

ON LEPIDOPTERA FROM THE ISLANDS OF CERAM (SERAN), BURU, BALI, AND MISOL.

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THE material I am describing was collected during the "II. Freiburger Molukken Expedition," by Herr Erwin Stresemann, and, after the Expedition had split up, by Dr. Tauern. The fact that Herr Stresemann was an ornithologist and Dr. Tauern a geologist accounts for the disproportionately small number of species of lepidoptera compared with the fine collections of birds described in the preceding volumes of NOVITATES ZOOLOGICAE. That a large number of the specimens are defective is surely due to the season and the inexperience of their native hunters.

The most remarkable discovery faunistically was undoubtedly the capture on Ceram of *Papilio (Troides) procus* and *Papilio weiskei stresemanni*, both belonging to types hitherto considered exclusively Papuan.

I have arranged the *Rhopalocera* and *Grypocera* approximately according to "Seitz," and the *Heterocera* according to Sir George Hampson. There are of *Rhopalocera* and *Grypocera* from Ceram 140 species and subspecies, from Buru 17, and from Bali 87, all collected by Herr Stresemann, while from Misol there are 48, collected by Dr. Tauern. The total number of species of *Rhopalocera* and *Grypocera* is only 286, owing to several being common to two or more islands. It is curious that—in spite of the fact that Amboina and Ceram have furnished large quantities of species from the time of Linnaeus, and even Seba, for more than 180 years—there should still be large and conspicuous novelties on the latter island.

RHOPALOCERA

PAPILIONIDAE

Papilioninae

1. *Papilio (Troides) procus* (Rothsch.).

Troides procus Rothschild, *Nov. Zool.* vol. xxi. p. 262 (1914) (Interior of Ceram).

The specimen had slipped sideways in the box, so that we could not decide for certain which of the three localities in Ceram it came from; but I have no doubt that, like *P. weiskei stresemanni*, it came from above 1000 metres in Central Ceram.

1 ♀, Interior of Ceram.

It is a great pity no ♂ of this remarkable species was obtained.

2. *Papilio (Troides) tithonus tithonus* (De Haan).

Ornithoptera tithonus De Haan, *Verh. Nat. Gesch. Ned. overz. bez.* p. 18. t. 1. f. 1 (♂) (1840) (New Guinea).

The single ♀ here enumerated agrees exactly with the ♀♀ collected by Doherty at Kapaur and those collected by the Pratts at Fak Fak and in the Ninay Valley. Whether, as in the case of other species of this group, the ♂ will prove very different remains for future collectors to discover.

1 ♀, Misol.

3. *Papilio (Troides) hypolitus hypolitus* Cram.

Papilio Eques Trojanus hypolitus Cramer, *Pap. Exot.* vol. i. part 1. p. 14, t. 10. ff. A. B. (♂) t. 11. ff. A. B. (♀) (1775) (Amboina).

2 ♂♂, 1 ♀, Wahai, North Ceram; 1 ♂, 1 ♀, Mansuela, Central Ceram, 650 metres = 2113 ft., 1912.

4. *Papilio (Troides) helena oblongomaculatus* Goeze.

Papilio Eques Trojanus oblongomaculatus Goeze, *Entom. Beytr.* vol. iii. p. 44. No. 22 (1779) (ex *Colonia Surinamensi*!).

Singly in open country.—E. S.

16 ♂♂, 11 ♀♀, Manusela, Central Ceram, 650 metres, 1912.

5. *Papilio (Troides) helena mannus* (Fruhst.).

Troides helena mannus Fruhstorfer, *Intern. Entom. Zeitschr. Guben*, p. 238 (1908) (Bali).

1 ♂, Bali, 1912; 1 ♀, Kintamani, Bali, 4000 ft., February—March 1911.

6. *Papilio polydorus polydorus* Linn.

Papilio polydorus Linnaeus, *Amoen. Acad.* vi. p. 401. No. 50 (1763) ("India").

4 ♂♂, 2 ♀♀, Manusela, Central Ceram, 650 metres; 1 ♂, 2 ♀♀, Wahai, North Ceram.

7. *Papilio aristolochiae balinus* Fruhst.

Papilio aristolochiae balinus Fruhstorfer, *Entom. Zeitschr. Stuttgart*, p. 72 (1908) (Bali).

1 ♂, 1 ♀, Buleleng, North Bali, January—April 1911; 4 ♀♀, Bali, 1912.

8. *Papilio euchenor misolensis* Rothschild.

Papilio euchenor misolensis Rothschild, *Nov. Zool.* vol. xv. p. 169. No. 23 (1908) (Misol).

1 ♂, Misol.

9. *Papilio demolion demolion* Cram.

Papilio Eques Achivus demolion Cramer, *Pap. Exot.* vol. i. pt. viii. p. 140. t. 89. ff. A. B. (1776) (Java).

1 ♂, Gitgit, Bali, 1500—2000 ft.

10. *Papilio helenus enganius* Doh.

Papilio (Charus) helenus var. *enganius* Doherty, *Journ. As. Soc. Beng.* 1891. p. 31. No. 50 (Engano).

4 ♂♂, 1 ♀, Danau Bratan, Bali, 2500 ft., January 1911; 2 ♂♂, Kintamani, Bali, 4000 ft., February—March 1911.

11. *Papilio fuscus fuscus* Goeze.

Papilio Eques Achivus fuscus Goeze, *Entom. Beytr.* vol. iii. p. 87. n. 71 (1779) (Seba tab. 43 ff. 1. 2).

Seba's figures, though poor, are evidently the same insect as Cramer's *P. severus* from Amboina, which therefore becomes the typical locality. Ceram and Buru examples cannot be separated. Four aberrational forms occur:—

- (1) ab. *cinereo-maculatus* Goeze, with white spots beyond the cell of forewing ;
- (2) ab. *madanus* Fruhst., with a more or less complete postmedian white band on forewing ;
- (3) ab. *fuscus* Goeze, no white on forewing, band of hindwing long, becoming pointed towards the abdominal margin ;
- (4) ab. *castaneus* Goeze, white band on hindwing short, consisting only of four spots.

2 ♂♂, 3 ♀♀, Manusela, Central Ceram, 650 metres, 1912 (1 ♂, ab. *cinereo-maculatus* ; 1 ♂, 3 ♀♀, ab. *fuscus*) ; 1 ♂, Wahai, North Ceram ; 1 ♂ (ab. *madanus*), Mgesawain, Central Buru, 800 metres = 2600 ft.

12. *Papilio polytes javanus* Feld.

Papilio polytes var. *javanus* Felder, *Verh. zool. botan. Gesell. Wien* (1862) p. 486. No. 127 (Java).

The *polytes* form of ♀ form *javanus* appears to be much rarer than the *cyrus* form of ♀ form *virilis* Rüb., for out of 7 ♀♀ sent by Herr Stresemann, only one is form *javanus*.

6 ♂♂, 3 ♀♀, Bali, 1912 (2 ♀♀ form *cyrus*, 1 ♀ form *javanus*) ; 2 ♂♂, 1 ♀, Kintamani, Bali, 4000 ft., February—March 1911 ; 1 ♂, 1 ♀, Gitgit, Bali, 1500—2000 ft. ; 1 ♂, 1 ♀, Danau Bratan, Bali, 2500 ft., January 1911 ; 1 ♂, Gunung Bratan, Bali, 4000—4500 ft., January—February 1911 ; 7 ♂♂, 1 ♀, Buleleng, North Bali, January—April 1911.

13. *Papilio polytes alphenor* Cram.

Papilio Eques Trojanus alphenor Cramer, *Pap. Exot.* vol. i. pt. viii. p. 141. t. 90. f. B. (1776) ("China"!).

3 ♂♂, 2 ♀♀, Wahai, North Ceram ; 1 ♂, Sukaradja, North-west Ceram ; 3 ♀♀, Manusela, Central Ceram, 650 metres.

14. *Papilio ambrax ambrax* Boisd.

Papilio ambrax Boisdual, *Voy. Astrolabe Entom.* p. 40. No. 5 (1832) (New Guinea).

2 ♂♂ (ab. *ambrax*) Misol.

15. *Papilio gambrisius gambrisius* Cram.

Papilio Eques Achivus gambrisius Cramer, *Pap. Exot.* vol. ii. pt. xiv. p. 95. t. 157. ff. A. B. (1779) (Amboina).

1 ♂, Ceram ; 3 ♂♂, 2 ♀♀, Manusela, Central Ceram, 650 metres.

16. *Papilio aegaeus ormenus* Guér.

Papilio ormenus Guérin, *Voy. Coquille*, t. 14. f. 3 (1829) (no locality).

1 ♂ (ab. *pandion* Wall.) Misol.

17. *Papilio memnon memnon* Linn.

Papilio Eques Trojanus memnon Linnaeus, *Syst. Nat.* edit. x. p. 460. No. 12 (1758) (Asia).

5 ♂♂, Buleleng, North Bali, January—April 1911 ; 1 ♀ (form *laomedon* Cram.), Bali, 1912.

18. *Papilio deiphobus deiphobus* Linn.

Papilio Eques Trojanus deiphobus Linnaeus, *Syst. Nat.* edit. x. p. 459. Nos. 6 (1758) (Asia).

5 ♂♂, 1 ♀, Manusela, Central Ceram, 650 metres.

19. *Papilio ulysses ulysses* Linn.

Papilio Eques Achivus ulysses Linnaeus, *Syst. Nat.* edit. x. p. 462. No. 20 (1758) (Asia).

9 ♂♂, Manusela, Central Ceram, 650 metres.

20. *Papilio aristus aristus* Cram.

Papilio Eques Achivus aristus Cramer, *Pap. Exot.* vol. iv. pt. xxvii. p. 60. t. 318. ff. E. F. (1780) (Amboina).

1 ♂, Ceram; 1 ♂, Wahai, North Ceram.

21. *Papilio weiskei stresemanni* Rothschild.

Papilio weiskei stresemanni Rothschild, *Lepid. Brit. Ornith. & Woll. Exps.* p. 4 (1915) (Ceram).

This most surprising discovery proves once more how arbitrary our ideas of faunal limits usually are, for if any butterflies could be considered solely oceanopapuan in distribution, it was the *Papilio macleayanus* group (*P. gelon*, *weiskei*, and *macleayanus*), and now it turns up suddenly in the South Moluccas.

Only observed in the Central Mountains of Middle Ceram above 1000 metres = 3250 ft. It frequents light forest, and is found there on the flowers of an *Eugenia* species.—E. S.

8 ♂♂, Manusela, Central Ceram, above 3250 ft., 1912.

22. *Papilio codrus codrus* Cram.

Papilio Eques Trojanus codrus Cramer, *Pap. Exot.* vol. ii. pt. xv. p. 127. t. 179. ff. A. B. (1777) (Amboina).

1 ♀, Manusela, Central Ceram, 650 metres; 1 ♂, Mgesawain, Central Buru, 800 metres.

23. *Papilio sarpedon sarpedon* Linn.

Papilio Eques Trojanus sarpedon Linnaeus, *Syst. Nat.* edit. x. p. 461. No. 14 (1758) (Asia).

2 ♂♂, Danau Bratan, Bali, 2500 ft., January 1911.

24. *Papilio sarpedon anthedon* Feld.

Papilio anthedon Felder, *Verh. zool. bot. Gesell. Wien* (1864) p. 305. No. 217 and p. 350. No. 124 (Amboina).

3 ♂♂, Manusela, Central Ceram, 650 metres.

25. *Papilio doson evemonides* Honr.

Papilio jason var. *evemonides* Honrath, *Berl. Entom. Zeitsch.* Bd. xxviii. p. 396. t. 10. f. 2 (1884) (Malacca; S.E. Borneo).

1 ♂, Bali, 1912.

26. *Papilio eurypylus eurypylus* Linn.

Papilio Eques Achivus eurypylus Linnaeus, *Syst. Nat.* edit. x. p. 464. No. 37 (1758) ("in Indiis").

1 ♂, Ceram ; 1 ♂, Waihai, North Ceram ; 3 ♂♂, Manusela, Central Ceram, 650 metres.

27. *Papilio macfarlanei cestius* Fruhst.

Papilio macfarlanei cestius Fruhstorfer, *Soc. Entom.* 1903. p. 49 (locality unknown).

1 ♂, 3 ♀♀, Manusela, Central Ceram, 650 metres.

28. *Papilio agamemnon plisthenes* Feld.

Papilio plisthenes Felder, *Verh. zool. bot. Gesell. Wien* (1864) p. 306. No. 232 ; id. *Reise Novara, Lep.* vol. i. p. 70. No. 53. (1865) (Amboina).

1 ♂, 3 ♀♀, Waihai, North Ceram ; 3 ♂♂, 3 ♀♀, Manusela, Central Ceram, 650 metres.

29. *Papilio agamemnon meton* Fruhst.

Papilio agamemnon meton Fruhstorfer, *Ins. Börse* 1904. p. 181 (Lombok).

1 ♂, Bali, 1912.

Pierinae**30. *Leptosia xiphia chlorographa* Hübn.**

Leptosia chlorographa Hübner, *Zutr. Exot. Schmett.* ff. 47. 48. (1818) (Java).

1 ♂, Danau Bratan, Bali, 2500 ft., January 1911.

31. *Delias dorimene dorimene* (Cram.).

Papilio dorimene Cramer, *Pap. Exot.* vol. iv. pt. xxxiii. pl. 387. ff. C. D. (1782) (Amboina).

1 ♂, 1 ♀, Manusela, Central Ceram, 650 metres.

32. *Delias periboea wallacei* Rothschild.

Delias periboea var. *wallacei* Rothschild, *Iris*, vol. v. p. 441. t. 5. f. 2. (1892) (S. Celebes !!).

4 ♂♂, 1 ♀, Buleleng, North Bali, January—April 1911.

Herr Fruhstorfer assumes that my type from S. Celebes was erroneously labelled and really came from Bali ; it certainly is strange that it has never turned up in Celebes again, but just the same as large *Papilios* have only been got on Celebes in single examples, so much more likely would a dirty, dingy *Pierid* be overlooked.

33. *Delias mysis cruentata* (Butl.).

Pieris cruentata Butler, *Proc. Zool. Soc. Lond.* 1865. p. 455. t. 26. f. 2. (Misol).

1 ♀, Misol.

34. *Delias caeneus caeneus* (Linn.).

Papilio caeneus Linnaeus, *Mus. Ludov. Ultr.* p. 271 (1764) (Amboina).

1 ♂, 2 ♀♀, Manusela, Central Ceram, 650 metres, 1912.

35. *Delias duris duris* (Hew.).

Pieris duris Hewitson, *Exot. Butt.* vol. ii. *Pier.* t. 5. f. 34 (1861) (Ceram).

1 ♂, Manusela, Central Ceram, 650 metres, 1912.

36. *Delias funerea buruana* Rothsch.

Delias funerea buruana Rothsch. *Nov. Zool.* vol. vi. p. 68 (1899) (Mt. Mada, Buru).

♀. *Above* differs from ♂ in the whole costa of forewing and the whole wing obliquely from termen above vein 4 to costa across upper half of end of cell being black, and in the hindwing being grey with the outer two-thirds between veins 4 and 7 black.

Below ♂ and ♀ are identical.

1 ♀, Wahai, North Ceram.

37. *Delias isse* (Cram.).

Papilio isse Cramer, *Pap. Exot.* vol. i. pt. v. t. 55. ff. E. F. (1775) (Amboina).

2 ♂♂, 1 ♀, Manusela; Central Ceram, 650 metres, 1912.

38. *Delias belisama balina* Fruhst.

Delias belisama balina Fruhstorfer, *Intern. Entom. Zeitschr.* Guben, 1908. p. 238 (Bali).

1 ♂, Buleleng, North Bali, January—April 1911.

39. *Delias rothschildi* Holl.

Delias rothschildi Holland, *Nov. Zool.* vol. vii. p. 81 (1900) (Buru).

Herr Fruhstorfer was quite wrong in placing this species as a form of *dorimene*, though from no fault of his own; it is nearer *echidna* Hew.

The ♂ not being recorded, I describe it below, and also re-describe the ♀, the single ♀ type being in poor condition.

♂. *Above*. Forewing greyish white, apical half of wing obliquely across cell to tornus black. Hindwing white with broad black border; the yellow of underside shining through.—*Below*. Forewing black, five spots at apex and wing below vein 1 white. Hindwing golden yellow, a large irregular area at, around, and beyond tornus fiery orange, a broad black margin (one-sixth of wing) black with five large, almost coalescent golden and orange patches in it.

♀. *Above*. Forewing black with greyish white streak above inner margin. Hindwing base grey, rest of wing white, outer one-third of wing black.—*Below*. Forewing black, base greyish, a quadrate white spot beyond cell, five yellow patches at apex. Hindwing golden yellow, nervures broadly white, outer black border with slightly smaller yellow patches than in ♂.

1 ♂, Bara, N.W. Buru. [3 ♂♂, 1 ♀, Mt. Mada, Buru, 3000 ft., September 1898 (Dumas)].

40. *Delias stresemanni* sp. nov.

♂. *Above*. Forewing cream-white, apex broadly black running down in diminishing width along termen to vein 2, costa black. Hindwing cream-white narrowly edged with black.—*Below*. Forewing black-brown with strong metallic

bronzy glaze, a white dot at end of cell, three yellow spots in apex and three whitish small spots along termen. Hindwing black-brown strongly glazed with metallic bronze, an orange costal band and a terminal line of orange streaks, a white spot at apex of cell and a broad cloud-like whitish postmedian band.

♀. *Above*. Forewing, basal three-fifths obliquely pale grey, outer two-fifths obliquely black-brown with a curved subterminal row of grey streaks. Hindwing, basal two-thirds pale grey, outer one-third black-brown.—*Below*. Forewing black-brown glossed with metallic bronze basal and cellular areas slightly powdered with yellow scales, a subterminal curved band of white oblong spots. Hindwing black-brown strongly glossed with metallic bronze, a white spot at end of cell, basal streak and row of subterminal spots golden yellow.

Length of forewing : ♂ 30 mm., ♀ 27 mm. ; expanse, ♂ 64 mm., ♀ 58 mm.

1 ♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912.

41. *Anaphaeis java java* (Sparrm.)

Papilio java Sparrman, *Amoen. Acad.* vol. vii. p. 504. note. 1 (1767) (Java).

1 ♂, Kintamani, Bali, 4000 ft., February—March 1911 ; 9 ♂♂, 8 ♀♀, Buleleng, North Bali, January—April 1911 ; 1 ♂, 2 ♀♀, Bali, 1912 ; 1 ♀, ?.

42. *Huphina nerissa corva* (Wall.).

Pieris corva Wallace, *Trans. Entom. Soc. Lond.* ser. iii. vol. iv. p. 339. No. 32 (1867) (Java, Bali).

1 ♂, 1 ♀, Buleleng, North Bali, January—April 1911 ; 3 ♂♂, 1 ♀, Bali, 1912.

43. *Huphina aspasia aspasia* (Stoll).

Papilio aspasia Stoll, *Suppl. Cramer's Pap. Exot.* pt. v. p. 148. pl. xxxiii. ff. 3, 3 c. (1790) (Amboina).

2 ♂♂, Waihai, North Ceram ; 19 ♂♂, 2 ♀♀, Sukaradja, N.W. Ceram ; 2 ♂♂, Mansuela, Central Ceram, 650 metres, 1912.

44. *Huphina aspasia jael* (Wall.).

Pieris jael Wallace, *Trans. Entom. Soc. Lond.* ser. iii. vol. iv. p. 335. No. 20 (1867) (Buru).

2 ♂♂, Mgesawain, Central Buru, 800 metres.

45. *Huphina perimale rachel* (Boisd.).

Pieris rachel Boisduval, *Hist. Nat. Ins. Spec. Gén. Lépid.* vol. i. p. 469. No. 46 (1836) (Java!).

There is some doubt about this form, as since Boisduval's time it has not been received from Java. Fruhstorfer in "Seitz" quite omits all mention of a form of *H. perimale* from the Moluccas. I, however, in addition to the 4 ♂♂ enumerated below, possess 2 ♂♂ from Buru, 1 ♀ from Ceram, 2 ♂♂ from Batjan, and 2 ♂♂ from Ceram Laut ; a ♂ from Obi is slightly different. As all these specimens agree with Boisduval's description of *rachel* in possessing the very large yellow subapical patch, which is less developed in all the other forms of *perimale*, I have come to the conclusion that the locality of Boisduval's type was wrong, and that *p. rachel* is the South Moluccan race.

2 ♂♂, Manusela, Central Ceram, 650 metres, 1912; 1 ♂, Sukaradja, N.W. Ceram; 1 ♂, Ceram.

46. *Appias lyncida lyncida* (Cram.).

Papilio lyncida Cramer, *Pap. Exot.* vol. ii. pt. xi. p. 53. t. 131. f. B. (1777) (Java).

1 ♂, Bali, 1912.

47. *Appias ada ada* (Cram.).

Papilio ada Cramer, *Pap. Exot.* vol. iv. pt. xxxi. p. 142. t. 363. ff. C. D. (1781) (Amboina).

1 ♂, Sukaradja, N.W. Ceram; 7 ♂♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912.

48. *Appias melania antoniae* Fruhst.

Appias melania antoniae Fruhstorfer, *Seitz Grossschm. der Erde*, vol. ix. p. 156 (1910) (East Ceram, Saparua).

1 ♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912; 2 ♂♂, Waihai, North Ceram.

49. *Appias placidia* (Stoll.).

Papilio placidia Stoll, *Suppl. Cramer's Pap. Exot.* pt. iv. p. 133. pl. xxviii. ff. 4. 4 C. (1790) (Amboina).

Dr. Staudinger separated the Batjan specimens as a subspecies under the name var. *maculata*, and Herr Fruhstorfer in "Seitz" followed him, adding the localities Halmaheira and Obi. I cannot agree to this, for out of seventeen ♀♀ sent by Herr Stresemann from Ceram, nine are like the ♂ unspotted above, seven are normal or like Staudinger's *maculata*, while the other one has a band of large distinct yellow patches much stronger developed than in any of Staudinger's *maculata*. I consider, therefore, at the most the yellow-spotted ♀♀ can only be treated as aberrations and must stand as ab. *maculata* Staud.

25 ♂♂, 15 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 2 ♂♂, Kanike, North Ceram, 600 metres = 1950 ft., 1912; 1 ♂, 3 ♀♀, Waihai, North Ceram.

In large numbers on the ground where covered with leaves in high primeval forest with little undergrowth. In the coast region and Central Mountain Range. Never found in open country.—E. S.

50. *Appias celestina celestina* (Boisd.).

Pieris celestina Boisduval, *Voy. Astrolabe Lépid.* p. 46. No. 1 (1832) (Waigiu).

When a good series of both the yellow and white forms of ♀ is available, the Misol form of *celestina* will have to be separated, but the three white ♀♀ obtained by H. Kühn are not sufficient for this purpose.

15 ♀♀, Misol [2 ♂♂, 3 ♀♀ (white form), Misol, January 1899 (Heinrich Kühn)].

51. *Catopsilia pyranthe evangelina* (Butl.).

Callidryas evangelina Butler, *Trans. Entom. Soc. Lond.* 1870. p. 11. No. 6 (Flores).

1 ♂, 1 ♀, Buleleng, North Bali, January—April 1911; 3 ♂♂, 2 ♀♀, Bali, 1912.

52. *Catopsilia crocale crocale* (Cram.).

Papilio crocale Cramer, *Pap. Exot.* vol. i. pt. v. p. 87, t. 55. ff. C. D. (1775) (East Indies).

This insect is very variable, but in spite of its great range has developed into only four subspecies. The ♂♂ have two chief forms: a yellow one, ♂ forma *flavescens* Fruhst., and a form with the outer half of wings white, ♂ forma *alcmene* Fabr. In the more western portions of its range three principal ♀ forms occur: ♀ forma *jugurtha* Cram. with narrow margins to the wings and more or less white hindwings; ♀ forma *crocale* Cram. with yellow hindwings and wider margins; and ♀ forma *latilimbata* Fruhst. with a lot of sooty black on the wings.

2 ♂♂ (♂ forma *alcmene*), 1 ♂ (♂ forma *flavescens*), Buleleng, North Bali, January—April 1911; 2 ♀♀ (♀ forma *jugurtha*), Bali, 1912.

53. *Catopsilia crocale rivalis* Fruhst.

Catopsilia crocale flava ♀ forma *rivalis* Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 163. t. 68. f. d. 4 and ff. d. 2-4 and e. 1-5 (1910) (Moluccas and Papua).

Herr Fruhstorfer applied the name *flava* Butler to the subspecies of *crocale* reaching from the **Moluccas** to the **Solomons**, and named the **Celebes** race *celebica*. He had evidently never looked up Butler's original description, or he would have seen that Butler's name *flava* was given to specimens obtained by A. R. Wallace in **Celebes** in 1858. I find that no other names have been given to the Molucco-Papuan race except the three ♀♀ forms *rivalis*, *crocalina*, and *jugurthina* Fruhst. As I do not wish to create a new name, I apply the name *rivalis* to the whole **subspecies** as it stands first on the page.

3 ♂♂, 1 ♀ (♀ forma *rivalis*), Wahai, North Ceram; 4 ♂♂, 4 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♂, Misol.

54. *Catopsilia scylla scylla* (Linn.).

Papilio scylla Linnaeus, *Mus. Loudv. Utr.* p. 242 (1764) (Java).

1 ♀, Kintamani, Bali, 4000 ft., February—March 1911.

55. *Catopsilia scylla moluccarum* Fruhst.

Catopsilia scylla moluccarum Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 165. t. 68. c. ff. 4. 5 (1910) (Moluccas).

2 ♂♂, 2 ♀♀, Wahai, North Ceram; 1 ♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912.

56. *Terias hecabe sankapura* Fruhst.

Terias hecabe sankapura Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 167 (1910) (Bawean, Java, Bali, and Lombok).

Terias hecabe is the most puzzling and variable insect. It varies locally, it has three seasonal forms which, however, all intergrade, it varies individually, and it varies both in colour and shape, and in some cases is sexually dimorphic and in others not. I have four local races to enumerate in this paper, but I shall only treat of them under their subspecific entities, as it would carry too far to split them up under the host of aberrational and formal names they possess.

3 ♂♂, 8 ♀♀, Buleleng, North Bali, January—April 1911; 1 ♀, Danan

Bratan, Bali, 2500 ft., January 1911; 1 ♂, 1 ♀, Gunung Bratan, Bali, 4000—6500 ft., January—February 1911 (this pair is quite unlike the other Bali specimens, for the ground colour of the ♂ is pale lemon-yellow and of the ♀ creamy white); 2 ♂♂, 2 ♀♀, Bali, 1912.

57. *Terias hecabe diversa* Wall.

Terias diversa Wallace, *Trans. Entom. Soc. Lond.* ser. iii. vol. iv. p. 324. No. 20 (1867) (Buru).

2 ♂♂, Bara, N.W. Buru.

58. *Terias hecabe biformis* Butl.

Terias biformis Butler, *Ann. Mag. Nat. Hist.* ser. v. vol. xiii. p. 196 (1884) (Amboina).

The colour of the ♂ type is exactly that of the Gunung Bratan ♂ of *h. sankapura*, while **none** of the series mentioned below is of that colour. The females vary in colour, some being pure white, while others are decidedly washed with lemon-yellow. Two males are paler yellow and have a broader black margin to hindwings.

13 ♂♂, 14 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 5 ♂♂, 1 ♀, Wahia, North Ceram.

59. *Terias hecabe oeta* Fruhst.

Terias hecabe oeta Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 168 (1910) (New Guinea).

1 ♂, Misol.

60. *Terias blanda blanda* Boisd.

Terias blanda Boisduval, *Hist. Nat. Ins. Spec. Gén. Lépid.* vol. i. p. 672. No. 32 (1836) (Batavia).

4 ♂♂, 1 ♀, Buleleng, North Bali, January—April 1911; 2 ♀♀, Bali, 1912.

61. *Terias blanda cingata* Fruhst.

Terias blanda cingata Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 169 (1910) (Amboina).

11 ♂♂, 5 ♀♀, Manusela, Central Ceram, 650 metres, 1912.

62. *Terias libythea drona* Horsf.

Terias drona Horsfield, *Cat. Lepid. Mus. E.I.C.* p. 137. t. 1. f. 13 (1829) (Java).

This subspecies has two seasonal forms: (1) seas. f. *drona* is the wet-season form, and (2) seas. f. *herlina* is the dry-season form.

2 ♂♂ (seas. f. *drona*), Danau Bratan, Bali, 2500 ft., January 1911; 1 ♀ (seas. f. *drona*), Gitgit, Bali, 1500—2000 ft.; 1 ♂, 1 ♀ (seas. f. *drona*), 13 ♂♂, 2 ♀♀ (seas. f. *herlina*), Manusela, Central Ceram, 650 metres.

63. *Terias laeta stigmatica* subsp. nov.

♂♀. Differs from *l. laeta* in the yellow underside and in the distinct black discocellular stigma.

1 ♂, 1 ♀, Kintamani, Bali, 4000 ft., February—March 1911.

64. *Terias tilaha tilaha* Horsf.

Terias tilaha Horsfield, *Cat. Lepid. Mus. E.I.C.* p. 136. No. 62 (1829) (Java).

2 ♂♂, 1 ♀, Danau Bratan, Bali, January 1911; 1 ♀, Gunung Bratan, Bali, 4000—6500 ft., January—February 1911.

65. *Terias norbana depicta* Fruhst.

Terias norbana depicta Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 172 (1910) (Amboina).

1 ♂, 2 ♀♀, Manusela, Central Ceram, 650 metres, 1912.

66. *Terias candida candida* (Cram.).

Papilio candida Cramer, *Pap. Exot.* vol. iv. pt. xxviii. p. 83. pl. 331 (1780) (Amboina).

15 ♂♂, 13 ♀♀, Manusela, Central Ceram, 650 ft., 1912; 1 ♂, Sukaradja, N.W. Ceram; 1 ♀, Kanike, North Ceram, 600 metres, 1912; 4 ♂♂, 7 ♀♀, Wahai, North Ceram. Abundant in open places!!—E. S. [Hagen says **always only** in forest lands.]

67. *Terias candida papuana* Butl.

Terias papuana Butler, *Ann. Mag. Nat. Hist.* ser. vii. vol. i. p. 60. No. 9 (1898) (Misol).

1 ♂, 9 ♀♀, Misol.

68. *Gandaca harina aiguina* Fruhst.

Gandaca harina aiguina Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 173 (1910) (Obi, Moluccas, to New Guinea!).

The bulk of the New Guinea specimens have a much wider black apex to the forewing in the males, but I have specimens even more exaggerated from India, the Malay Islands, and the Philippines, so that before I venture to describe the Papuan race I require a better series from the Moluccas, for the eleven specimens enumerated below are all I have from there.

11 ♂♂, Manusela, Central Ceram, 650 metres, 1912; 1 ♂, Misol.

69. *Hebomoia glaucippe javanensis* (Wall.).

Iphias glaucippe loc. var. (3) *javanensis* Wallace, *Journ. Entom.* ii. p. 3 (1863).

1 ♂, 1 ♀, Buleleng, North Bali, January—April 1911.

70. *Hebomoia leucippe leucippe* (Cram.).

Papilio leucippe Cramer, *Pap. Exot.* vol. i. pt. iii. p. 57. t. 36. ff. A. B. C. (1775) (Amboina).

Fruhstorfer has separated the Ceram *leucippe* as a distinct subspecies under the name of *leucippe daemonis*. He gives as the differences the great reduction of orange above in the forewing and the **whitish not yellowish** underside of hindwing. This does not hold good: out of my seven Amboina females **five** have **more** black and **less** orange than Fruhstorfer's figure of his *daemonis* female, while six of them have the hindwing below white. Of my two Ceram females one has more orange in forewing than the figure shows.

1 ♂, Ceram; 1 ♂, Manusela, Central Ceram, 650 metres, 1912.

Rather rare in river valleys in open country.—E. S.

71. *Pareronia jobaea elsa* (Fruhst.).

Nepheronia jobaea elsa Fruhstorfer, *Berl. Entom. Zeitschr.* vol. xlviii. p. 98 (1903) (Ceram).

5 ♂♂, Sukaradja, N.W. Ceram.

72. *Saletara liberia liberia* (Cram.).

Papilio liberia Cramer, *Pap. Exot.* vol. iii. pt. xviii. p. 31. t. 210. ff. G. H. (1779) (Amboina).

6 ♂♂, 2 ♀♀, Mansuela, Central Ceram, 650 metres, 1912; 2 ♂♂, 2 ♀♀, Wahai, North Ceram; 1 ♂, Kanike, North Ceram, 600 metres, 1912.

In high virgin forest with little undergrowth on the ground where covered with leaves.—E. S.

73. *Saletara cycinna cycinna* (Hew.).

Pieris cycinna Hewitson, *Exot. Butt.* vol. ii. *Pier.* t. 4. ff. 23. 26 (1861) (Aru).

1 ♂, Misol.

DANAIDAE

Danainae

74. *Danaida chrysippus bataviana* (Moore).

Limnas bataviana Moore, *Proc. Zool. Soc. Lond.* 1883. p. 238. No. 5 (Java).

1 ♂, 1 ♀, Buleleng, North Bali, January—April 1911; 3 ♀♀, Kintamani, Bali, 4000 ft.; 4 ♂♂, Bali, 1912.

75. *Danaida chrysippus petilia* (Stoll).

Papilio petilia Stoll, *Suppl. Cramer's Pap. Exot.* pt. iv. p. 132. pl. xxviii. f. 3. (1790) (Coast of Coromandel).

3 ♂♂, 2 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♂, Wahai, North Ceram; 2 ♂♂, Bara, N.W. Buru.

76. *Danaida plexippus intensa* (Moore).

Salatura intensa Moore, *Proc. Zool. Soc. Lond.* 1883. p. 240. No. 3 (Java).

4 ♂♂, 5 ♀♀, Kintamani, Bali, 4000 ft., February—March 1911; 1 ♂, Gitgit, Bali, 1500—2000 ft.; 2 ♂♂, 3 ♀♀, Danau Bratan, Bali, 2500 ft., January 1911; 1 ♂, 1 ♀, Buleleng, North Bali, January—April 1911.

77. *Danaida philene philene* (Cram.).

Papilio philene Cramer, *Pap. Exot.* vol. iv. pt. xxxii. p. 168. t. 375. ff. A. B. (1781) (Amboina).

This form varies much in the intensity of the brown colour, and Fruhstorfer has named the extreme pale individuals forma *luxurians*, and he states that this form has more often white marks on the upperside of hindwings. Out of the fifty specimens sent by Herr Stresemann, twenty-two are forma *luxurians* and twenty-seven forma *philene*, while one ♂ has almost entirely black hindwings. Now, of these fifty specimens only **two** have white on the hindwings above, one a ♂ forma *luxurians*, and the other the ♂ with almost black hindwings (*i.e.* the brown on hindwing having almost disappeared).

4 ♂♂, 3 ♀♀, Wahai, North Ceram; 30 ♂♂, 13 ♀♀, Manusela, Central Ceram, 650 metres, 1912.

Very abundant in open country in the Coast region and Central Mountain Ranges.—E. S.

78. *Danaida philene mysolica* (Moore).

Salatura mysolica Moore, *Proc. Zool. Soc. Lond.* 1883. p. 242. No. 13 (Misol).

One ♂ has, as in the preceding form, an almost black hindwing, but in this case it is more extreme.

4 ♂♂, 1 ♀, Misol.

79. *Danaida ismare ismare* (Cram.).

Papilio ismare Cramer, *Pap. Exot.* vol. iii. pt. xxiv. p. 156. pl. 279. ff. E. F. (1780) (Amboina).

7 ♂♂, 3 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♀, Wahai, North Ceram.

80. *Danaida melissa melissa* (Cram.).

Papilio melissa Cramer, *Pap. Exot.* vol. iv. pt. xxxii. p. 172. t. 377. ff. C. D. (1781) (Java).

There are two well-marked forms of this insect found on Java—a large wet-season form, "forma" *myrsilos* Fruhst., with all the lines and spots much reduced, and a smaller dry-season form, "forma" *melissa*, with the lines and spots large and broad. On Bali the dry-season form is identical with that on Java, but the wet-season form has the narrow lines and small spots of *myrsilos*, but is if anything smaller than "forma" *melissa*.

I propose to call this "form. loc. *melissina* form. nov."

1 ♀ (forma *melissa*), Buleleng, North Bali, January—April 1911; 1 ♀ (forma loc. *melissina*), Bali, 1912; 1 ♀ (forma loc. *melissina*), Kintamani, Bali, 4000 ft., February—March 1911.

81. *Danaida melissa nigra* (Mart.).

Danaïs (Tirumala) melissa nigra Martin, *Iris*, vol. xxiv. p. 24 (1910) (Ceram).

2 ♂♂, 3 ♀♀, Manusela, Central Ceram, 650 metres, 1912.

82. *Danaida aspasia philomela* (Zink.-Somm.).

Euploea philomela Zinken-Sommer, *Nova Act. Acad. Nat. Cur.* xv. p. 184. t. 16. f. 17 (1831) (Java).

1 ♂, Danau Bratan, Bali, 2500 ft., January 1911; 3 ♂♂, Gitgit, Bali, 1500—2000 ft.; 1 ♂, Bali, 1912; 1 ♂, 2 ♀♀, Buleleng, North Bali, January—April 1911.

83. *Danaida cleona cleona* (Cram.).

Papilio cleona Cramer, *Pap. Exot.* vol. iv. pt. xxxii. p. 173. t. 377. f. F. (1781) (Amboina).

16 ♂♂, 8 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 2 ♂♂, 1 ♀, Wahai, North Ceram.

Common in open country on the coast, and in the Central Mountain Range.

84. *Danaida cleona lutescens* (Butl.).

Danais lutescens Butler, *Proc. Zool. Soc. Lond.* 1866, p. 172. No. 5 ; p. 173. f. 3. (Buru).

2 ♀ ♀, Mgesawain, Central Burn, 800 metres.

85. *Danaida albata gilva* Fruhst.

Danaida albata gilva Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 209 (1910) (East Java).

5 ♂ ♂, 5 ♀ ♀, Gunung Bratan, 7020 ft., January—February 1911.

Only found on summit of Gunung Bratan.—E. S.

86. *Danaida juvena juvena* (Cram.).

Papilio juvena Cramer, *Pap. Exot.* vol. ii. pt. xvi. p. 139. t. 188. f. B. (1777) (Java, Amboina, and Coast of Coromandel).

4 ♂ ♂, 2 ♀ ♀, Bali, 1912 ; 1 ♂, 1 ♀, Kintamani, Bali, 4000 ft., February—March 1911 ; 1 ♀, Gunung Bratan, Bali, 4000—6500 ft., January—February 1911 ; 2 ♂ ♂, 2 ♀ ♀, Buleleng, Bali, January—April 1911.

87. *Danaida juvena meganira* (Godt.).

Danais meganira Godart, *Encycl. Méthod.* vol. ix. p. 192. No. 51. (1819) (Java).

12 ♂ ♂, 10 ♀ ♀, Manusela, Central Ceram, 650 metres, 1912 ; 7 ♂ ♂, 2 ♀ ♀, Waihai, North Ceram.

Hestiinae88. *Ideopsis stresemanni* sp. nov.

♂. Antennae black, club very large ; palpi white outside, black inside, tip of last segment black ; head black-brown, two spots on frons and two on vertex white ; thorax black-brown, white dots on tegulae and patagia ; abdomen seal-brown above. *Forewing* long and narrow, seal-brown ; a broad central band below vein 1, a large patch above it, patches between veins 2 and 3, 4 and 5, 5 and 6, a spot above vein 6, two spots (one above and one behind) apex of cell, and a row of six submarginal spots bright canary-yellow with a slight olive tinge. *Hindwing*, basal two-fifths bright olivaceous canary-yellow divided into patches by the seal-brown nervures ; outer three-fifths seal-brown, streaks along abdominal folds, a postdiscal band of seven large spots and three or four indistinct submarginal dots.

♀. Larger wings, much broader and rounder ; on forewing between vein 4 and tornus the submarginal row of spots is double, and on hindwing there is a complete row of twin submarginal spots.

Expanse: ♂, 94 mm. ; ♀, 109 mm. Length of forewing: ♂, 45 mm. ; ♀, 52 mm.

20 ♂ ♂, 10 ♀ ♀, Manusela, Central Ceram, 650 metres, 1912.

Abundant in light forest and in open spots above 500 metres = 1650 ft., and singly even as high as the summit of Gunung Pinaia, 2500 metres = 8150 ft. ; below 500 metres rarely to be seen.—E. S.

89. **Hestia idea** (Clerck).

Papilio idea Clerck, *Icones Insect. Rar. sect. secunda*, t. 38. f. 1 (1764).

Hestia idea novella Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 224. pl. 75b. No. 1 (1910) (Banda, Goram, and Ceram).

Fruhstorfer has separated the Banda, Goram, and Ceram specimens as a subspecies, chiefly on the greater amount of black in the cell of Amboina specimens, but the distinction breaks down in a series.

6 ♂♂, 6 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 10 ♂♂, 8 ♀♀, Wahai, North Ceram; 1 ♀, Kanike, North Ceram, 600 metres, 1912.

Solitary in tall virgin forest having scanty undergrowth. Native Moluccan name "Kupu Kupu Swangi" (Malayan name, "Kupu Kupu Hantu") = Ghost butterfly.—E. S.

Euploeinae90. **Euploea climena climena** (Cram.).

Papilio climena Cramer, *Pap. Exot.* vol. iv. pt. xxxiii. p. 207. t. 389. ff. E. F. (1782) (Amboina).

6 ♂♂, 7 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 5 ♂♂, 5 ♀♀, Wahai, North Ceram.

91. **Euploea climena elwesiana** (Nicév.).

Euploea (Vadebra) elwesiana Nicéville, *Journ. As. Soc. Bengal*, vol. 66. pt. ii. No. iii. p. 543. No. 1 (1897) (Bali Lombok, Sambawa).

1 ♂, Kintamani, Bali, 4000 ft., February—March 1911.

92. **Euploea confusa confusa** Butl.

Euploea confusa Butler, *Proc. Zool. Soc. Lond.* 1866, p. 285. No. 52. p. 283. f. 3 (Waigiou).

3 ♂♂, 1 ♀, Misol.

93. **Euploea alecto** Butl.

Euploea alecto Butler, *Proc. Zool. Soc. Lond.* 1866, p. 275. No. 21 (Ceram).

3 ♂♂, Manusela, Central Ceram, 650 metres, 1912; 2 ♀♀, Wahai, North Ceram.

94. **Euploea duponcheli duponcheli** Boisd.

Euploea duponcheli Boisduval, *Voy. Astrolabe Lep.* p. 97. No. 6 (1832) (Buru).

1 ♀, Bara, North-west Buru.

95. **Euploea duponcheli anthracina** Butl.

Euploea anthracina Butler, *Proc. Zool. Soc. Lond.* 1866, pp. 280. 281. Nos. 39. 39a. f. 1 (Ceram).

15 ♂♂, 5 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♂, 1 ♀, Wahai, North Ceram.

96. **Euploea melanopa cissia** Fruhst.

Euploea melanopa cissia Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 243 (1910) (Misol).

7 ♂♂, 1 ♀, Misol.

97. *Euploea picina inaequalis* Butl.

Euploea inaequalis Butler, *Journ. Linn. Soc. Lond.* 1878, p. 302 (Ceram).

2 ♂♂, Manusela, Central Ceram, 650 metres, 1912.

98. *Euploea mulciber basilissa* (Cram.).

Papilio basilissa Cramer, *Pap. Exot.* vol. ii. pt. xi. p. 45. t. 127. ff. C. D. (1777) (Java).

Fruhstorfer has named the ♀♀ with no blue in apical one-third of wing forma *donada*.

4 ♂♂, 1 ♀, 1 ♀ f. *donada*, Buleleng, North Bali, January—April 1911; 1 ♂, 1 ♀, Gitgit, Bali, 1500—2000 ft.; 1 ♂, 1 ♀ f. *donada*, Bali, 1912; 1 ♂, 1 ♀, Danau Bratan, January 1911; 1 ♀ f. *donada*, Gunung Bratan, Bali, 4000—6500 ft., January—February 1911; 1 ♂, Kintamani, Bali, 4000 ft., February—March 1911.

99. *Euploea salabanda cledonia* (Fruhst.).

Calliploea adyte? *cledonia* Fruhstorfer, *Soc. Entom.* vol. 19. p. 68 (1904) (Ceram).

2 ♂♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♀, Waihai, North Ceram.

100. *Euploea mazares mazares* Horsf. & Moore.

Euploea mazares Horsfield & Moore, *Cat. Lep. Ins. Mus. E.I.C.* ed. ii. p. 127. No. 253 (1857) (Java).

1 ♀, Bali, 1912.

101. *Euploea corus defiguratus* (Fruhst.).

Macroploea corus defiguratus Fruhstorfer, *Intern. Entom. Zeitschr. Guben*, ii. p. 238 (1908) (Bali).

3 ♂♂, 1 ♀, Buleleng, North Bali, January—April 1911; 2 ♀♀, Gitgit, Bali, 1500—2000 ft.

102. *Euploea phaenareta phaenareta* (Schall.).

Papilio phaenareta Schaller, *Naturf.* vol. xxi. p. 177. t. 5. f. 1. 2 (1785) (Amboina).

13 ♂♂, 4 ♀♀, Manusela, Central Ceram, 650 metres, 1912.

103. *Euploea phaenareta hollandi* Fruhst.

Euploea phaenareta hollandi Fruhstorfer, *Iris*, vol. xvi. p. 303 (1903) (Buru).

1 ♀, Buru.

104. *Euploea nemertes nemertes* (Hübner).

Lemnas mutabilis nemertes Hübner, *Samml. Exot. Schmett.*, i. t. 26 (1806—1816).

9 ♂♂, 5 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♂, 1 ♀, Waihai, North Ceram.

105. *Euploea nemertes bouruana* (Moore).

Salpinx bouruana Moore, *Proc. Zool. Soc. Lond.* 1883, p. 302. No. 9 (Buru).

1 ♀, Mgesawain, Central Buru, 800 metres.

106. *Euploea denti-plaga* sp. nov.

♀. Head, thorax, and abdomen velvety black, a row of white dots along edge of eye and a whitish band on sides of anal half of abdomen. *Forewing* pale coffee-brown, disc black-brown; a white spot in cell, a postmedian and postdisca row of four white spots each, an indistinct white dot between veins 11 and 12. *Hindwing* black-brown, paler beyond vein 6 to costa, a postmedian band of large white blotches which are strongly dentate externally and less strongly internally.

Underside similar but much paler, postmedian band of spots on forewing bluish; a median band of spots and spot in cell on hindwing bluish white.

Expanse, 120 mm.; length of forewing, 57 mm.

This species is unlike anything I know, but its nearest allies are *leachi leachi* and *leachi coracina*.

4 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♀, Ceram.

Exclusively a mountain species, affects specially flowering *Eugenia* trees. Observed even at 2600 metres = 8450 feet on Gunung Pinaia.—E. S.

107. *Euploea crameri singaradha* Fruhst.

Euploea crameri singaradha Fruhstorfer, *Intern. Entom. Zeitschr. Guben*, p. 238 (1908) (Bali).

1 ♂, Gitgit, Bali, 1500—2000 ft.

108. *Euploea deione wallengrenii* Feld.

Euploea wallengrenii Felder, *Reise Novara, Lepid.* vol. ii. p. 336. No. 465 (1867) (Java).

1 ♂, 1 ♀ (ab. *demaculata* Fruhst.), Bali, 1912.

Palaeotropinae109. *Tellervo assarica assarica* (Cram.).

Papilio assarica Cramer, *Pap. Exot.* vol. iv. pt. xxxi. p. 142. t. 363. ff. A. B. (1781) (Amboina).

7 ♂♂, 10 ♀♀, Manusela, Central Ceram, 650 metres, 1912.

110. *Tellervo zoilus coalescens* subsp. nov.

♂. Differs from *z. fallax* in the cell patch of forewing being much larger and almost coalescent with the subapical patch.

♀. Differs in the still larger subapical patch, which quite coalesces with the very large cellular patch.

3 ♂♂, 1 ♀, Misol.

SATYRIDAE**Satyrinae**111. *Ypthima pandocus pandocus* Horsf. & Moore.

Ypthima pandocus Horsfield & Moore, *Cat. Lepid. Ins. Mus. E.I.C.* vol. i. p. 235. No. 506 (1857) (Java).

1 ♂, Buleleng, North Bali, January—April 1911; 3 ♂♂, Kintamani, Bali, 4000 ft., February—March 1911; 2 ♂♂, Danau Bratan, 2500 ft., January 1911.

112. *Ypthima philomela philomela* (Joh.).

Papilio philomela Johansson, *Amoen. Acad.* vol. vi. p. 404. No. 60 (1763) (Java).

2 ♂♂, Gitgit, Bali, 1500—2000 ft.; 1 ♀, Kintamani, Bali, 4000 ft., February—March 1911.

113. *Hypocysta osyris* (Boisd.).

Satyrus osyris Boisduval, *Voy. Astrolabe, Lep.* p. 154. No. 17 (1832) (Offak).

2 ♀♀, Misol.

114. *Lethe arete arete* (Cram.).

Papilio arete Cramer, *Pap. Exot.* vol. iv. pt. xxvii. p. 50. t. 313. ff. E. F. (1780) (Amboina).

2 ♂♂, Manusela, Central Ceram, 650 metres, 1912.

115. *Lethe europa europa* (Fabr.).

Papilio europa Fabricius, *Syst. Entom.* p. 500. No. 247 (1775) (America ! !).

1 ♀, Danau Bratan, Bali, 2500 ft., January 1911.

116. *Mycalesis sirius manipa* (Boisd.).

Satyrus manipa Boisduval, *Voy. Astrolabe, Lep.* p. 150, No. 10 (1832) (Amboina).

1 ♂, 2 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♀, Wahai, North Ceram.

117. *Mycalesis terminus nemulia* (Cram.).

Papilio nemulia Cramer, *Pap. Exot.* vol. iii. pt. xx. p. 76. t. 237. ff. F. G. (1779) (Amboina).

21 ♂♂, 5 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 9 ♂♂, 3 ♀♀, Wahai, North Ceram.

118. *Mycalesis terminus wakolo* Fruhst.

Mycalesis terminus wakolo Fruhstorfer, *Verhand. zool. bot. Gesellsch. Wien* (1908), p. 164 (Burnu).

2 ♂♂, Mgesawain, Central Burnu, 800 metres.

119. *Mycalesis phidon phidon* Hew.

Mycalesis phidon Hewitson, *Exot. Butt.* vol. iii. *Mycal.* t. 3. f. 16 (1862) (Aru).

1 ♂, Misol.

120. *Mycalesis mehadewa mehadewa* (Boisd.).

Satyrus mehadewa Boisduval, *Voy. Astrolabe, Lep.* p. 151. No. 12 (1832) (Dorei).

2 ♂♂, 2 ♀♀, Misol.

121. *Mycalesis duponcheli umbonia* Fruhst.

Mycalesis duponcheli umbonia Fruhstorfer, *Soc. Entom.* vol. xxi. p. 91 (1906) (Waigiu).

1 ♀, Misol.

122. *Mycalesis janardana janardana* Horsf. & Moore.

Mycalesis janardana Horsfield & Moore, *Cat. Lepid. Ins. Mus. E.I.C.* p. 234. No. 502 (1857) (Java).

2 ♂♂, 1 ♀, Buleleng, North Bali, January—April 1911.

123. *Mycalesis sudra taunis* Fruhst.

Mycalesis sudra taunis Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 355 (1910) (Bali).

10 ♂♂, 3 ♀♀, Danau Bratan, Bali, 2500 ft., January 1911.

124. *Orsotriaena medus zipoetina* Fruhst.

Orsotriaena medus zipoetina Fruhstorfer, *Verhand. zool. bot. Gesells. Wien* 1908, p. 214 (Sumatra).

Fruhstorfer treats this as a **form. loc.** only; but as it appears to be the only form on Bali, I consider it must rank as a subspecies.

2 ♂♂, 3 ♀♀, Buleleng, North Bali, January—April 1911; 2 ♂♂, 2 ♀♀, Bali, 1912.

125. *Melanitis leda leda* (Linn.).

Papilio leda Linnaeus, *Syst. Nat.* ed. xii. vol. i. pt. 2. p. 773. No. 151 (1767) ("Asia").

1 ♂, 3 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♀, Wahai, North Ceram.

126. *Melanitis leda simessa* Fruhst.

Melanitis simessa Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 362 (1910) (Java).

2 ♂♂, 3 ♀♀, Buleleng, North Bali, January—April 1911; 1 ♂, Bali, 1912. (Both the wet-season form *lacrima* Fruhst. and the dry-season form *ismenides* Fruhst. are represented.)

127. *Melanitis leda buruana* Holl.

Melanitis leda buruana Holland, *Nov. Zool.* vol. vii. p. 61. No. 18 (1900) (Buru).

1 ♂, Bara, North-west Buru.

128. *Melanitis constantia constantia* (Cram.).

Papilio constantia Cramer, *Pap. Exot.* vol. ii. pt. xii. p. 57. t. 133. ff. A. B. (1777) (Amboina).

The males and females appear in two extreme forms and an intermediate third form. The ♂ form with barely any transverse band on forewing is ♂ f. *depicta* Fruhst., and for the ♀ form without ocelli in forewing above I propose the name of ♀ f. **inoculata** form. nov., and for the intermediate ♀ form with only one ocellus the name ♀ f. **semioculata** form. nov. If it is considered worthy of a name, the ♂ intermediate form could be called ♂ f. **intermedia** form. nov.

3 ♂♂, 7 ♀♀ (1 ♂ f. *depicta*, 2 ♂♂ f. *intermedia*, 1 ♀ f. *inoculata*), Manusela, Central Ceram, 650 metres, 1912; 1 ♀ (f. *semioculata*), Kanike, North Ceram, 600 metres, 1912; 1 ♂, Wahai, North Ceram.

129. *Melanitis amabilis cramer* (Butl.).

Cyllo cramer Butler, *Entom. Mon. Mag.* vol. iii. p. 77. No. 4 (1866) (Oceania!!).

1 ♂, Manusela, Central Ceram, 650 metres, 1912; 1 ♀, Ceram. (I have followed Fruhstorfer temporarily in applying Butler's name to the Ceram race.)

130. *Melanitis amabilis kajelana* Fruhst.

Melanitis amabilis kajelana Fruhstorfer, *Entom. Zeitschr. Stuttgart*, vol. xxii. p. 83 (1908) (Buru).

1 ♂, Bara, North-west Buru.

Elymniinae131. *Elymnias hypermnestra baliensis* Fruhst.

Elymnias protogenia baliensis Fruhstorfer, *Soc. Entom.* vol. xi. No. 18. p. 147 (1896) (Bali).

11 ♂♂, 3 ♀♀, Bali, 1912; 29 ♂♂, 5 ♀♀, Buleleng, North Bali, January—April 1911; 1 ♂, Kintamani, Bali, 4000 ft., February—March 1911.

132. *Elymnias nigrescens bulelenga* subsp. nov.

♀. Differs from *nig. sumbawana* Fruhst. in the submarginal spots of the forewing being smaller and much whiter, and in there being a submarginal line of whitish streaks on hindwing.

1 ♀, Buleleng, North Bali, January—April 1911.

133. *Elymnias vitellia ceramensis* Mart.

Elymnias vitellia ceramensis Martin, *Iris*, vol. xxii. p. 65. No. 2 (1909) (Ceram).

This is rather a poor subspecies, as specimens occur with two, three, and four subapical spots. Fruhstorfer's ab. *suavium* I have not seen, but one of the Kanike specimens has a blue spot on hindwing above.

7 ♂♂, Manusela, Central Ceram, 650 metres, 1912; 2 ♂♂, Kanike, North Ceram, 600 metres, 1912.

134. *Elymnias agondas agondas* (Boisd.).

Dychis agondas Boisduval, *Voy. Astrolabe, Lep.* p. 138. t. 3. f. 5 (1832) (Vanikoro ? !).

2 ♂♂, 1 ♀ (♀ *f. bioculatus* Doubl. & Hew.), Misol.

AMATHUSIIDAE**Amathusiinae**135. *Faunis arcesilans canens* Hübn.

Faunis canens Hübner, *Samml. Exot. Schmett.* vol. ii. pl. 82. ff. 3. 4 (1820–1826).

3 ♀♀, Danau Bratan, Bali, 2500 ft., January 1911; 1 ♂, Gunung Bratan, Bali, 4000—6500 ft., January—February 1911.

136. *Taenaris urania pandemos* Fruhst.

Taenaris urania pandemos Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 411 (1911) (Ceram).

11 ♂♂, 4 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 8 ♂♂, Wahai, North Ceram.

137. *Taenaris selene gigas* (Staud.).

Tenaris macrops gigas Staudinger, *Exot. Tagf.* vol. i. p. 194 (1888) (Ceram).

Among the series sent by Herr Stresemann are two specimens (♂♀) which struck me at once as very strange: the ♂ has the forewing very much paler than

the remaining 15 ♂♂, fawn-grey or greyish fawn instead of sooty brown, and the hindwing, except the outer quarter obliquely from vein 3 to costa, which is fawn-grey, pure white, the ocellus having a narrow outer fawn ring; the ♀ has the whole forewing brownish grey with an oblique dirty white band from subcostal nervure beyond cell to termen between veins 3 and 4, broad nearest costa, narrowing sharply to termen, the hindwing has basal two-thirds white. This form I propose to call forma **pseudomacrops** form. nov.

On the ground in light forest occasionally abundant.—E. S.

16 ♂♂, 6 ♀♀ (1 ♂, 1 ♀, f. *pseudomacrops*), Manusela, Central Ceram, 650 metres, 1912.

138. *Taenaris myops praxedes* Fruhst.

Taenaris myops praxedes Fruhstorfer, *Entom. Zeitschr.*, vol. xviii. p. 119 (1904) (Salwatti?).

A poor subspecies.

13 ♂♂, 1 ♀, Misol.

139. *Taenaris artemis ziada* (Fruhst.).

Taenaris artemis ziada Fruhstorfer, *Insekten-Börse*, vol. xxi. p. 389 (1904) (Misol).

4 ♂♂, 3 ♀♀, Misol.

140. *Taenaris dimona offaka* Fruhst.

Taenaris dimona offaka Fruhstorfer, *Wien. Entom. Zeit.* vol. xxiv. p. 82 (1905) (Waigiu).

1 ♂, Misol.

141. *Taenaris dimona desdemona* (Staud.).

Taenaris dimona desdemona Staudinger, *Exot. Tagf.* vol. i. p. 201 (1888) (Ceram).

1 ♀, Manusela, Central Ceram, 650 metres, 1912.

142. *Taenaris catops fulvida* (Butl.).

Taenaris fulvida Butler, *Trans. Entom. Soc. Lond.* 1870. p. 487. No. 2 (Misol).

5 ♂♂, 2 ♀♀, Misol.

NYMPHALIDAE

Nymphalinae

143. *Ergolis ariadne ariadne* (Joh.).

Papilio ariadne Johansson, *Amoen. Academ.* vol. vi. p. 407. No. 71 (1764) (Java).

1 ♂, 1 ♀, Bali, 1912; 1 ♂, Buleleng, North Bali, January—April 1911.

144. *Cupha erymanthis synnara* Fruhst.

Cupha erymanthis synnara Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 467 (1912) (Java).

2 ♂♂, 1 ♀, Buleleng, North Bali, January—April 1911; 1 ♂, Gitgit, Bali, 1500—2000 ft.

145. *Cupha crameri crameri* (Feld.).

Messaras crameri Felder, *Sitzungsber. Akad. Wiss. Wien. Math. Nat. Cl.* xl. p. 449. No. 5 (1860) (Amboina).

1 ♂, 1 ♀, Wahai, North Ceram.

146. *Cupha lampetia lampetia* (Linn.).

Papilio lampetia Linnaeus, *Mus. Ludov. Utr.* p. 286 (1764) (Amboina).

3 ♂♂, 3 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 2 ♀♀, Wahai, North Ceram.

147. *Cupha madestes turneri* (Butl.).

Messaras turneri Butler, *Ann. Mag. Nat. Hist.* ser. iv. vol. xviii. p. 244. No. 17 (1876) (Misol).

2 ♂♂, 1 ♀, Misol.

148. *Atella phalanta phalanta* (Drury).

Papilio phalanta Drury, *Illustr. Exot. Entom.* vol. i. p. 41. t. xxi. ff. 1. 2. (1773) (China).

1 ♂, Buleleng, North Bali, January—April 1911.

149. *Atella alcippe alcippe* (Cram.).

Papilio alcippe Cramer, *Pap. Exot.* vol. iv. pt. xxxiii. p. 207. t. 389. ff. G. H. (1782) (Amboina).

2 ♂♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912.

150. *Issoria egista egista* (Cram.).

Papilio egista Cramer, *Pap. Exot.* vol. iii. pt. xxiv. p. 158. t. 281. ff. C. D. (1780) (Amboina).

3 ♂♂, 5 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♀, Wahai, North Ceram.

151. *Cynthia arsinoë arsinoë* (Cram.).

Papilio arsinoë Cramer, *Pap. Exot.* vol. ii. pt. xiv. p. 100. t. 160. ff. B. C. (1777) (Amboina).

Fruhstorfer has separated *arsinoë* from Ceram as *arsinoë ardea* on the ground that the ♀♀ have the forewing tinged with cream-yellow, the green of the outer portion of the hindwing paler, and that also below they are paler and show less white on outer portions of wings. I cannot accept this as fact, for the ♀ enumerated below is much darker than most of my Amboina ♀♀, and has no cream-yellow above but a lot of white below, while several of my Amboina ♀♀ have all the characters Fruhstorfer gives for his *arsinoë ardea*.

Abundant in the Central Mountain chain on river banks. It often comes in large masses to fresh excrement.—E. S.

45 ♂♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912.

152. *Cynthia arsinoë rebeli* Fruhst.

Cynthia arsinoë rebeli Fruhstorfer, *Entom. Zeitschr.* vol. xix. p. 215 (1906) (New Guinea).

4 ♂♂, Misol.

153. *Cynthia arsinoë buruana* Fruhst.*Cynthia arsinoë buruana* Fruhstorfer, *Iris*, vol. xiv. p. 329 (1901) (Buru).

Described from three ♂♂.

♀. Differs from ♀ *a. arsinoë* above in the forewing being much darker grey with a dark olive-green sheen and **no** suffusion of brown on rufous; the post-median bands of white markings are absent, having been entirely suffused with dark scales; a median white band bordered outside with a greyish black crenulated line. Hindwing entirely grey with green sheen, the outer two-thirds suffused with dull orange; a median white band with crenulated line on outside followed by an indistinct greenish blue band; ocelli smaller than in *a. arsinoë* and the pale ring is deep orange, **not** pale yellow. Below there is a median white band on both wings **not found** in *a. arsinoë*, and on forewing there is a postdiscal red line **not** in the nametypical form. It has also an anal ocellus on hindwing above and below; in fact it almost agrees with ♀ *C. erota albotaeniata* except being darker grey.

6 ♂♂, 1 ♀, Mgesawain, Central Buru, 800 metres.

154. *Cirrochroa regina ducalis* Wall.*Cirrochroa ducalis* Wallace, *Trans. Entom. Soc. Lond.* 1869, p. 340 (New Guinea).

1 ♂, Misol.

155. *Cethosia biblis narmadoides* Nicév.*Cethosia narmadoides* de Nicéville, *Journ. Asiat. Soc. Bengal*, vol. 66. pt. ii. No. iv. p. 683. No. 85 (1898) (Bali).

1 ♂, Gitgit, Bali, 1500-2000 ft.; 1 ♂, Kintamani, 4000 ft., February—March 1911.

(The list of original references in *Seitz' Grossschmetterlinge der Erde* is most carelessly and inefficiently prepared; not only omissions but absolutely wrong quotations occur continually.)

156. *Cethosia biblis ceramensis* Fruhst.*Cethosia biblis ceramensis* Fruhstorfer, *Stettin. Entom. Zeit.* vol. 63. p. 349 (1902) (Ceram).

10 ♂♂, Manusela, Central Ceram, 650 metres, 1912.

157. *Cethosia cydippe cydippe* (Joh.).*Papilio cydippe* Johansson, *Amoenit. Academ.* vol. vi. p. 409 (1763) (India).

The question of authorship of this insect and the dates of publication are rather puzzling; however, it is quite certain that those **many** authors who attribute *cydippe* to Linnaeus are entirely wrong, as he only described it in 1767. It merely remains a question between Johansson and Clerck, who are both quoted as 1764.

Now Clerck's *Icones Insectorum Rariorum*, pt. ii. is dated "Holmiae 1764," and it is on plate 36, f. 1 that *cydippe* is figured.

Johansson's "Centuria Insectorum" forms article cxxi. of the periodical issued by Linnaeus entitled *Amoenitates Academicæ*, and is the twenty-first article

of the twenty-four composing vol. 6, and is dated "Upsaliae 1763, Junii 23," on p. 409 of which *cydippe* is described. It would at first sight be obvious that 1763 is earlier than 1764; but Johansson quotes Clerck, giving the plate 36 f. 1 correctly. I think, however, this may be explained by supposing that Clerck showed Johansson an advance proof of his work. It is a fact that the *Icones* of Clerck were never distributed through the booksellers, but only under the direct aegis of Queen Louisa Ulrica of Sweden.

I therefore consider Johansson to be the author of *cydippe*.

7 ♂♂, 3 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♂, 2 ♀♀, Wahai, North Ceram; 2 ♂♂, Sukaradja, North-west Ceram; 1 ♀, Ceram.

158. *Cethosia cydippe claudilla* Fruhst.

Cethosia cydippe claudilla Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 509 (1912) (Dutch New Guinea).

I have adopted Fruhstorfer's name to save the coining of a new one; for in reality, as he says it is impossible to tell from the description whether Felder's name *damasippe* is founded on the N.W. or S.W. Dutch New Guinea form and proposes *claudilla* at random for the form which turns out **not to be** *damasippe*, the name cannot stand. Moreover, the type of Felder's *damasippe* is an aberration with the marginal dark portion of the hindwing **much** wider and the light part much darker than in any other specimen from the Papuan region which I have, so that it is impossible to say which form of the two it is. I therefore fix the type locality of Fruhstorfer's name as Misol.

7 ♂♂, 6 ♀♀, Misol.

159. *Argynnis hyperbius javanica* Oberth.

Argynnis niphe javanica Oberthür, *Bull. Soc. Entom. France*, 1889, p. 236 (Java).

3 ♂♂, 1 ♀, Kintamani, Bali, 4000 ft., February—March 1911; 1 ♂, Gunung Bratan, Bali, 4000—6500 ft., January—February 1911; 1 ♂, Bali, 1912.

160. *Precis iphita horsfieldi* (Moore).

Junonia horsfieldi Moore, *Lepid. Ind.* vol. iv. p. 82 (1899) (Java).

2 ♂♂, 1 ♀, Buleleng, North Bali, January—April 1911; 2 ♀♀, Danau Bratan, Bali, 2500 ft., January 1911; 1 ♀, Gitgit, Bali, 1500—2000 ft.; 3 ♂♂, 1 ♀, Bali, 1912.

161. *Precis hedonia hedonia* (Linn.).

Papilio hedonia Linnaeus, *Mus. Ludov. Ulr.* p. 279 (1764) (Amboina).

4 ♂♂, 5 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 4 ♂♂, 1 ♀, Wahai, North Ceram.

162. *Precis hedonia ida* (Cram.).

Papilio ida Cramer, *Pap. Exot.* vol. i. pt. iv. p. 66. t. 42. ff. C. D. (1775) (Java).

2 ♂♂, 3 ♀♀, Buleleng, North Bali, January—April 1911; 1 ♀, Kintamani, Bali, 4000 ft., February—March 1911; 4 ♂♂, 5 ♀♀, Bali, 1912.

163. *Precis hedonia zelima* (Fabr.).

Papilio zelima Fabricius, *System. Entom.* p. 492. No. 212 (1775) (New Holland).

2 ♂♂, 1 ♀, Misol.

164. *Precis atlites atlites* (Joh.).

Papilio atlites Johansson, *Amoen. Academ.* vol. vi. p. 407. No. 72 (1763) (Asia).

1 ♂, Buleleng, North Bali, January—April 1911; 1 ♀, Bali, 1912.

165. *Precis atlites acera* Fruhst.

Precis atlites acera Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 519 (1912) (Celebes).

2 ♂♂, 2 ♀♀, Mansuela, Central Ceram, 650 metres, 1912; 2 ♂♂, 3 ♀♀, Wahai, North Ceram.

166. *Precis erigone erigone* (Cram.).

Papilio erigone Cramer, *Pap. Exot.* vol. i. pt. vi. p. 97. t. lxii. ff. E. F. (1775) (Java).

2 ♂♂, Bali, 1912.

167. *Precis orithya minagara* (Fruhst.).

Junonia orithya minagara Fruhstorfer, *Insekten-Börse*, vol. xxi. nr. 41. p. 325 (1904) (Java).

2 ♂♂, Buleleng, North Bali January—April 1911; 1 ♂, Kintamani, Bali, 4000 ft., February—March 1911; 3 ♂♂, Bali, 1912.

168. *Precis orithya orthosia* (Godt.).

Vanessa orthosia Godart, *Encyclop. Method.* vol. ix. suppl. p. 821 (1823) (Amboina).

10 ♂♂, 4 ♀♀, Manusela, Central Ceram, 650 metres, 1912.

169. *Precis almana javana* (Feld.).

Junonia asteriae var. *javana* Felder, *Verhand. zool. botan. Gesells. Wien*, vol. xii. p. 487. No. 136 (1862) (Java).

4 ♂♂, 3 ♀♀, Buleleng, North Bali, January—April 1911; 2 ♂♂, Danau Bratan, Bali, 2500 ft., January 1911; 9 ♂♂, 4 ♀♀, Bali, 1912.

170. *Pyrameis dejeani sambaluna* Fruhst.

Pyrameis dejeani sambaluna Fruhstorfer, *Iris*, vol. xi. p. 150 (1898) (Lombok).

The Bali form of *dejeani* is certainly identical with Lombok specimens; the differences from Java examples are very slight, but appear to be constant.

1 ♂, Kintamani, Bali, 4000 ft., February—March 1911; 3 ♂♂, 1 ♀, Danau Bratan, Bali, 2500 ft., January 1911.

171. *Symbrenthia hypselis optatus* Fruhst.

Symbrenthia hypselis optatus Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 533 (1912) (Bali).

1 ♂, 1 ♀, Kintamani, Bali, 4000 ft., February—March 1911; 2 ♂♂, Bali, 1912.

172. *Symbrenthia hippoclus hippoclus* (Cram.).

Papilio hippoclus Cramer, *Pap. Exot.* vol. iii. pt. xix. p. 46. t. 220. ff. C. D. (1779) (Amboina).

3 ♂♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912.

173. *Symbrenthia hippoclus balinus* Fruhst.

Symbrenthia hippoclus balinus Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 531 (1912) (Bali).

The wet-season form has narrow fulvous bands on hindwing, and the dry-season form very broad, but there is one narrow banded ♂ among the Danau Bratan January specimens. ♀ is white.

14 ♂♂, 2 ♀♀, Danau Bratan, Bali, 2500 ft., January 1911 (1 ♂ wet-season coloration); 1 ♂, Bali, 1912 (wet-season form).

174. *Mynes doubledaii doubledaii* Wall.

Mynes doubledaii Wallace, *Trans. Entom. Soc. Lond.* 1869. p. 79. No. 3 (Ceram).

1 ♂, Manusela, Central Ceram, 650 metres, 1912; 1 ♀ Ceram.

Y *oma sabina* (Cram.).

Papilio sabina Cramer, *Pap. Exot.* vol. iv. pt. xxv. p. 1. t. 289. ff. A. B. C. D. (1780) (Amboina).

2 ♀♀, Wahai, North Ceram.

176. *Hypolimnias antilope antilope* (Cram.).

Papilio antilope Cramer, *Pap. Exot.* vol. ii. pt. xvi. p. 132. t. 183. ff. E. F. (1777) (Amboina).

5 ♂♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912.

177. *Hypolimnias alimena alimena* (Linn.).

Papilio alimena Linnaeus, *Mus. Ludov. Ulric.* p. 291 (1764) (Amboina).

4 ♂♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♂, 1 ♀, Wahai, North Ceram.

178. *Hypolimnias misippus* (Linn.).

Papilio misippus Linnaeus, *Mus. Ludov. Ulric.* p. 264 (1764) (In Indiis).

1 ♂, Gitgit, Bali, 1500—2000 ft.

179. *Hypolimnias bolina* (Linn.).

Papilio bolina Linnaeus, *Mus. Ludov. Ulric.* p. 295 (1764) (In Indiis).

This insect, with its gigantic range from Socotra to the farthest Pacific Islands, is so extremely variable and inconstant that I do not venture to separate as yet the various subspecies. It is the ♀♀ which are so extremely variable; the number of ♂ forms is not large. Herr Stresemann has collected on Ceram and Buru two very different forms, a small one whose ♂♂ have white ocelli edged with blue (violet), true *bolina* Linn., and the ♀♀ with broad white bands and white centres to hindwings = *auge* Cram.; then a very large form with violet ocelli in the ♂♂ broadly surrounded with deep blue = *lisianassa* Cram., and the ♀♀ as

large as the largest *H. pandarus* ♀♀ with no white bands or white on hindwing = *manilia* Cram. Of these there are—

8 ♂♂ *bolina*, 9 ♂♂ *lisianassa*, 2 ♀♀ *auge*, and 2 ♀♀ *manilia*, Manusela, Central Ceram, 650 metres, 1912; 2 ♂♂ *bolina* and 1 ♂ *lisianassa*, Wahai, North Ceram; 3 ♂♂ *bolina*, 1 ♂ *lisianassa*, and 2 ♀♀ *auge*, Mgesawain, Central Buru, 800 metres; 4 ♂♂ *bolina* and 2 ♀♀ *auge*, Bara, N.W. Buru; 1 ♂ *lisianassa*?, 2 ♂♂ *bolina*, Bali, 1912; 1 ♀ *auge*, Buleleng, North Bali, January—April 1911; 1 ♀ intermediate between *euryanthe* Fruhst. and *hexia* Butl., Buleleng, North Bali, January—April 1911.

180. **Hypolimnias pandarus pandarus** (Linn.).

Papilio pandarus Linnaeus, *Mus. Ludovic. Ulric.* p. 198 (1764) (Amboina).

“Rather abundant in shady places in open country; often about midday they enter the cool houses, or settle on the clothes of human beings on the side away from the sun. The odour of sweat appears to attract this species, and often when on the march one is pursued and surrounded for considerable intervals of time by these insects.”—E. S.

22 ♂♂, 6 ♀♀, Manusela, Central Ceram, 650 metres, 1912.

181. **Hypolimnias pandarus pandora** (Wall.).

Diadema pandora Wallace, *Trans. Entom. Soc. Lond.* 1869, p. 281. No. 6 (Buru).

7 ♂♂, Mgesawain, Central Buru, 800 metres; 1 ♂, Bara, N.W. Buru; 1 ♂, Buru.

182. **Doleschallia melana sinis** (Gr. Smith).

Doleschallia sinis Grose Smith, *Rhopalocera Exotica*, vol. ii. **Doleschallia**, p. 2. pl. 1. ff. 2, 3 (1893) (Ceram).

3 ♀♀, Manusela, Central Ceram, 650 metres, 1912.

183. **Cyrestis paulinus** Feld.

Cyrestis paulinus Felder, *Wien. Entom. Monats.* vol. iv. p. 247. No. xcv (1860) (Moluccas).

2 ♂♂, Manusela, Central Ceram, 650 metres, 1912; 1 ♂, 4 ♀♀, Wahai, North Ceram; 1 ♂, 2 ♀♀, Sukaradja, N.W. Ceram.

184. **Cyrestis telamon telamon** (Linn.).

Papilio telamon Linnaeus, *Mus. Ludovic. Ulric.* p. 316 (1764) (Amboina).

6 ♂♂, Manusela, Central Ceram, 650 metres, 1912; 1 ♂, Wahai, N. Ceram.

“Mostly in open places in the Central Mountain Range, but occasionally also on the coast.”—E. S.

185. **Cyrestis lutea doliones** Fruhst.

Cyrestis lutea doliones Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 585 (1912) (Bali).

10 ♂♂, Danau Bratan, Bali, 2500 ft., January 1911; 1 ♂, Gunung Bratan, Bali, 4000—6500 ft., January—February 1911; 1 ♂, Buleleng, North Bali, January—April 1911.

186. *Cyrestis thyonaeus thyonaeus* (Cram.).

Papilio thyonaeus Cramer, *Pap. Exot.* vol. iii. pt. xix. p. 46. t. 220. ff. E. F. (1779) (Amboina).

1 ♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♂, 1 ♀, Wahai, North Ceram.

187. *Cyrestis thyonaeus buruanus* Mart.

Cyrestis thyonaeus buruanus Martin, *Iris*, vol. xvi. p. 121. no. 22a (1903) (Buru).

1 ♂, Bara, North-west Buru.

188. *Cyrestis acilia misolensis* Mart.

Cyrestis acilia misolensis Martin, *Iris*, vol. xvi. p. 131. no. 27a (1903) (Misol).

1 ♀, Misol.

189. *Acca venilia venilia* (Linn.).

Papilio venilia Linnaeus, *Mus. Ludovic. Ulric.* p. 290 (1764) (Amboina).

7 ♂♂, 2 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 3 ♀♀, Wahai, North Ceram; 1 ♀, Kanike, North Ceram, 600 metres, 1912; 1 ♂, Sukaradja, North-west Ceram.

190. *Acca venilia mysolensis* subsp. nov.

♂. Above. *Forewing* differs from all other forms of *venilia* in the complete absence of any blue edging to white median band by the large white elongated patch below vein 1, in the presence of a few dots of a second submarginal row of white spots, in the absence of the small white cellular and postcellular spots, and in the reduction to four spots and one dot of the normal submarginal row which in *ven. venilia* consists of eight spots. *Hindwing* has no submarginal spots and no blue edging to white band. Below it differs in the complete two rows of submarginal pale spots on both wings, in the absence of the two postcellular spots and the very large cellular patches on forewing.

1 ♂, Misol.

191. *Neptis satina damarete* Fruhst.

Neptis satina damarete Fruhstorfer, *Ent. Zeit. Stett.* vol. 69. p. 357 (1908) (German New Guinea).

1 ♀, Misol.

192. *Neptis amphion amphion* (Linn.).

Papilio amphion Linnaeus, *Syst. Nat.* ed. x. vol. i. p. 486. No. 177 (1758) (Amboina).

8 ♂♂, Manusela, Central Ceram, 650 metres, 1912; 2 ♂♂, Kanike, North Ceram, 600 metres, 1912; 2 ♂♂, Wahai, North Ceram.

193. *Neptis hylas satellitica* Fruhst.

Neptis hylas satellitica Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 603 (1912) (Bali).

1 ♂, Buleleng, North Bali, January—April 1911; 1 ♂, 2 ♀♀, Danau Bratan, North Bali, 2500 ft., January 1911.

194. *Neptis columella bataviana* (Moore).

Andrapana bataviana Moore, *Lepid. Ind.* vol. iii. p. 225 (1898) (Java).

5 ♂♂, 5 ♀♀, Buleleng, North Bali, January—April 1911; 1 ♂, 4 ♀♀, Danau Bratan, 2500 ft., North Bali, January 1911; 1 ♂, Kintamani, Bali, 4000 ft., February—March 1911; 3 ♂♂, 5 ♀♀, Bali, 1912.

195. *Neptis vikasi fuscescens* subsp. nov.

♂. Differs from *v. vikasi* in the paler bands being much obscured (more so than in any other form).

1 ♂, Bali, 1912.

196. *Pantoporia perius perinus* (Fruhst.).

Athyma perius perinus Fruhstorfer, *Berl. Entom. Zeitsch.* vol. 48. p. 95 (1903) (Java).

1 ♂, Bali, 1912.

197. *Pantoporia nefte nefte* (Cram.).

Papilio nefte Cramer, *Pap. Exot.* vol. iii. pt. xxii. p. 111. t. 256 ff. E. F. (1779) (Java).

1 ♂, Bali, 1912.

198. *Pantoporia eulimene eulimene* (Godt.).

Nymphalis eulimene Godart, *Encyclop. Méthod. Hist. Nat. Entom.* vol. ix. p. 429. No. 250 (1819—1824?) (Moluccas?).

1 ♂, Wahai, North Ceram.

199. *Parthenos sylvia brunnea* Stdgr.

Parthenos sylvia var. *brunnea* Staudinger, *Exot. Tagf.* vol. i. p. 141 (1888) (Amboina).

11 ♂♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♂, Kanike, North Ceram, 600 metres, 1912.

"In open spots, particularly in river valleys of the coast region and Central Mountain Range. A very bold flier."—E. S.

200. *Parthenos tigrina mysolica* subsp. nov.

♂. Differs from all the other forms of *tigrina* in the very bright foxy red of the basal third of wings, the very large pure white semivitreous patches of the forewing, and the intense uniform black outer third of fore- and outer two-thirds of hindwing.

3 ♂♂, Misol.

201. *Tanaëcia palguna balina* Fruhst.

Tanaëcia palguna balina Fruhstorfer, *Intern. Entom. Zeitsch. Guben*, vol. ii. p. 238 (1908) (Bali).

1 ♂, 1 ♀, Buleleng, North Bali, January—April 1911.

202. **Euthalia aeropus aeropus** (Linn.).

Papilio aeropus Linnaeus, *Mus. Ludov. Ulric.* p. 256 (1764) (Amboina).

14 ♂♂, 4 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 3 ♂♂, Wahai, North Ceram; 2 ♂♂, Kanike, North Ceram, 600 metres, 1912; 2 ♂♂, 1 ♀, Sukaradja, North-west Ceram.

203. **Dichorragia ninus ninus** (Feld.).

Adolias ninus Felder, *Wien. Entom. Monat.* vol. iii. p. 185. No. 9 (1859) (Amboina).

6 ♂♂, 2 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♂, Kanike, North Ceram, 600 metres, 1912; 1 ♂, Ceram.

"In open country not common."—E. S.

204. **Apaturina erminea** (Cram.).

Papilio erminea Cramer, *Pap. Exot.* vol. iii. pt. xvii. p. 5. t. 196. ff. A. B. (1779) (Amboina).

1 ♂, Wahai, North Ceram; 1 ♂, Sukaradja, North-west Ceram.

205. **Prothoë australis australis** (Guér.).

Nymphalis australis Guérin, *Voy. Coq.* t. 14 bis. f. 14 (1829) (Waigiou).

1 ♂, Misol.

206. **Eulepis athamas attalus** (Feld.).

Charaxes attalus Felder, *Reise Novara, Lep.* vol. iii. p. 438. No. 714 (1867) (Java).

1 ♂, Buleleng, North Bali, January—April 1911.

207. **Eulepis pyrrhus pyrrhus** (Linn.).

Papilio pyrrhus Linnaeus, *Syst. Nat.* ed. x. vol. i. p. 462. No. 24 (1758) (In Indiis).

"In open country, rare."—E. S.

8 ♂♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912.

208. **Eulepis pyrrhus buruanus** Rothsch. & Jord.

Eulepis pyrrhus buruanus Rothschild & Jordan, *Nov. Zool.* v. p. 582. No. 5. ff. 26 (1898) (Buru).

1 ♀, Bara, North-west Buru.

209. **Charaxes eurialus** (Cram.).

Papilio eurialus Cramer, *Pap. Exot.* vol. i. pt. vii. p. 116. t. 74. ff. A. B. (1775) (Amboina).

1 ♂, f. *eurialus*, Manusela, Central Ceram, 650 metres, 1912.

Acraeinae210. **Acraea moluccana buruensis** Rothsch.

Acraea buruensis Rothschild, *Nov. Zool.* vol. vi. p. 68 (1899) (Buru).

1 ♂, Mgesawain, Central Buru, 800 metres.

211. *Acraea vesta vestoides* (Moore).*Pareba vestoides* Moore, *Lepidoptera Indica*, vol. v. p. 35 (1901) (West Java).

7 ♂♂, 2 ♀♀, Danau Bratan, Bali, 2500 ft., January 1911.

LEMONIIDAE**Libytheinae**212. *Libythea myrrha myrrha* Godt.*Libythea myrrha* Godart, *Encycl. Méthod. Hist. Nat. Entom.* vol. ix. No. 4 (1819) (Java).

1 ♂, Kintamani, Bali, 4000 ft., February—March 1911.

Nemeobiinae213. *Dicallaneura decorata sangha* Fruhst.*Dicallaneura decorata sangha* Fruhstorfer, *Seitz Grossschm. Erde*, vol. ix. p. 787 (1914) (Misol).

1 ♂, 1 ♀, Misol.

LYCAENIDAE214. *Gerydus leos* (Guér.).*Simaethus leos* Guérin, *Voy. Coquille*, t. 18. f. 8. (1829) (Buru).

This species in both sexes is very variable in the amount of white on the forewing; some also have the nervures of hindwing picked out in dirty white.

13 ♂♂, 16 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 3 ♀♀, Wahai, North Ceram.

215. *Gerydus symethus* (Cram.).*Papilio symethus* Cramer, *Pap. Exot.* vol. ii. pt. 13. p. 84. t. 149. ff. B. C. (1777) (Indes Occidentales !).

1 ♂, Buleleng, North Bali, January—April 1911; 1 ♀, Bali, 1912.

216. *Gerydus stygianus* Butl.*Gerydus stygianus* Butler, *Ann. Mag. N. H.* (5) xiii. p. 194. No. 30 (1884) (Ternate).

1 ♀, Mansuela, Central Ceram, 650 metres, 1912.

217. *Lycaenopsis akasa* (Horsf.).*Polyommatus akasa* Horsfield, *Cat. Lepid. E.I.C.* p. 67. t. 1. ff. 1, 1a (1828) (Java).

3 ♀♀, Gunung Bratan, Bali, 4000—6500 ft., January—February 1911; 1 ♀, Danau Bratan, Bali, 2500 ft., January 1911.

218. *Lycaenopsis coalita* (Nicév.).*Cyaniris coalita* Nicéville, *Journ. Bombay N. H. Soc.* vi. p. 363. No. 14. pl. F. figs. 12 ♂, 13 ♀ (1891) (Java).

1 ♂, Gunung Bratan, Bali, 4000—6500 ft., January—February 1911.

219. *Lycaenopsis subcoalita* sp. nov.

Very close to *coalita* but smaller, and above much paler and more leaden; below whiter and the pattern much obliterated.

Length of forewing, *coalita* ♂, 19 mm.; *subcoalita* ♂ ♀, 17 mm.

Expanse, *coalita* ♂, 42 mm.; *subcoalita* ♂, 37 mm., ♀ 38 mm.

3 ♂♂, Danau Bratan, Bali, 2500 ft., January 1911; 1 ♀, Gitgit, Bali, 1500—2000 ft.

220. *Lycaenopsis nedda* (Gr. Sm.).

Cyaniris nedda Grose Smith, *Nov. Zool.* i. p. 572. No. 197 (1894) (Humboldt Bay, Batjan, Amboina, etc.).

10 ♂♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912.

221. *Lycaenopsis coalitoides* sp. nov.

Resembles *subcoalita* above in its more leaden blue colour; below it differs from *coalita* in the postdiscal line of coalescent lunules on both wings being farther away from the submarginal spots, and on the hindwing in the antemedian band of spots being joined into a complete line and there being two instead of one median spot above vein 5.

Length of forewing: 14–17 mm. Expanse 31–38 mm.

5 ♂♂, Manusela, Central Ceram, 650 metres, 1912.

222. *Lycaenopsis?* *cupidoides* sp. nov.

♂. Above. *Forewing* pearl-blue, outer quarter dull brown. *Hindwing* costal one-third brown, rest pearl-blue, marginal line black-brown. Below brownish grey suffused with dirty white; forewing with two antemedian black-brown spots below median vein, a brownish cellular stigma, a row of four dark brown postmedian spots below vein 5, and a double subterminal row of brownish spots; hindwing with three dark brown subcostal spots, two similar antemedian spots below median vein, a row of five similar postmedian spots below vein 6; cellular stigma and double row of subterminal spots brownish.

Length of forewing: 12 mm. Expanse: 27 mm.

1 ♂, Manusela, Central Ceram, 650 metres, 1912.

223. *Pithecopis hylax* (Fab.).

Papilio hylax Fabricius, *System. Entom.* p. 526. No. 351 (1775) (India Orient.).

3 ♂♂, Danau Bratan, Bali, 2500 ft., January 1911.

224. *Eupsychellus dionisius* (Boisd.).

Lycaena dionisius Boisdual, *Voy. Astrolabe, Lepidop.* p. 82. No. 11 (1832) (New Guinea).

10 ♂♂, 7 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 3 ♂♂, 3 ♀♀, Wahai, North Ceram; 2 ♂♂, Misol.

225. *Castalius angustior* Staud.

Lycaena (*Castalius*) *roxus* God. var. *angustior* Staudinger, *Iris*, ii. p. 95 (1889) (Palawan).

1 ♀, Bali, 1912.

226. *Jamides astraptus* (Feld.).

Lycaena astraptus Felder, *Sitzb. Akad. Wiss. Wien Math. Nat. Cl.* xl. p. 456. No. 31 (1860) (Amboina).

1 ♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912.

227. *Catachrysops strabo* (Fabr.).

Papilio strabo Fabricius, *Entom. System.* vol. iii. pt. i. p. 287. No. 101 (1793) (India Orient.).

1 ♂, Wahai, North Ceram.

228. *Catachrysops lithargyria* (Moore).

Lampides lithargyria Moore, *Ann. Mag. Nat. Hist.* ser. 4. vol. 20. p. 340 (1877) (Ceylon).

This species has been united with *C. strabo* (Fabr.) by some later authors, but it is quite erroneous, as *lithargyria* is **always** distinguishable by the white mealy suffusion of the upperside, and on the underside by the whitish ground-colour and the much darker and stronger markings which stand out in bold relief; whereas the markings in *strabo* are scarcely darker than the ground-colour and not very apparent at first sight.

3 ♂♂, Manusela, Central Ceram, 650 metres, 1912.

229. *Euchrysops cnejus* (Fabr.).

Hesperia cnejus Fabricius, *Entom. System. Supplem.* p. 430. Nos. 100. 101 (1798) (India Orient.).

1 ♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912.

230. *Euchrysops suffusus* sp. nov.

♂. Near *luxonica* Rüb.

Above brown suffused with pale violet-blue decreasing in density distally; a black spot at base of tail and a smaller one at tornus. Below differs from *cnejus* (Fabr.) in the whiter ground-colour and less distinct and reduced markings.

Length of forewing: 14 mm. Expanse: 31 mm.

1 ♂, Bali, 1912.

231. *Lampides masu* Doh.

Lampides masu Doherty, *Journ. As. Soc. Beng.* lx. 2. p. 184. No. 86. pl. 2. fig. 11 (1891) (Sumba-Sumbawa).

21 ♂♂, 6 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 2 ♂♂, Wahai, North Ceram; 1 ♀, Kanike, North Ceram, 600 metres, 1912.

232. *Lampides stresemanni* sp. nov.

♂. Differs at first sight from *masu* by the fore- and hindwings being of a different colour. Above, forewing bright blue metallic, hindwing silvery blue washed slightly with darker blue. Below, differs from *masu* on forewing in having the second postdiscal white line, **not** the first, and the antemedian **instead of** the median complete. On hindwing the white lines on basal two-thirds of wing narrower and less distinct, the black triangles edged with white more acute and only one yellow patch above tail.

♀. *Above* more lavender-grey-blue, the outer brown band much broader, occupying outer one-third of forewing, the bands on hindwing less distinct, and all above vein 6 in outer two-thirds of hindwing brown. *Below* differs from *masu* ♀ as does ♂, but almost all yellow is absent.

1 ♂, 1 ♀, Wahai, North Ceram.

233. *Lampides tertius* sp. nov.

♀. *Above* pale lavender-blue, not bluish silver as in ♀ *masu*; black-brown border of forewing narrower and of even width from apex to above tornus; on hindwing submarginal band complete from costa to black ocellus above tail **not** broken into spots, postdiscal line in form of a slightly crenulate unbroken band, **not** a line of coalescent lunulate marks. *Below* the ground-colour is purer grey and on forewing there are two curved oblique median white bands from vein 1 to middle of cell and two similar ones beyond middle from vein 3 to costa; on hindwing the metallic spots at base of tail and at tornus are wanting, and the large orange patch is replaced by a yellow half-moon above black spot at base of tail.

Length of forewing: 19 mm. Expanse: 42 mm.

1 ♀, Manusela, Central Ceram, 650 metres, 1912.

234. *Lampides pseudosias* sp. nov.

Similar to *osias* Röber, but much deeper blue above. Below it is dark uniform mouse-grey, and the white bands much more distinct.

1 ♂, Misol.

235. *Lampides butleri* sp. nov.

♂. Allied to *evanescens* Butl., but rounder winged.

Forewing dark, margin narrower. *Hindwing* without marginal spots. Below the white bands are much broader and very distinct.

♀. Above beautiful opalescent blue, and below the orange zone is very large.

1 ♂, 2 ♀ ♀, Manusela, Central Ceram, 650 metres, 1912.

236. *Polyommatus boeticus* (Linn.).

Papilio boeticus Linnaeus, *Syst. Nat.* ed. xii. vol. 1. pt. 2. p. 789. No. 226 (1767) (Barbaria).

1 ♂, Gitgit, Bali, 1900—2000 ft.; 1 ♀, Bali, 1912.

237. *Pepliphorus hylas* (Cram.) = *euchylas* (Hübner).

Papilio hylas Cramer, *Pap. Exot.* vol. iv. pt. xxxi. p. 142. t. 363. ff. E. F. (1781) (Amboina).

Pepliphorus euchylas Hübner, *Verzeich. bek. Schmett.* p. 71. n. 698 (1816) (nom. nov. *hylas* praeocc.).

One ♂ has the brilliant blue replaced by a leaden lavender hue; this I name ab. **plumbeus** ab. nov.

9 ♂ ♂, 1 ♀, 1 ♂ ab. *plumbeus*, Manusela, Central Ceram, 650 metres, 1912; 1 ♂, Sukaradja, North-west Ceram.

238. *Pepliphorus paralectus* (Gr. Smith).

Lampides paralectus Grose Smith, *Rhopal. Exot.* vol. ii. *Oriental Lycaenidae*, p. 7. pl. xi. f. 17 ♀ (1897), vol. iii. *Oriental Lycaenidae*, pl. xii. ff. 1. 2. ♂ (1897) (New Ireland).

1 ♂, Misol.

239. *Pepliphorus epilectus* (Gr. Smith).

Lampides epilectus Grose Smith, *Ann. Mag. N. H.* (6) xix. p. 179 (1897); *Rhopal. Exot.* vol. iii. *Oriental Lycaenidae*, p. 9. pl. xii. ff. 4. 5. 6 (1897) (Fergusson Island).

2 ♂♂, 1 ♀, Misol.

240. *Nacaduba berenice major* subsp. nov.

♂. Differs from *b. berenice* in being much larger and deeper purple above. Below all the white lines and spots are broader and more conspicuous.

1 ♂, Wahai, North Ceram.

241. *Nacaduba gerydomaculata* sp. nov.

♂. At once distinguished from all other *Nacaduba* by the bands and spots below resembling those of a *Gerydus*. Above, uniform deep purple, edged narrowly with black, and the edge of fringe brownish. Below wood-brown; *forewing* a deeper coloured quadrate spot edged with whitish in cell and a similar one at end of cell, a postmedian band of coalescent quadrate spots edged with whitish, a subterminal band of irregular spots coalescent above vein 3; *hindwing* with a sub-basal, an interrupted median, and an irregular postmedian band of somewhat quadrate coalescent spots edged with whitish, an irregular sinuate postdiscal band, a large black ocellus at base of tail ringed with orange, a white marginal line from tornus to vein 2.

Length of forewing: 16 mm. Expanse: 36 mm.

1 ♂, Manusela, Central Ceram, 650 metres, 1912.

242. *Nacaduba dion* (Godt.).

Polyommatus dion Godart, *Encyclop. Méthod. Hist. Nat. Entom.* vol. ix. p. 679. No. 191 (1819) (Australia).

1 ♂, Manusela, Central Ceram, 650 metres, 1912.

243. *Nacaduba nora* (Feld.).

Lycaena nora Felder, *Sitzungsb. Akad. Wissensch. Wien Math. Nat. Cl.* xl. p. 458. No. 37 (1860) (Amboina).

8 ♂♂, 4 ♀♀, Manusela, Central Ceram, 650 metres, 1912.

244. *Nacaduba felderi* sp. nov.

♂. Differs from *nora* Feld. in the underside being paler and more uniform grey and in the white lines being wider and more pronounced, while the interspaces between the white lines are uniform with rest of the ground-colour, **not** darker.

1 ♂, Manusela, Central Ceram, 650 metres, 1912.

245. *Philiris ilias* (Feld.).

Thecla ilias Felder, *Sitzungsb. Akad. Wissensch. Wien Math. Nat. Cl.* xl. p. 454. No. 22 (1860) (Amboina).

1 ♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912.

246. *Waigeum makrikii* Ribbe.

Waigeum makrikii Ribbe, *Iris*, xiii. p. 336. pl. 6. fig. 4 (1900) (Ceram).

2 ♀ ♀, Wahai, North Ceram.

247. *Thysonotis cyanea* (Cram.).

Papilio cyanea Cramer, *Pap. Exot.* vol. i. pt. vii. p. 120. t. 76. ff. C. D. (1775) (Indes Occident ! !).

The ♀ is figured erroneously by Grose Smith as the ♀ of *smaragdus* B. Baker & Druce.

1 ♂, 3 ♀ ♀, Manusela, Central Ceram, 650 metres, 1912.

248. *Thysonotis karpaia* Druce & B. Baker.

Thysonotis danis var. *karpaia* Druce and Bethune Baker, *Proc. Zool. Soc. Lond.* 1893, p. 540. pl. xlv. ff. 3. 4.

I have treated this as a species, and not as a subspecies of *danis*, because of the two collected on Ceram by Wallace, which are true *danis*, and no two subspecies can occur together. I have also one ♂ true *danis* from Ceram.

4 ♂ ♂, 2 ♀ ♀, Manusela, Central Ceram, 650 metres, 1912; 7 ♂ ♂, 8 ♀ ♀, Wahai, North Ceram. (In high virgin forest.—E. S.)

249. *Thysonotis danis* (Cram.).

Papilio danis Cramer, *Pap. Exot.* vol. i. pt. vi. p. 111. t. 70 ff. E. F. (1775) (Indes Occident. ! !).

The ♂ has the blue above replaced by leaden lilac and the green below by leaden grey. I propose for this the name ab. **plumbeus** ab. nov.

1 ♂, 3 ♀ ♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♀, Wahai, North Ceram.

250. *Thysonotis apollonius* (Feld.).

Lycaena apollonius Felder, *Reise Novara, Lepid.* vol. ii. p. 265. No. 317. t. 33. f. 3 (1865) (New Guinea).

One ♂ has the blue above replaced by leaden lavender and the green below by leaden grey. This I call ab. **plumbeus** ab. nov.

13 ♂ ♂, 5 ♀ ♀, 1 ♂ ab. *plumbeus*, Misol.

251. *Thysonotis wallacei* (Feld.).

Lycaena wallacei Felder, *Reise Novara, Lepid.* vol. ii. p. 265. No. 318. t. 33. ff. 8, 9, 10 (1865) (Waigiou).

1 ♂, Misol.

252. *Thysonotis hymetus* Feld.

Thysonotis hymetus Felder, *Sitzungsb. Akad. Wissensch. Wien Math. Nat. Cl.* xl. p. 459. No. 44 (1860) (Amboina).

1 ♂, Manusela, Central Ceram, 650 metres, 1912.

253. *Thysonotis albomarginata* sp. nov.

♀. *Above.* Forewing sooty grey-brown, darker in outer third, a large irregular white patch occupies the disc of wing narrowest at inner margin and spreading upwards and outwards obliquely. Hindwing, base brown-grey, basal five-twelfths

white, rest brownish sooty black. A narrow white margin round both pairs of wings.—*Below*. Forewing white, a broad sooty-black band from base round apex to vein 3 enclosing a narrow metallic-blue line and broadly bordered with white. Hindwing, outer half black with five large blue rings and a broad white border, inner half white, a wide basal black band with blue streak in it.

Length of forewing : 18.5 mm. Expanse : 41 mm.

1 ♀, Misol.

254. **Hypolycaena sipylus** Feld.

Hypolycaena sipylus Felder, *Sitzungsb. Akad. Wissensch. Wien Math. Nat. Cl.* xl. p. 451. No. 12 (1860) (Amboina).

1 ♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♀, Wahai, North Ceram.

255. **Miletus polycletus** (Linn.).

Papilio polycletus Linnaeus, *Mus. Ludov. Ultric.* p. 336 (1764) (Amboina).

30 ♂♂, 5 ♀♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♂, Wahai, North Ceram.

256. **Miletus anacletus** (Feld.).

Thecla anacletus Felder, *Sitzungsb. Akad. Wissensch. Wien Math. Nat. Cl.* xl. p. 454. No. 25 (1860) (Amboina).

1 ♀, Kanike, North Ceram, 600 metres, 1912.

257. **Amblypodia annetta anna** Staud.

Amblypodia annetta var. *anna* Staudinger, *Exot. Tagf.* vol. i. p. 282 (1888) (Amboina, Saparua).

The ♀ has the underside paler and more rufous.

5 ♂♂, Manusela, Central Ceram, 650 metres, 1912; 1 ♀, Wahai, North Ceram.

258. **Arhopala admete** (Hew.).

Amblypodia admete Hewitson, *Cat. Lycaen. Brit. Mus.* p. 7. No. 24. t. 3. ff. 18, 19 (1863) (Ceram).

1 ♀, Kanike, North Ceram, 600 metres, 1912.

259. **Arhopala pseudocentaurus** (Doubl.).

Amblypodia pseudocentaurus Doubleday, *List Lepid. Ins. Brit. Mus.* ii. p. 24 (1847) (Java).

1 ♀, Gitgit, Bali, 1500—2000 ft.

260. **Arhopala hercules herculina** Staud.

Arhopala hercules var. *herculina* Staudinger, *Exot. Tagf.* vol. i. p. 280 (1888) (Waigeu).

6 ♂♂, 2 ♀♀, Misol.

261. **Arhopala leo** Druce.

Arhopala leo Druce, *Ann. Mag. Nat. Hist.* ser. 6. vol. 13. p. 254 (1894) (Humboldt Bay).

I cannot agree with Mr. Bethune Baker that this is a form of *hercules*, as I have it from Misol together with *herculina*. It is much greener below and always distinguishable by the narrower bands.

1 ♂, Misol.

262. *Arhopala araxes* Feld.

Arhopala araxes Felder, *Reise Novara, Lepid.* vol. ii. p. 224. t. 29. ff. 3, 4, 5 (1865) (Celebes).

1 ♂, Danau Bratan, Bali, 2500 ft., January 1911.

263. *Arhopala nobilis* (Feld.).

Amblypodia nobilis Felder, *Sitzungsb. Akad. Wissensch. Wien Math. Nat. Cl.* xl. p. 453. No. 18 (1860) (Amboina).

1 ♂, Manusela, Central Ceram, 650 metres, 1912.

264. *Arhopala helius anthelius* (Stand.).

Amblypodia helius var. *anthelius* Staudinger, *Exot. Tagf.* vol. i. p. 281 (1888) (Waigiu).

9 ♂♂, 1 ♀, Misol.

265. *Arhopala amytis* (Hew.).

Amblypodia amytis Hewitson, *Cat. Lycaen. Brit. Mus.* p. 4. No. 16. pl. ii. ff. 7-9, ♀ (1862) (Aru).

1 ♀, Misol.

266. *Arhopala axiothea* (Hew.).

Amblypodia axiothea Hewitson, *Illust. Diurn. Lepid. Lycaen.* p. 7. No. 21. pl. ii. ff. 10, 11. ♂ (1865) (New Guinea).

1 ♂, Misol.

GRYPOCERA

HESPERIIDAE

Hesperinae

267. *Casyapa corvus* (Feld.).

Chaetocneme corvus Felder, *Sitzungsb. Akad. Wissensch. Wien Math. Nat. Cl.* xl. p. 460. No. 46 (1860) (Amboina).

1 ♂, Manusela, Central Ceram, 650 metres, 1912.

268. *Celaenorrhinus klossi* Rothschild.

Celaenorrhinus klossi Rothschild, *Lepid. B.O.U. and Woll. Expeds.* p. 37. no. 182 (1915) (Snow Mts.).

1 ♂, Misol.

269. *Celaenorrhinus unipuncta* sp. nov.

♂. Similar to *klossi*, but white oblique median band does not reach subcostal nervure and only just reaches vein 1. There is a single white dot above vein 4 in outer area of wing.

1 ♂, Kanike, North Ceram, 600 metres, 1912.

270. *Tagiades neira metanga* Ribbe.

Tagiades neira Plötz, var. *metanga* Ribbe, *Iris*, ii. p. 265. No. 143. pl. v. f. 8 (1889) (Ceram).

2 ♂♂, 2 ♀♀, Manusela, Central Ceram, 650 metres, 1912.

271. *Tagiades japetus* (Cram.).

Papilio japetus Cramer, *Pap. Exot.* vol. iv. pt. xxxi. p. 145, t. 365, ff. E. F. (1781) (Amboina).

6 ♂♂, 5 ♀♀, Manusela, Central Ceram, 650 metres, 1912.

272. *Tagiades bubasa* Swinh.

Tagiades bubasa Swinhoe, *Ann. Mag. N. H.* (7). xiv. p. 418 (1904) (Humboldt Bay, Dutch New Guinea).

2 ♂♂, Misol.

Ismeninae273. *Hasora discolor* (Feld.).

Goniloba discolor Felder, *Wiener Entom. Monatschr.* vol. iii. p. 405. No. 50 (1859) (Brazil!!).

3 ♂♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912.

274. *Hasora doleschalii* (Feld.).

Ismene doleschalii Felder, *Sitzungsb. Akad. Wissensch. Wien Math. Nat. Cl.* xl. p. 460. No. 48 (1860) (Amboina).

9 ♂♂, 2 ♀♀, Manusela, Central Ceram, 650 metres, 1912.

275. *Hasora amboinensis* Swinh.

Hasora amboinensis Swinhoe, *Ann. Mag. N. H.* (8). iii. p. 91 (1909) (Amboina).

1 ♂, Manusela, Central Ceram, 650 metres, 1912.

276. *Hasora hurama* (Butl.).

Hesperia hurama Butler, *Trans. Entom. Soc. Lond.* p. 498. No. 2 (1870) (Cape York).

1 ♂, Wahai, North Ceram.

277. *Hasora celaenus* (Cram.).

Papilio celaenus Cramer, *Pap. Exot.* vol. iv. pt. xxxiii. p. 214, t. 393, ff. A. B. (1782) (Amboina).

1 ♂, Misol.

Pamphilinae278. *Erionota thrax* (Linn.).

Papilio thrax Linnaeus, *Syst. Nat.* ed. xii. vol. i, pt. ii. p. 794. No. 260 (1767) (Java).

1 ♂, Bali, 1912.

279. *Padraona sunias* (Feld.).

Pamphila sunias Felder, *Sitzungsb. Akad. Wissensch. Wien Math. Nat. Cl.* xl. p. 462. No. 54 (1860) (Amboina).

1 ♂, Manusela, Central Ceram, 650 metres, 1912.

280. *Padraona dara* (Koll.).

Hesperia dara Kollar, *Hügel's Kaschmir*, vol. iv. pt. ii. p. 455 (1848) (Himalaya).

1 ♀, Danau Bratan, Bali, 2500 ft., January 1911.

281. **Padraona subfasciata** sp. nov.

♂ ♀. Similar to *P. fasciata* Rothsch. but smaller, and differs below in the postdiscal line on hindwing being much closer to margin, and consisting of a line of spots, not a zigzag continuous line.

Length of forewing, *subfasciata*, 11 mm.

 " " " *fasciata*, 15 mm.

1 ♂, Manusela, Central Ceram, 650 metres, 1912; 1 ♀, Wahai, North Ceram.

282. **Ocybadistes marnas** (Feld.).

Pamphila marnas Felder, *Sitzungsb. Akad. Wissensch. Wien Math. Nat. Cl.* xl. p. 462. No. 53 (1860) (Amboina).

2 ♂♂, Manusela, Central Ceram, 650 metres, 1912; 1 ♀, Wahai, North Ceram.

283. **Telicota affinis** Rothsch.

Telicota affinis Rothschild, *Lepid. B.O.U. & Woll. Expeds.* p. 40. no. 198 (1915) (Snow Mts.).

1 ♂, 1 ♀, Manusela, Central Ceram, 650 metres, 1912; 1 ♀, Misol.

284. **Chapra brunnea** (Snell.).

Pamphila brunnea Snellen, *Tijdschr. Entom.* vol. xix. p. 164. No. 75. t. 7. f. 4 (1876) (Java).

1 ♂, Danau Bratan, Bali, 2500 ft., January 1911.

285. **Notocrypta restricta** (Moore).

Plesioneura restricta Moore, *Lepid. Ceyl.* vol. i. p. 178 (1881).

1 ♀, Danau Bratan, Bali, 2500 ft., January 1911.

286. **Udaspes folus** (Cram.).

Papilio folus Cramer, *Pap. Exot.* vol. i. pt. vii. p. 118. t. 74. f. F. (1775) (Surinam !!).

1 ♀, Gitgit, Bali, 1500—2000 ft.

(To be continued.)



Rothschild, Lionel Walter Rothschild. 1915. "On Lepidoptera from the islands of Ceram (Seram), Buru, Bali and Misol." *Novitates zoologicae : a journal of zoology in connection with the Tring Museum* 22, 105–144.

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