyms of *Hypephyra subfasciata* (WARR.) (♂) and *Psamatodes nunctata* FELD. (♀).

79. *Bulonga griseosericea* (PAGENST.)

Numeria(?) *griseo-sericea* PAGENST., Jahrb. Nass. Ver. Nat. XXXIX. 159 (1886) (Aru & Amboina).

Antibadistes subcinerea WARR., Nov. Zool. III. 142 (1896) (Amboina [& Java ex err.]).

Wai Eno, beginning of April 1921, 1 ♂. Mnges'Waen, 30 January 1922, 1 ♂. Also a pair from Kayeli, March 1897 (W. DOHERTY).

Distributed from Amboina to the Bismarcks and Louisiades. A race (? synonymous) from N. Queensland has been named *distans* WARR. (1896).

80. **Heterodisca scardamiata flavimacula** subsp. n. Pl. IX, fig. 11).

♂, 27—29 mm. Apart from its rather small size, differs from name-typical *scardamiata* WARR. (Nov. Zool. III. 415, New Guinea) in having the ground-colour purer cadmium, the red irroration coarser and less equally distributed, being condensed into cloudings in places and leaving parts of the wings clear or nearly so, in particular on the forewing a well-defined spot just outside the postmedian behind R^3; edgings of dark lines less metallic, predominantly blue-grey, usually only expressed in vein-dots, those on SM^2 the most conspicuous. Underside also more clouded than in *s. scardamiata.*

Road Leksula-Fakal, above 4000 ft. (st. 17), 21—22 October 1921 (L. J. TOXOPEUS), the type. Also in coll. JOICEY 6 ♂♂ from Gamoe'Mrapat, 5000 ft., March—April 1922 and 1 ♂ from Kako Tagalago, 2700 ft., May 1922, 1 ♂ (PRATT brothers).

Casbia fasciata (WARR.)

Scardamia fasciata WARR., Nov. Zool. III. 296 (1896) (Fergusson I.).
Trochistis fasciata WARR., Nov. Zool. X. 405 (1903).
Scardamia ditissima TH.-MIEG, Le Nat. XXVII. 192 (1905) (Moluccas).
Casbia fasciata TURN., Proc. Linn. Soc. N. Sth. Wales XLIV. 272 (1919) (Queensland).

Station A (Amboyna), 19 November 1921, 1 ♂.

Known to me from Batjan, Roon I., New Guinea, Dampier and Vulcan Islands, Fergusson I. and N. Queensland. Scarcely variable.

81. *Synegia eumeleata* (WALK.)

Anisodes eumeleata WALK., List Lep. Ins. XXII. 649 (1861) (Sarawak).
Synegia eumeleata BUTL., Ann. Mag. Nat. Hist. (5) VI. 221 (1880).
„*Synegia frenaria* (GUEN.)" SWINH., Cat. Lep. Het. Oxf. Mus. II. 239 (1900) (err. det.).
Synegia secunda SWINH., Ann. Mag. Nat. Hist. (8) III. 91 (1909) (Sumatra).
Synegia eumeleata ROTHSCH., Lep. Brit. Orn. Un. Exp. New Guinea 81 (1915) (Dutch New Guinea).

Fer'Poe, 3000 ft., 1 November 1921.

Also one ♀ from Kako Tagalago in coll. JOICEY.

This collective species, or group, although so widely distributed (Khasis, Hainan, Formosa and the localities cited above), remains scarce and imperfectly known and I have not yet sufficient material to work out its variation.

Petelia medardaria H.-SCH.

Petelia medardaria H.-SCH., Samml. Aussereur. Schmett. I. 42, t. XCIV, f. 534 (1856), p. 64 (1858) (India).

Dilinia [sic] *medardaria* HMPSN., Faun. Ind. Moths III. 216, f. 118 (1895).

Station A (Amboyna), 20 November 1921, 1 ♂.

Common throughout a great part of the Indo-Australian region.

EXPLANATION OF PLATE.


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