

ON BUTTERFLIES FROM PULO CONDORE.

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The collection comprises 267 specimens representing 36 species. These were obtained on Pulo Condore, off the south-east coast of Cochin-China, during the month of November 1920, by collectors sent jointly by Mr. W. J. F. Williamson and the Federated Malay States Museums. The chief object of the expedition was to obtain vertebrates. Messrs. Williamson and the F. M. S. Museums take this opportunity of expressing their appreciation of the courteous assistance received from the French Legation in Bangkok in arranging the trip, and the facilities allowed to their collectors by the Colonial authorities of French Indo-China.

Although nearly all represent common Oriental species, from the number of individuals captured it would appear that the following were the commonest or most easy to capture:—*Cirrochroa tyche*, *Danaiida aglea*, *Terias hecabe*, *Euploea mulciber*, *Euploea layardi*, *Papilio polytes*, *Mycalesis perseus*, *Papilio aristolochiae* and *Cethosia cyane*.

Of the remainder, an island form of the common Pierine *Appias paulini* seems to be new and is here described as *griseoides* subsp. nov. The rest call for little comment except the Nymphalines *Ducapa fasciata* and *Euthalia tenta*, whose occurrence on Pulo Condore extend the known range of these species.

Col. W. H. Evans has very kindly identified the five Lycaenid species and the three Hesperids for me. They, too, represent common well-distributed Oriental species and call for no comment.

Fam. NYMPHALIDAE.

Subfam. DANAINAE.

1. DANAIDA AGLEA Cr. *melanoides* Moore.

29 ♂♂, 1 ♀.

D. aglea is a continental species ranging east to Siam, Indo-China and into the Malay Peninsula.¹

¹ For note on the subspecific name used here, and the record of the species in the Malay Peninsula, see Moulton in *Journ. F. M. S. Mus.* 1921, Vol. x, p. 170.

2. *DANAIDA ERYX* Fab. *eryx* Fab.

1 ♂.

A common species ranging from Burma to Indo-China and south to the Greater Sunda Islands.

3. *DANAIDA MELISSA* Cr. *septrionis* Butl.

5 ♂ ♂.

A widely-distributed species, found in various forms from Kashmir to Formosa and south through the Malay Archipelago to Australia and Fiji. This form (*septrionis*) is confined to the continent.

4. *EUPLOEA MULCIBER* Cr. *mulciber* Cr.

19 ♂ ♂.

The typical form inhabits the whole of continental South Asia with other subspecies in the Malay Archipelago and Philippines.

5. *EUPLOEA LAYARDI* Druce.

16 ♂ ♂.

I have followed Bingham in keeping this species separate from *E. godarti*, with which Fruhstorfer and Godfrey united it.¹ The species ranges from Tenasserim to Tonkin and generally recorded as common.

6. *EUPLOEA DUFRESNE* Godt. *harrisi* Feld.1 ♂, referable to the melanotic form *crowleyi* Moore.

This subspecies (*harrisi*) is found from Burma to Indo-China and the Malay Peninsula. *E. dufresne* ranges in various forms from India to New Guinea.

Subfam. SATYRINAE.

7. *MYCALESIS PERSEUS* Fab. *perseus* Fab.

9 ♂ ♂, 5 ♀ ♀.

A common Oriental butterfly, ranging from Formosa through Indo-China and Siam to India. A smaller rather darker form replaces it in the Malay Peninsula, with other subspecies extending to New Guinea.

¹ *l.c.*, p. 183.

8. ELYMNIA HYPERMNESTRA L. *undularis* Drury.

Five examples of this common Oriental butterfly, which is found from India to Indo-China and south to the Malay Peninsula and Java.

Subfam. NYMPHALINAE.

9. CUPHA ERYMANTHIS Drury *lotis* Sulz.

Six examples of this common Oriental species. The submarginal spots on the upper side of both wings are slightly larger than in the mainland form, and in this respect agree with some from Pulo Aor, an island off the East Coast of the Malay Peninsula. The development of eye-spots is usually a character of wet-season forms, but in this case, where there are no very marked dry and wet seasons, so-called "wet-season" forms appear to be the typical "insular" form.

C. e. lotis ranges over most of India and east to Indo-China, the Malay Peninsula, Borneo and probably Sumatra. Other subspecies extend its range further into the Malay Archipelago and north into China.

10. CYNTHIA EROTA Fab. *erota* Fab.

1 ♂.

The typical form ranges from Sikkim to Siam and Tonkin. A closely allied form replaces it in the Malay Peninsula and others in the Malay Archipelago.

11. DUCAPA FASCIATA Feld. *fasciata* Feld.

1 ♂.

In poor condition but apparently rather paler than the typical form, which ranges through the Malay Peninsula north to Upper Tenasserim and "middle Siam" (Fruhstorfer).¹ Godfrey states it is not uncommon in Bangkok, but apparently rare elsewhere. Its occurrence on Pulo Condore forms an interesting extension eastward of its range.

12. CIRROCHROA TYCHE Feld. *mithila* Moore.

37 ♂ ♂, 9 ♀ ♀.

¹ Fruhstorfer, *Seitz, Macrolepidoptera of the World*, 1912, Vol. ix, p. 485.

C. tyche is a common butterfly throughout the Oriental region. This form *mithila* ranges from Bengal, Sikkim and Assam to Siam and Indo-China. The females from Pulo Condore are blackish, the yellow-ochre tint is obsolescent in some, more marked in others.

13. CETHOSIA BIBLIS Drury *viridiana* Fruhst.

1 ♂.

This ♂ seems inseparable from ♂ *C. b. perakana* from the Malay Peninsula, but the two forms apparently differ in the females. *C. b. viridiana* is the name applied to the form in China, Indo-China and Siam.

C. biblis ranges from India and China through the Malay Archipelago.

14. CETHOSIA CYANE Drury *evanthes* Fruhst.

10 ♂ ♂, 1 ♀.

A fairly common form throughout Indo-China and Siam. Typical *C. cyane* flies in India, Assam and Burma.

15. PRECIS ATLITES L. *atlites* L.

Three examples of this common Nymphaline which ranges from India to South China and south to the Malay Archipelago.

16. PRECIS ALMANA L. *almana* L.

Three examples of the wet-season form dated 8th and 30th November. The typical form ranges from India to China and south to Siam, replaced in the Malay Peninsula and Archipelago by other subspecies.

17. PRECIS LEMONIAS L. *aenaria* Fruhst.

Three examples dated 4th and 5th November.

This form occurs in Siam and Indo-China and is replaced in India by typical *lemonias*.

18. EUTHALIA TEUTA Doubld. *teuta* Doubld.

One ♂, 11th November, 1920.

Differs slightly from Fruhstorfer's figure (*t. c.*, pl. 131, b) of the typical ♂ in having the band across both wings rather more solid, less macular and pale green, not yellow. Fruhstorfer writes (*t. c.*, p. 680) :—" *teuta* shows a peculiarly discontinuous distribution, occurring on the mainland only in Assam, Burma, Siam and Malay

Peninsula (?), appearing again in the Andamans which it can only have reached from Burma, whereas in the Peninsula of India proper it is not represented. But we may expect it also from Tonkin and Annam." Other subspecies occur in the Philippines.

Its discovery in Pulo Condore is therefore of interest.

Fam. *LYCAENIDAE*.

Subfam. GERYDINAE.

19. GERYDUS BOISDUVALI Moore.

Four examples.

This species ranges from India and Ceylon and south through the Malay Archipelago to New Guinea.

Subfam. LYCAENINAE.

20. CATOCHRYSOPS STRABO Fab.

Two specimens of this well-known "Blue," which ranges from India to China and Australia.

21. CASTALIUS ROSIMON Fab.

Seven examples in no way differing from the continental form. The species is found from India and Ceylon east to Indo-China and the Malay Archipelago.

Subfam. CURETINAE.

22. CURETIS THETIS Drury.

1 ♀ of this brightly-coloured Indo-Malayan species.

Subfam. THECLINAE.

23. ZELTUS ETOLUS Fab.

Six examples of this Indo-Malayan species, which is apparently not very common in Siam.

Fam. *PAPILIONIDAE*.

Subfam. PAPILIONINAE.

Only three species of *Papilio* were taken, all very common throughout the Oriental Region.

24. PAPILIO ARISTOLOCHIAE F. *goniopeltis* Roths.

Twelve examples.

This form ranges from Hongkong south to Siam, Burma and Tenasserim, replaced in the Malay Peninsula by a very similar form.

25. PAPILIO POLYTES L. *romulus* Cr.

8 ♂ ♂, 7 ♀ ♀.

Of the females, two are ♀-f. *cyrus* like the ♂, three ♀-f. *polytes* with white spot at the end of the cell in the hind wing in addition to the white discal spots, one is ♀-f. *stichius* with white discal spots but without white spot in the cell, while the last is intermediate with a much reduced spot at the end of the cell.

Typical *polytes* is restricted by Jordan to the Loo Choo Islands, Formosa and China, south to North Tonkin and Hainan. Further south its place is taken by *P. p. romulus* which ranges over India to Ceylon and south through the Malay Peninsula.

26. PAPILIO SARPEDON L. *sarpedon* L.

1 ♀, 4th November.

The band of the forewing is narrower and more macular (= the summer form, *melas* Fruhst.) than in the Peninsular form. In this it agrees with two ♂ ♂ from the Great Natunas; this is possibly an island characteristic.

Typical *sarpedon* ranges from North India east to the Philippines and south to Lombok.

Subfam. PIERINAE.

27. LEPTOSIA XIPHIA F. *xiphia* F.

Four examples of the typical form which ranges from India and Ceylon to Burma, Siam and Indo-China.

28. HUPHINA NERISSA F. *nerissa* F.

Two ♂ ♂ rather smaller than the continental form but apparently referable to typical *nerissa*. The neuration in the forewing of one is abnormal; the disco-cellular is divided into two areolets, and the first and third median nervules are branched.

Typical *nerissa* ranges from China to Indo-China, replaced by other subspecies in Burma and Siam, further east and south. Godfrey records two typical *nerissa* in Siam in addition to the Burma-Tenasserim-Siam form *dapha* Moore, which he states is common all the year round everywhere in Siam.¹

¹ GODFREY, *Journ. Nat. Hist. Soc. Siam* Vol. ii, 1916, p. 114.

29. *APPIAS LYNCEA* Cr. *hippoides* Moore.

2 ♂ ♂ and 2 ♀ ♀, the former slightly smaller than average continental males.

This form ranges from Bengal to Siam, Annam and Tonkin. In the Malay Peninsula its place is taken by a very similar form in which, however, the yellow of the hindwing beneath in the male is a deeper yellow and the fuscous hind-marginal border distinctly broader.

30. *APPIAS PAULINA* Cr. *griseoides*, subsp. nov.

2 ♂ ♂, 4 ♀ ♀, November 15th, 26th and 29th, 1920.

Very close to *A. p. grisea* Moulton² from Pulo Tioman and Pulo Aor off the East Coast of the Malay Peninsula. The ♂ agrees in the grey dusting at the base of the forewing and in the suppression of fuscous shading at the apex, particularly on the costal margin. The hindwing, however, has but very little grey dusting at the base, whereas in *grisea* it covers the greater part of the hindwing. The prominent black spot above the 2nd median nervule, the grey-dusted basal area, and the apex without strong fuscous tip, separate this from *adamsoni*, which flies in Burma, Tenasserim and Tonkin.

The ♀ is practically identical with *adamsoni* from Tonkin, except that the pale discal band is slightly reduced. In *grisea* it is barely traceable in the hind wing and much reduced in the forewing.

The fuscous spots on the hind-margin of the hindwing are prominent in one specimen, obsolescent in the other.

31. *CATOPSILIA PYRANTHE* L. *pyranthe* L.

1 ♂, 2nd November.

A common Oriental species.

32. *TERIAS HECABE* L. *hecabe* L.

Twenty three examples of this common Oriental species.

33. *TERIAS SARI* Horsf. *sodalis* Moore.

Five examples which do not appear to differ from Malay Peninsula specimens.

² MOULTON, *Journ. Malayan Br., Roy Asiat. Soc.*, 1923, Vol. I (No. 87), p. 234.

Fam. *HESPERIIDAE*.Subfam. *HESPERIINAE*.34. *TAGIADES ATTICUS* Fab.

Four examples of this common Oriental species.

Subfam. *PAMPHILINAE*.35. *HYAROTIS ADRASTUS* Cr.

One specimen of this widely spread species which ranges from India to Malaya and the Philippines.

36. *BAORIS MATHIAS* Fab.

1 ♂, 1 ♀.

This species is found in Africa and the greater part of Asia.