II. *New* Lepidoptera *from the Schouten Islands.* By J. J. Joicey, F.L.S., F.Z.S., F.E.S., and G. Talbot, F.E.S., *with description of a new* Tineid by J. Hartley Durrant, F.E.S.

[Read October 6th, 1915.]

Plates III–VI.

The present paper is a continuation of one on Biak Lepidoptera by Messrs. Joicey and Noakes which appeared in the Transactions for 1915, Part II, p. 177 *et seq.*

The specimens were collected mostly on Biak by Messrs. A., C., and F. Pratt during May and June 1914, and some were obtained on the adjacent island of Soepiori (Mysore) at Korrido.

The types are in the collection of Joicey except where otherwise stated.

It may be said here that the expedition made by Messrs. Pratt to the Schouten Islands has added greatly to our knowledge of their *Lepidoptera.* The present paper brings the number of new forms discovered by these indefatigable collectors up to sixty-one.

The following notes on the island of Biak and its *Lepidoptera*, communicated to us by Mr. Felix Pratt, will be of interest. Very little information on this island is to be found in geographical literature.

"On Biak, as on most islands out here, the commonest insects are Danaids and Satyrids. To the east, *Appias* and *Catopsilia*, particularly the former, were exceedingly common, *i. e.* for this part of the world. In South America forty to fifty *Catopsilia* in one sweep of the net is quite possible on a mule road. Such a take out here is an impossibility; four or five at once would be unusual. To the west, although the country is open and suitable to rapid-flying Pierids, the *Appias* and *Catopsilia* were conspicuous by their absence. In fact, speaking from the standard of most tropical islands, butterflies in general are rather rare on Biak.

"The difference between the forms on Biak and their

allies in New Guinea and Jobi (Jappen), as far as is known with regard to the latter island, is remarkable. The same applies to the flora. Further, there are no paradise birds, kangaroos, cassowaries, or hornbills, yet all these are plentiful on Jobi, not thirty miles away. Yet the *Goura victoriae* (crown pigeon), which is a particularly heavy bird and can fly only a very short distance, is quite plentiful. This bird may, however, have been imported from Humboldt Bay centuries ago when there was perhaps communication with the more eastern districts. There is a lighter strain in many of the natives and some even have straight hair. This points to some past connection with the natives of the islands at the other end (south-east) of New Guinea. Were it not for the fact that Biak is apparently new land, one might suppose that it belongs to a former continent or great island. According to a missionary, one part, a small mountain, shows signs of being of very ancient formation; this tallies with the native folk-lore.

"The formation of Biak is coral-limestone. There is anchorage on the south coast at Mokmen, but I believe none on the north. In places one can stand on the edge of the coral reef at low tide and sound without finding any bottom at sixty fathoms, as at Bosnek on the south-east corner.

"The prevailing wind is, of course, the south-east. This is a trade wind and really blows all the year round, but what is known as the south-east monsoon blows from April to September. Then the north-westerly squalls begin.

"The altitude is not greater than 200 or 300 feet except in one part to the north, where a mountain runs up to 2000 feet. This, however, is not high enough to produce mountain forms.

"There are no swamps on the island, and behind Warido on the west are undulating plains. Here, in patches of secondary growth, most of the *Delias* were found.

"One might stop a considerable time on Biak and get very few *Delias*. Perhaps a few *euphemia* ♂♂ and, may be, both sexes of *multicolor* if one happened to see the jambosa tree in flower on the sea shore. To get *Delias*, particularly the females, one must find the flowering trees which they haunt, and wait patiently in the branches during the sunny hours; 4 p.m. is a good time for females. During the great heat of the day most things are still

except in the woods, where it is always possible to come across some females drinking. The female of *euphemia* is quite rare and very conspicuous; *maudei* is very rare indeed, and *bosnikiana* is yet rarer.

"*Papilio felixi* is found hovering over the mud near the shore. It is not at all common, but its habits are probably much the same as the other *thule* forms."

It would appear, from what Mr. Pratt says, that Biak is mostly of coral formation and has not been connected with the New Guinea mainland. The highest part of the island may, however, represent land which had some connection with a New Guinea and Moluccan land area when less specialised forms of *Lepidoptera* than are found at present inhabited the entire region.

(G. T.).

Papilionidae.

1. **Papilio (Troides) priamus teucrus,** subsp. nov.

Knowing the wide variation exhibited by the *poseidon* race of this species over New Guinea and adjacent islands, we should have hesitated to separate the Biak specimens if our series had been smaller. This series of 135 ♂♂ and 110 ♀♀ shows a certain constancy of form.

♂. *Upperside* of *hind-wing* with spots reduced in size and spot in cellule 4 absent or minute; a golden costal spot varying in size. *Underside* of *fore-wing* with cell-spot always large and other spots well developed.

♀. *Fore-wing* with cell-spot large and extending basad to vein 2 and generally beyond it; all spots enlarged. *Hind-wing* with *2 spots in cellule 6*; band close to cell, especially in 3 and 4; a spot at end of cell, varying in size.

Variation—

♂. Typical specimens, 104, including 31 with spots on hind-wing absent = ab. *cronius*, Feld.

Ab. *cronius* with gold costal spot absent or minute, 8 specimens. Typical form without gold spot, 9. Hind-wing with more than 3 spots, 3.

Hind-wing with gold spots, 11.

♀. Typical specimens, 95.

Hind-wing with 2 spots in 7, 1. Hind-wing with second spot in 6 minute or absent, 14.

2. **Papilio ulysses denticulatus,** subsp. nov.

This form shows a transition to *ambiguus*, Roths., from the Bismarck Islands.

♂. *Fore-wing* with the blue beyond end of cell reduced to a few scales or a spot at the base of 6; spot above cell in 9 small or absent, spot in 5 minute or absent, the one in 4 small. *Hind-wing* with the blue area strongly dentate, the prolongations being between the veins and not along them as is the tendency in most of the forms.

♀. *Fore-wing* with all spots outside cell above vein 4 absent. *Hind-wing* with long denticulations in cellules 3–5; submarginal spots smaller than in *autolycus* and almost as much reduced as in *ambiguus*.

12 ♂♂, 3 ♀♀.

3. **Papilio codrus schoutensis,** subsp. nov.

This form is distinguished from typical *medon*, Feld., in the much reduced and more sharply defined costal spot on the hind-wing below, and in the band becoming obsolete.

One specimen approaches specimens of *medon* from Mefor in which the band is partly washed out, but the costal spot is larger than in these, being more typical; there are two similar specimens from Biak in the Tring Museum. Examples from Waigeu are more typically *medon* than those from Mefor.

A series of both sexes.

DANAINAE.

4. **Danaida marcia,** sp. nov.

(Plate III, fig. 1, ♀.)

This rather distinct species is apparently most nearly allied to *rotundata*, Gr.-Sm., from the Bismarck Islands.

♂♀. Ground-colour blackish-brown, markings white. *Fore-wing*.—A stripe in lower part of cell between veins 2 and 3; a small subcostal spot in cellule 10, a smaller one beyond it in 9 and just above the first of 3 post-cellular spots in 4–6, the middle one the longer, and the one in 4 shortest and nearly square; an oblong patch in 2, pointed towards angle of 2 and not touching cell; a small spot above it in 3 near cell; a stripe in 1*b* on submedian, nearer to base than to margin, and anteriorly convex;

below this an indistinct line on inner margin and reaching base; a submarginal row of 7 spots, the last three in 1*c*, 2 and 3, being twice the size of the first four; marginal dots in pairs between the veins chiefly present in 2 and 3. *Hind-wing.*—A wedge-shaped stripe in lower part of cell, not quite reaching the base; 4 post-cellular spots close to cell and to one another, their outer edges slightly concave; a patch in 1*c* extending to the base and slightly invaded by ground-colour near the submedian; a narrow stripe in 1*b* shorter than the preceding and a short basal line in 1*a*; an indistinct and narrow spot in cellule 6; a stripe in 7 nearly filling the cellule, acuminate near the margin, and indistinctly reaching the base; a sub-basal triangular spot in 8, a submarginal row of 6 spots in 1*c*–6, and a marginal series of dots in pairs between the veins.

Underside similar to above. *Fore-wing* with marginal dots better developed; a spot or dot distally of the larger one in 3; stripe on inner margin well marked.

In the ♂ the wings are less rounded and spots are a little smaller. On the hind-wing the spots in the distal area are faintly marked and the post-cellular spots are much smaller. Length of fore-wing: ♂ 34 mm., ♀ 39 mm.

It may be noted that this species bears some resemblance to *Neptis gregalis*, J. and N., and to the ♀ of *Pareronia chinki*, J. and N.

1 ♂, 3 ♀♀ received.

The ♀ of this species bears the strongest resemblance to the ♀ of *Euploea pyres mangolinella*, Strand, from Ysabel and New Georgia. Although it is not improbable that a similar form of *Euploea* may exist on Biak, yet such a resemblance as here noted could conceivably arise in the absence of the *Euploea*.

The factors operating to bring about the same convergence of pattern in a *Euploea* and in a Danaid in different habitats are probably of the same kind. The resulting pattern in each of these sub-families would conform more to one type than would the pattern of a Danaid and a Pierid belonging to distinct families.

Euploeinae.

5. **Euploea confusa biaka,** subsp. nov.

Nearest to *faunia*, Fruh., from Dutch New Guinea. It is darker than other forms of the species. The median patch is proximally yellow-brown and outwardly much paler; it does not enter the

cell. On the *hind-wing* the brownish distal suffusion is confined to a slight indication in cellules 1*c* and 2.

Underside darker than above and fore-wing patch mostly white. The *hind-wing* has only 3 minute bluish streaks beyond the cell in 2–4.

The single specimen obtained is smaller than any other we have seen of the species. The fore-wing measures 37 mm. as against 40 mm. mostly attained by other forms.

1 ♂.

6. **Euploea lugubris,** Gr.-Sm., ♀.

(Plate III, fig. 2, ♂, 3, ♀.)

E. lugubris, Gr.-Sm. Nov. Zool. 1, pp. 342–3 (1894).

A pair of this species having been taken *in copula* we find that the ♀ does not agree with the specimen described by Grose-Smith. This ♀ is in the Tring Museum and appears to belong to another group of *Euploea* of which *cerberus*, Butl., is a representative. It is most likely the ♀ of our *incerta*.*

Upperside smoky-brown, paler at the margins, and some spots showing through from below; costa of hind-wing grey.

Underside paler. *Fore-wing* with a cell-spot near end; 3 spots near the cell in 2–4, the last being much smaller; a submarginal series of 7 dots curving outwardly from costa to cellule 5, the next two dots shifted inwards and the seventh below the sixth; a well-defined curved stripe in 1*c* and a shorter and greyish stripe below it; inner margin grey. *Hind-wing* with a cell-spot near end; a series of 6 spots round the cell and between these and the margin 4 spots in 4–7; 6 marginal dots in pairs between the veins in 4–6.

Length of fore-wing: 39 mm.

A series of ♂♂ and 2 ♀♀.

Palaeotropinae.

Gen. Tellervo, Kirby.

Lepidopterists are not yet unanimous as to whether this genus contains more than one species. In his report on the *Lepidoptera* of the Wollaston Expedition, Lord Rothschild has described two distinct forms of *Tellervo* from the same locality and treats them as races of *zoilus*, Fbr., and

* *Euploea incerta*, J. and N., T.E.S., 1915, Pt. II, p. 187, pl. 25, fig. 4.

assarica, Crm., respectively. We are led to a similar conclusion by receiving a long series of both sexes of two different forms from Biak. The *zoilus* form is represented by *mysoriensis*, Stgr., and the *assarica* form is undescribed.

Heer Van Eecke in his report of the *Rhopalocera* collected by the Third Dutch Expedition, follows Fruhstorfer in treating all the forms as belonging to one species; he further supposes that the whitest form was the most primitive and that a darkening process has been going on.

We have examined a large number of specimens, including those in the Tring Museum, and, as far as pattern goes, find three characters which, though not entirely constant, hold good for the majority of specimens representing *zoilus*, Fbr., and *assarica*, Crm. These characters may be thus tabulated:—

ZOILUS.	ASSARICA.
Fore-wing—	*Fore-wing*—
Apical spots separated.	Apical spots joined to form a band.
No spot below vein 3 or only a dot.	A spot below vein 3 generally well marked.
Hind-wing below—	*Hind-wing* below—
A second basal spot below the median.	No basal spot below the median or only a few white scales.

In a few specimens bearing the fore-wing characters of *assarica* we have found a well-marked second basal spot on hind-wing below. A series of 28 typical *assarica* from Ceram in the Tring Museum have all only 1 basal spot on hind-wing. The form we now describe also agrees in this respect without exception; on the other hand, every specimen of the *zoilus* form received from Biak possesses two basal spots.

If *Tellervo* contains two species a proper definition of them has still to be given.

7. **Tellervo assarica biakensis**, subsp. nov.

(Plate III, fig. 4, ♀.)

♂. *Upperside. Fore-wing* with apical spots more or less distinctly connected, a more or less distinct spot below vein 3; cell-spot more or less square, a dot near base. *Hind-wing* with discal

patch extending to inner margin near base; a short notch of black ground-colour at origin of vein 7.

Underside. Fore-wing with well-marked costal spot and triangular basal spot; apical spots more distinctly connected, and spot below vein 3 better developed than above. *Hind-wing* with one basal spot.

♀. *Fore-wing* with spots larger and apical spots generally markedly connected.

One ♀ specimen shows a darkening on the hind-wing of veins 1*b*, 2 and 3, and a dark spot at lower angle of cell. Another example shows on the fore-wing a much-enlarged cell-spot above which is a costal streak; the lower median spot is also large. There are 5 specimens in the Tring Museum from Korrido which probably belong here, in which the hind-wing shows a further extension of the darkening described in the specimen above. There is a specimen in the British Museum from Biak, collected by Doherty.

A long series of both sexes was obtained.

NYMPHALIDAE.

8. **Atella alcippe interposita,** subsp. nov.

This form connects *cervina*, Butl., from Dutch New Guinea, with *denosa*, Fruh., from the Bismarck Islands.

♂♀. *Upperside* with a well-defined and broader black margin the edge of which is nearly straight. *Fore-wing* with cell-markings and bar beyond cell well defined; small spots at base of cellules 1, 2 and 3. *Hind-wing* with distinct basal lines.

Underside more uniformly pale brown than in *cervina*, and in one specimen only is the distal area darkened with bluish-grey. The basal lines are well marked and the post-discal and submarginal lines are more narrowly margined with bluish-grey.

The ♀ is duller and more strongly marked on both sides.

A series of both sexes.

9. **Parthenos sylvia intermedia,** subsp. nov.

(Plate IV, fig. 3, ♂.)

This form appears transitional between Moluccan forms of *sylvia*, Crm., and *tigrina*, Voll. The basal brown on both wings is dull- and not yellow-brown as in *tigrina*.

♂. *Fore-wing* with the spot in 2 smaller than in allied forms, spot in 5 shortened proximally, the one in 6 larger and extending the

width of cellule on the underside, no spot between this and the one near base of 6. *Hind-wing* with well-marked submarginal lines.

One specimen only obtained.

10. **Prothoe australis satgeii** f. **bifasciata,** forma nov.

(Plate IV, fig. 4, ♂.)

Forms of *australis*, Guér., show all transitions from the wholly dark fore-wing to the presence of a complete band, and specimens with and without markings on the fore-wing occur together. The aberration here described is similar to *hewitsoni*, Wall., and conforms to the race *satgeii*, J. and N., in comparative reduction of underside markings.

♂. *Upperside. Fore-wing* with a sub-costal patch formed of 2 contiguous spots in 5 and 6; a large median patch of which the spot in 2, the larger, extends to within a third of length of cellule 2 from margin; beyond sub-costal patch 4 thin and short stripes in 4–7; a submarginal row of 7 rounded spots, the one at tornus being much larger and produced proximally as a short stripe. *Hind-wing* with discal patch as in the typical subspecies but more sharply defined.

Underside. Fore-wing with subcostal and median patches joined to a spot in 4; the 4 stripes above are represented by 4 spots of somewhat triangular shape; cell with 5 small spots and a dot in middle; no spot on costa; submarginal spots as above except that there are 2 at tornus and 2 short stripes next them. *Hind-wing* as in *hewitsoni*, Wall., but with reduced markings. The lunules in 2 and 3 are incomplete; the second stripe of discal patch in 3 does not reach base of cellule, and the other stripes are likewise shorter.

A single specimen obtained.

11. **Eriboea pyrrha glauca,** subsp. nov.

Close to the race *jupiter*, Butl.

Upperside. Fore-wing with increased blue edging to the band; the spot beyond end of cell a little larger; submarginal spot in 4 shifted inwards. *Hind-wing* with increased distal glaucous-blue margin to the band, projecting on veins 2 and 3 and in two specimens joining the marginal spot on 2 which is larger.

Underside. Fore-wing with the black bar across cellule 3 oblique

and outwardly curved, either separated from the spot in 2 or just touching its outer edge; the two submarginal lines closer together and more bluish. *Hind-wing* with band more silvery-white and a little narrower, markedly so in one specimen; proximal bordering of submarginal spots more bluish and heavily marked.

The specimen with a narrow band on the hind-wing has a deep blue gloss over the outer margin of hind-wing above and all traces of green have disappeared.

3 ♂♂.

Amathusiidae.

12. **Morphopsis biakensis**, sp. nov.

(Plate V, fig. 2, ♂.)

Smaller than other forms of this genus and with a broader band on the fore-wing, but possessing the general pattern and coloration of *albertisi*, Ob. The fore-wing is more rounded than in other species of the genus; the outer angle much more oblique and lower median interspace much broader. The cell of the hind-wing is long and narrow, the middle discocellular being twice as long as the first.

♂. *Upperside.* *Fore-wing* with band broader anteriorly and distally and half surrounding apical ocellus; apical blackish-brown much reduced; one white dot in cellule 6 above the ocellus. *Hind-wing* with smaller eye-spot; submarginal line thinner, inner one obsolete.

Underside.—Fore-wing with band more yellowish; submarginal lines waved at apex, straight from vein 5, inner one much thinner; lower part of eye-spot lying within the band, a white dot placed anteriorly and touching the inner ring; band narrowly bordered with chocolate-brown proximally. *Hind-wing* with apical ocellus comparatively larger than in forms of *albertisi*, Ob.; proximally of this eye-spot and touching veins 5 and 8 a curved brown line as wide as its distance from the ocellus and parallel to its inner edge to vein 4, bending inward to 3, then thickening to form a curve in 2, thence to submedian where it joins an inner submarginal line of same colour; latter line thicker than in the allied species and more regularly waved, also closer to the first submarginal line; latter line closer to margin and only slightly undulate; a brown spot at end of cell and one at base of vein 7; a cell-streak placed more obliquely than in the allied species; 2 white curved marks near the inner submarginal line in cellules 3 and 4.

♀. Darker brown. *Upperside* of fore-wing with black-brown

apex and more sharply defined distal edge to the band; ocellus not touching the band; inner edge of the band broadly margined with black which merges into the chestnut ground-colour. *Underside* darker than in ♂. *Fore-wing* with grey-black apical half. *Hind-wing* with broader post-median band and thicker inner submarginal line.

Length of fore-wing: ♂ 41 mm., ♀ 45 mm.

2 ♂♂, 1 ♀.

Lycaenidae.

13. **Megisba orientalis,** sp. nov.

(Plate V, fig. 3, ♂.)

Allied to *monacha*, Gr.-Sm., from Humboldt Bay.

♂. *Upperside* of fore-wing with a white patch as in the allied species; hind-wing unicolorous black.

Underside. *Fore-wing* with 2 dots at base instead of one as in *monacha* and the post-discal row of spots somewhat differently placed, forming a series of curved marks parallel to margin in cellules 1*b* and 1*c*, 2, 3, and 4; 3 faint spots in 5, 6, and 9, at right angles to costa. *Hind-wing* as in *monacha* and somewhat bluish-white basally.

♀. Wings rounded. *Fore-wing* with white patch broader and extending above vein 4. Underside with margins not darkened.

Length of fore-wing: ♂ 11 mm., ♀ 12 mm.

1 ♂, 1 ♀.

14. **Candalides albiplaga,** sp. nov.

(Plate III, fig. 6.)

♀. *Upperside* blackish-brown. *Fore-wing* with a large white patch extending along inner margin from near tornus to near base, narrowing slightly to vein 2 and then slightly outcurved and reaching just above 3; it extends to the base of cellule 2 and does not enter the cell. Fringe whitish at outer angle. *Hind-wing* with outer costal area white and extending as a spot in the angle of 6 and 7. Fringe white.

Underside white. *Fore-wing* narrowly edged with black from apex to vein 2, and similarly the hind-wing from vein 4 to first submedian.

Head, thorax, and abdomen blackish-brown above, white below.

Length of fore-wing: 16 mm.

A single specimen only obtained.

15. **Lampides coeligena,** sp. nov.

(Plate VI, fig. 2, ♂, 3, ♀.)

Allied to *elpis*, Godt. ♂. Bright sky-blue, more intense than in *elpis*. Hind-wing paler along costa; at anal angle two short black bars divided by submedian.

♂. *Underside* more slaty-grey than in *elpis*. *Fore-wing* with a short median band reaching vein 3 and above it a discocellular bar; a curved post-median band widest on costa and reaching vein 4, as in *elpis*; a narrow submarginal band darker than ground-colour and formed of curved bars; marginal border darker than ground-colour. *Hind-wing* with lines less heavily marked than in *elpis*; post-median band more irregular; a submarginal row of black spots edged with white on inside, consisting of two larger apical spots, 3 smaller in 3–5, a white lunule edged with black placed over the anal spot, and a white streak edged with black at inner angle; a marginal row of smaller spots bordered with white; anal spot less broadly margined with yellow than in allied forms.

♀. Above with a black apical and marginal border, but not so broad as in *elpis*. The wings are less bright in colour than in ♂. *Hind-wing* with brownish costa; a marginal row of dark spots as in *elpis*, the one in 2 much larger than others, bordered with white; an inner row of brownish lunules edged with white proximally.

Underside as in ♂, with increased yellow bordering to anal spot.

1 ♀ only received.

♂ (Type) in Brit. Mus., also ♀, from Humboldt Bay, Sep.–Oct. 1892, W. Doherty (coll. Godman and Salvin).

16. **Philiris fulgens septentrionalis,** subsp. nov.

Differs from *fulgens*, Gr.-Sm., in the more extended purple on fore-wing which reaches costa and extends beyond cell half-way between it and apex, its edge evenly curved and nearer the margin than in the typical form. *Hind-wing* with increased blue in cellules 6 and 7.

1 ♂, Biak, 1 ♂ labelled "Kapaur" in coll. Joicey from Grose-Smith Coll.

17. **Thysonotis dissimilis,** sp. nov.

(Plate III, fig. 7, ♂, 8, ♀.)

Near to *hebes*, Druce, and very similar to *eudocia*, Druce, but has not the yellow costal streak on the fore-wing as in this species.

♂. *Upperside* deep blue with narrow black margins a little wider on hind-wing.

Underside black. *Fore-wing* with a broad white band narrowing anteriorly and ending in a point at vein 6, entering cell at lower angle, distally incurved between inner margin and vein 3; a greenish-blue stripe along upper part of cell from base to its end. *Hind-wing* with a broader white band than on fore-wing, and narrowing from inner margin to vein 5; a greenish-blue basal bar; a submarginal thin scalloped line the points of which rest on a thin greenish-blue marginal line, the spots thus formed being deeper black than the ground-colour.

♀. *Upperside* blackish-brown with a well-defined white band crossing both wings. The band on *fore-wing* forms a small spot in lower angle of cell and extends above vein 4; it does not fill the base of cellule 2 and its outer edge is not so well defined as the inner. On the *hind-wing* the band narrows to the inner margin and extends from near base to beyond cell, its outer edge being straight and well defined.

Underside similar to ♂. *Fore-wing* with costal stripe broader and somewhat larger. *Hind-wing* with band narrower than in ♂, its outer edge straight instead of curved; marginal spots more heavily defined by greenish-blue.

Length of fore-wing: ♂ 16 mm., ♀ 18 mm.

4 ♂♂.

18. **Deudorix ceramensis maudei**, subsp. nov.

(Plate V, fig. 4, ♂, 5, ♀.)

This peculiar species * is evidently closely allied to *despoena*, Hew. The pattern of the underside is almost as in Hewitson's species, but the blue on the upperside is replaced by bright orange-brown in the ♂.

♂. *Upperside. Fore-wing* black with an oblong median patch of bright orange-brown extending from base to vein 3, anteriorly rounded and bending obliquely inward from 1*b* to inner margin. In the typical form this patch extends above vein 3. *Hind-wing* bright orange-brown; base near costa to vein 5 and to just beyond angle of 7 and 5, black; fringe black; tail black tipped with white. In the typical form the costal black is extended but less so at the base.

* *Deudorix ceramensis*, Ribbe, "Iris," vol. 13, p. 336, t. vi, f. 3 (1900), (Ceram).

Underside buff, darker at inner margin of hind-wing; in *ceramensis* the ground-colour is white. *Fore-wing* with outer margin broadly smoky-brown, narrowing posteriorly and traversed by a thin line of ground-colour which becomes obscured anteriorly; a deep brown triangular costal patch, its apex directed outwards below vein 2; this patch is narrower in *ceramensis* and reaches lower submedian. *Hind-wing* with a narrow smoky-brown margin from apex to vein 3, and a faint smoky line running parallel to it; rest of margin yellow and proximally bordered by a black line edged with metallic blue; an admarginal whitish line from 1*c*–4; a round black spot bearing some metallic blue scales in its upper part, in the marginal yellow in 2; next this an oblong metallic blue spot, round in the typical form, is placed obliquely in 1*c*; anal lobe as in allied species; a dark-brown discal and inner-marginal band, as in *ceramensis* but broader. Thorax above chestnut-brown, abdomen rufous.

♀. *Upperside* similar to *despoena*, Hew. *Fore-wing* with blue area extending just beyond the white patch, its outer edge evenly curved and parallel to margin. *Hind-wing* with more extended blue than in *despoena* and only a faint whitish scaling on costal area.

Underside similar to the allied species. *Fore-wing* darker at the base; costal patch extended to 1*b*. *Hind-wing* darker at base; ochreous marginal patch in 3 bearing a black spot with a blue centre; other markings as in *despoena*.

Length of fore-wing: ♂ 17–21 mm., ♀ 20–21 mm.

13 ♂♂, 3 ♀♀.

19. **Deudorix biaka,** sp. nov.

This appears to be most nearly allied to *neopommerana*, Ribbe.

♀. Smaller than allied forms. *Upperside* paler than in *neopommerana*; costa, apical area, and cell of *fore-wing* darker; anal lobe brick-red and bearing a small dark central spot.

Underside grey and paler than in the allied species. On the *hind-wing* the inner edge of the spot in 7 is in line with the inner edge of the two discal spots, forming a line, broken in cellule 2, from costa to inner margin. Anal lobe black, eye-spot in 2 black ringed with pale yellow, a slight bluish scaling between it and inner margin. Abdomen below pale yellow.

Length of fore-wing: 15 mm.

A single specimen.

20. **Horaga schoutensis,** sp. nov.

Allied to *samoena*, Gr.-Sm., from Batchian.

♂. *Upperside* with grey-black ground-colour. *Fore-wing* with a large white discal patch extending from 1*b* to 6, narrowest above vein 4, widest in cellule 2, and not filling base of this cellule; the outer edge is outwardly curved and less well-defined than the straighter inner edge. Below cell, basal three-fifths scaled with violet-blue which extends slightly into the cell and forms a spot at its lower angle. *Hind-wing* with a narrow basal patch of blue scaling between veins 4 and 6. A bluish-white subterminal line, interrupted at the veins and obsolescent anteriorly; a marginal line darker than the ground-colour; cilia white on inner margin.

Underside olive-brown. *Fore-wing* with a well-defined white discal patch reaching vein 1*a*. Inner margin grey-white except at base. *Hind-wing* with a white discal band, widest on costa and narrowing posteriorly, ending in a point at 1*a*; its inner edge is well defined, straight to vein 7, projecting between this vein and 6, inwardly oblique to 4, outwardly so to 2 and from which it forms a deep inward curve to 1*a*; outer edge slightly diffused and gently curved, scaled with pale metallic blue from 1*a* to 3. A subterminal white line interrupted on the veins. Against this a black quadrate spot in 2, inwardly edged with metallic blue; a larger grey spot in 1*b* and smaller but similar and obsolescent spots in 3, 4 and 5. A black marginal line. Inner margin edged with bluish-white at base. Anal lobe black.

Length of fore-wing: 17 mm.

One specimen only obtained.

21. **Arhopala bosnikiana,** sp. nov.

Near *alce*, Hew., from Halmaheira, Aru, and German N. Guinea.

♀. Smaller than the ♀ of *alce*. *Upperside* with narrower marginal black and more intense blue. *Underside* with a grey-brown ground-colour and spots smaller. *Fore-wing* with cell-spots separate. *Hind-wing* with the 4 costal spots separate and not forming a dark patch. At base of cell a dark spot and a rounded spot in the middle; median band straighter and better defined; no blue scaling at anal angle and no dark anal spots.

Length of fore-wing: 20 mm.

A single specimen.

Hesperidae.

22. **Casyapa biaka,** sp. nov.

Smaller and of more delicate build than others of the genus.

♂. *Upperside* deep brown. *Fore-wing* without markings. *Hind-wing* with a narrow marginal band of orange-yellow from anal angle to vein 7 where it ends in a point; this colour runs out in short streaks on the veins. *Underside* a little paler than above.

Head, palpi, pectus, legs, and abdomen below orange-yellow. Antennae deep brown above, yellowish below. Thorax and abdomen deep brown above, the former slightly tinged with yellow.

Length of fore-wing: 22 mm.

A single specimen.

23. **Mimas basalis,** sp. nov.

♀. *Upperside* black with base of both wings pale greenish-blue. *Fore-wing* with basal blue extending slightly into the cell. *Hind-wing* with the blue filling the cell and extending a little below it; a white streak along basal half of submedian and a violet-blue patch below it. Cilia of both wings white at apex and at inner angle.

Underside blackish-brown. *Fore-wings* with some faint violet-blue subapical streaks; proximally of these are 3 similarly-coloured spots, the middle one smaller than the others; two short subcostal streaks near end of cell. *Hind-wing* with two small violet-blue spots in cellule 7; a submarginal row of 5 spots, the apical 3 faintly defined.

Antennae black; palpi clothed with black and white hair; frons white, vertex and base black; thorax and basal two abdominal segments black clothed with grey hair; remainder of abdomen black ringed with white between segments; pectus white mixed with black; legs black.

Length of fore-wing: 20 mm.

A single specimen.

Agaristidae.

24. **Damias varia tripartita,** subsp. nov.

♂♀. Nearest to *transducta*, Wlk., from the North Moluccas. *Fore-wing* with lower discal spot tripartite as in the allied form but smaller. The cell-spot is reduced to a minute dot in the ♂ and is absent in the single ♀ specimen. *Hind-wing* with the band short and broad leaving a wider dark margin than in the allied

form. *Underside* of fore-wing with reduced basal streak and cell-bar. Fringes entirely black.

8 ♂♂, 1 ♀ obtained.

25. **Mimeusemia nigrescens**, sp. nov.

(Plate VI, fig. 4, ♀.)

This species is most nearly allied to *proerosia*, Druce, from the Key Islands, but is at once distinguished by the black ground-colour.

♀. *Upperside* black. *Fore-wing* with a pale yellow almost cream-coloured discal band placed at right angles to costa and extending from subcostal to near tornus, constricted slightly in upper part and rounded posteriorly, accompanied by a curved mark at its lower distal edge; some metallic blackish-blue markings comprising a spot in cell, a stripe closing cell, an inwardly curved row of 5 dots just beyond the band, some scaling along anterior margin of cell and along lower submedian. *Hind-wing* with pale yellow marginal patches more extended than in *proerosia*; fringe pale yellow, blackish proximally.

Underside blackish-brown. *Fore-wing* paler along inner margin; band as above, bent inwards below first submedian; some pale yellow scaling along inner margin. *Hind-wing* with series of marginal spots, two at apex obscure and free from margin, two streaks in 4 and 5 which scarcely touch margin.

Head, thorax, and abdomen black, pectus orange; tegulae pale yellow on inner edge; patagia traversed by a pale yellow line reaching below the eyes; a pale yellow line above the eyes on crown of head; palpi black, first segment fringed with pale yellow and second segment pale yellow inside; anal tuft orange; legs black, femora orange.

Length of fore-wing: 27 mm.

A single specimen.

Geometridae.

26. **Dysphania tentans schoutensis**, subsp. n.

♂♀. Darker than *tentans*, Wlk. *Upperside.—Fore-wing* with no basal pale stripe below the cell; apical and post-median spots more or less reduced. Hind-wing with wider margin and reduced

light basal patch which does not extend beyond end of cell, its edges well defined, not reaching base; yellow distal spots absent or feebly marked.

Underside of *hind-wing* with basal patch forming a well-defined spot in cellule 7; distal yellow markings more prominent. Pectus blue-black.

Two specimens represent the extreme darkening in this race. The apical and post-median spots, excepting a small costal spot, have disappeared, and on the hind-wing there are no distal markings.

A long series of both sexes.

27. **Milionia caerulea,** sp. nov.

(Plate VI, fig. 5, ♂.)

This species is distinct from any other known in the genus.

♂. Ground-colour black. *Fore-wing* on both sides metallic greenish-blue to beyond the cell, leaving a broad apical and less broad marginal area. Below, the blue scarcely extends below first submedian and inner margin is greyish. *Hind-wing* on both sides excepting costa above, metallic greenish-blue, leaving a marginal border about 4 mm. broad which is shot with blue above as seen in a side-light.

Head, thorax, and abdomen metallic greenish-blue, as also the femora and tibiae on outer side; remainder of legs, pectus, and antennae smoky-black.

Length of fore-wing: 25 mm.

One specimen.

28. **Xanthomima plumbeomargo,** sp. nov.

Near *biquadrata*, Warr., from Key Island.

♂ ♀. *Upperside* with basal part ochreous-yellow, outer part dull black or lead-colour. *Fore-wing* with yellow area extending beyond middle, its costal edge finely blue-black, its outer edge slightly curved. *Hind-wing* with yellow area to beyond middle, outer edge curved outwards to vein 3 and below this incurved.

Underside as above.

Head, collar, antennae, legs, and pectus dull black, abdomen ochreous-yellow, thorax ochreous-yellow above.

Length of fore-wing: 18 mm.

2 ♂♂, 1 ♀.

Callidulidae.

29. **Cleis oceanitis,** sp. nov.

Distinct, but resembling *versicolor*, Feld., above.

♀. *Upperside* with black-brown ground-colour. *Fore-wing* with a large rounded golden-yellow patch, its proximal edge straight and running across end of cell to vein 2. *Hind-wing* with a golden-yellow patch more evenly rounded than on fore-wing and not quite touching costa and inner margin, nor reaching extreme base, and leaving a marginal border about ¼ of wing in width.

Underside golden-yellow. *Fore-wing* with a narrow black-brown outer margin, wider at apex, and narrowing to middle of costa. A black-brown triangular median patch from near base to beyond cell and not reaching its upper margin, the outer edge reaching to a third from tornus, the lower edge on inner margin. *Hind-wing* with a short basal stripe; a narrow marginal border, thin at middle of costa and at inner margin; broadest at apex.

Length of fore-wing: 16 mm.

2 ♀♀.

30. **Comella insularis,** sp. nov.

♂. *Upperside* pale yellow. *Fore-wing* with narrow brown marginal border wider at apex and tornus. *Hind-wing* with a narrow brown marginal border merging into the ground-colour.

Underside pale straw-yellow, bands narrower than in *laetifica*, Feld.

♀. *Upperside* yellowish-brown. *Fore-wing* with marginal border wider than in ♂, especially so at apex; a brown spot at end of cell. *Hind-wing* with narrow marginal border more clearly defined than in ♂.

Underside darker than in ♂, bands broader.

Length of fore-wing: ♂ 12 mm., ♀ 13 mm.

1 ♂, 6 ♀♀.