

Acknowledgments

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SOME NOTES ON THE PAPILIONIDAE OF MANUS ISLAND, NEW GUINEA

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Manus Island is a relatively obscure island which anchors the westernmost chain of the Bismark Archipelago. It is approximately 150 miles in length and the principal island of the Admiralty Island group. The nearest New Guinea mainland lies some 300 miles south, and Papuan influence is reflected in the fauna of Papilionidae of Manus.

In the past, few specimens have come into the hands of collectors from this remote island, largely due to the hostile natives that once inhabited the land. Also Manus was not situated along major shipping trade lanes, and consequently few opportunities existed for visits by travelers. Webster in 1897 was apparently the first to collect the nearly inaccessible island, but was forced to depart hastily because of the unfriendly natives. He succeeded in gathering some papilionid species, however, and these were included in Seitz's treatment of Indo-Australian butterflies.

The A. S. Meek expedition to the Admiralty Islands and adjacent localities in 1913 was more successful than Captain Webster's. Meek, commissioned by Lord Rothschild of the Tring Museum in England, was able to collect Manus Island during September and October, and to assess

the island's fauna accurately. When Lord Rothschild received Meek's material a report of the species taken appeared in "Novitates Zoologicae," XXII, in 1915. This publication recorded eight papilionid species for Manus of which four were described as new subspecies and another, *Papilio cartereti* Oberthur (= *Papilio weymeri* Niepelt in Strand) was an apparent new discovery deserving species status.

Apart from the collections made by Webster, Meek and a few others, the Admiralty Island group continued to be an essentially by-passed location for many years. Fortunately the author was successful in obtaining the services of a resident collector on Manus in 1968. Papilionidae were supplied at regular intervals for more than a year, and this more recent material substantiates the previous works of Webster and Meek. The annotated list of Papilionidae is herein offered to consolidate and supplement information concerning the Papilionidae of the Admiralty Islands. The arrangement of species follows that of Munroe (1961).

Graphium codrus auratus (Rothschild)

Papilio codrus auratus Rothschild, 1898, p. 218.

Described from 2 ♀ ♀, St. Gabriel, Admiralty Island, February, 1897 (Captain H. C. Webster). Rothschild (1915, p. 194) 2 ♂ ♂ and 2 ♀ ♀ from Manus (Meek Expedition).

The rarest known *Papilio* on Manus. Difficult to net and disdainful of lures. December to March generally favorable flight months. No variation in the few examples received. Distinguished from other *codrus* subspecies by the presence of nine bright yellow spots on each forewing.

Graphium macfarlanei admiralia (Rothschild)

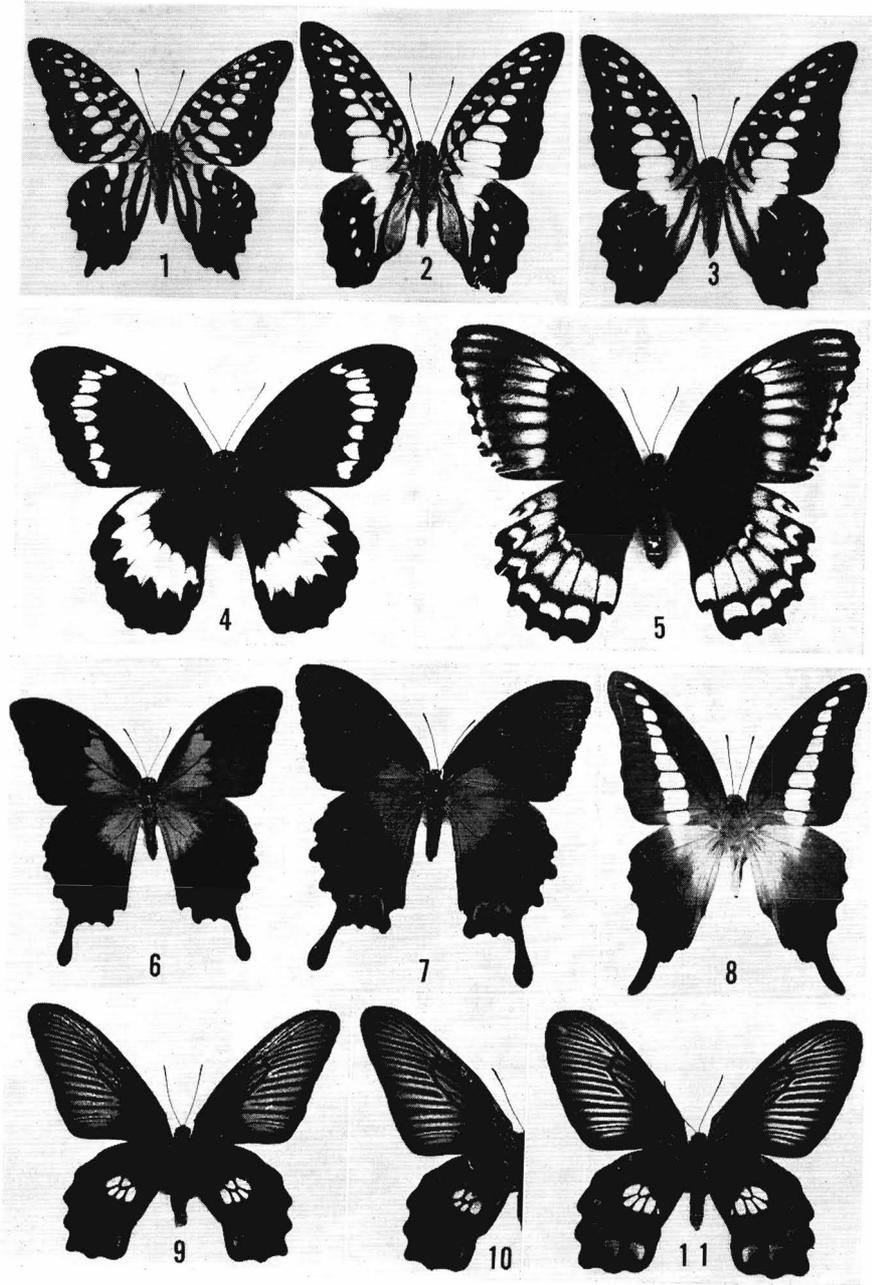
Papilio macfarlanei admiralia Rothschild, 1915, p. 195.

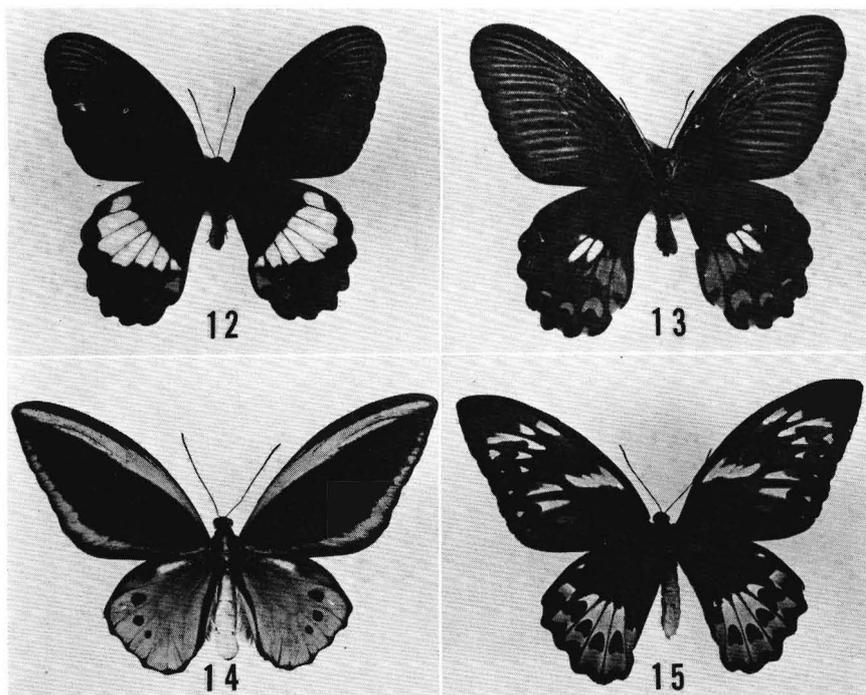
Described from 7 ♀ ♀, Manus Island (Meek Expedition).

Especially common to abundant in April and May, but occurring all year round. Sex ratio of adults seemingly equal. This subspecies char-

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Figs. 1-11. Manus Island *Papilionidae* (full expanse in brackets). 1, *Graphium agamemnon admiralis* Rothschild ♂, Oct. 1968, (68 mm); 2, *G. macfarlanei admiralis* Rothschild ♂, Jan. 1969, (74 mm); 3, *G. macfarlanei admiralia* Rothschild ♀, Jan. 1969, (70 mm); 4, *Papilio cartereti* Oberthur ♂, May, 1969, (115 mm); 5, *P. cartereti* Oberthur ♀, May, 1969, (125 mm); 6, *P. ulysses gabrielis* Rothschild ♂, June, 1968, (102 mm); 7, *P. ulysses gabrielis* Rothschild ♀, Oct. 1968, (110 mm); 8, *G. codrus auratus* Rothschild ♀, Dec., 1968, (77 mm); 9, *P. polydorus manus* Talbot ♂, April, 1968, (83 mm); 10, *P. polydorus manus* Talbot ♂ melanic, Dec., 1968, (72 mm); 11, *P. polydorus manus* Rothschild ♀, Dec., 1968 (85 mm).





Figs. 12-15. Manus Island *Papilionidae*. 12, *Papilio phestus reductus* Rothschild ♂, Oct., 1968, (76 mm); 13, *P. phestus reductus* Rothschild ♀, July, 1968, (68 mm); 14, *Ornithoptera priamus admiralitatis* Rothschild ♂, April, 1969, (140 mm); 15, *O. priamus admiralitatis* Rothschild ♀, April, 1969, (157 mm).

acterized principally by the prominent black margins of both fore- and hind wings. Primaries with greatly reduced green submarginal spots, sometimes barely indicated against the black ground color. Hind wing of the male lacking submarginal band entirely or displaying but a trace of this band in the form of two or three faint spots. Hind wing of the female with a greater area of black ground color, resembling *seminigra* Butler from New Britain.

Graphium agamemnon admiralis (Rothschild)

Papilio agamemnon admiralis Rothschild, 1915, p. 195.

Described from 3♂♂, 5♀♀, Manus Island (Meek Expedition).

Not common in general. Male to female ratio approximately 4 to 3. No appreciable variation. The subspecies characterized in both sexes by the prominent and broad black margins on the upper surfaces. Submar-

ginal spots very greatly reduced, sometimes almost absent. Hind wing resembling that of *P. agamemnon argynnus* (Druce).

Papilio cartereti Oberthur

Papilio cartereti Oberthur, 1914, p. 187 (April 8).

Papilio weymeri Niepelt in Strand, 1914, p. 53; plate 11, fig. 1 (Jan? May?).

Papilio cartereti Oberthur (= *P. weymeri*); Oberthur 1915, p. 499; plate 311, fig. 4602; plate 312, fig. 4603.

Papilio weymeri Niepelt; Rothschild, 1915, p. 194.

Papilio weymeri Niepelt in Strand; Strand 1926, p. 410.

Papilio weymeri Niepelt in Strand; Bryk 1930a, p. 192.

Papilio weymeri Niepelt in Strand (= *P. cartereti* Oberthur); Bryk 1930b, p. 608.

Papilio ? *weymeri* Niepelt; Munroe 1961, p. 43.

P. cartereti described from 1 ♂ and 1 ♀ from the Admiralty Islands collected by the Meek Expedition; named by Oberthur after the navigator Carteret who apparently visited the islands in 1767. *P. weymeri* described from a single female from the Admiralty Islands (not collected by Meek; see Rothschild 1915, p. 192). Rothschild (1915, p. 194) recorded 6 ♂ ♂ and 6 ♀ ♀ from Manus (Meek Expedition).

It has not so far proved possible to establish beyond doubt the priority of the synonymous names *Papilio cartereti* Oberthur and *Papilio weymeri* Niepelt in Strand, both names without doubt having appeared in the first six months of 1914. Reference to page 528 of *Bull. Soc. ent. Fr.* for 1914 establishes the date for *P. cartereti* as 8th April 1914 (the date of publication for "Seance 25 Mars" in which Oberthur's description appeared). Part 1 of *Lepidoptera Niepeltiana* in which *P. weymeri* was described by Niepelt has the forward dated October, 1913, but the paper cover is clearly dated 1914. Copies in the libraries of the British Museum (Natural History) and the Royal Entomological Society of London give little further information. The copy formerly in the Zoological Museum, Tring (The Museum of Walter Rothschild), however, has been overprinted "Januar" and has a Tring Museum date stamp "Received 25 July 1914." Oberthur (1915, p. 499) states that his own description of the species appeared in March and thus a little earlier ("un peu avant lui") than Niepelt's, which he claims appeared in May ("paru en Mai"). It would seem that there was some delay in the distribution of Niepelt's privately published work; the British Museum (Natural History) did not receive a copy until 22nd May 1920 and the Royal Entomological Society did not obtain a copy until it purchased part of the Joicey Library (the copy in question unfortunately having no original receiving date on it). However, it is known that the description of *P. cartereti* appeared on 8th April 1914 while that of *P. weymeri* appeared certainly sometime before 25th July 1914. Whether one accepts the single overprinting date of January on the ex Tring copy of *Lepidoptera Niepeltiana* or Oberthur's claim

that it appeared in May is at present a matter of opinion. The present location of the holotype of *P. weymeri* is not known to the author; two syntypes of *P. cartereti* are in the British Museum (Natural History).

Only member of the Papilionidae confined solely to Manus Island. Males flying erratically and never seeming to settle. Females less common than males; flying slowly in and among small, stunted brush. June, July and August exceptionally good flight months.

Male greatly resembling *P. bridgei* Math. In *cartereti* ground color very dark brownish-black. Upper surface of the forewing always with a band of eight cream colored spots. Band of hind wing broad and uniformly greyer than spots of forewing. Variation in males almost non-existent except in size. Female with a generally browner ground color on upper surface than male. Medium band of forewing dusted, smoky light brown. On hind wing a large postmedian band of six brilliant blue patches, terminating at the inner margin with an additional bright orange spot. Submarginal crescents pale orange.

Papilio phestus reductus Rothschild

Papilio phestus reductus Rothschild, 1915, p. 193.

Described from a "type" (holotype) and a further pair (paratypes) from Manus, collected by the Meek Expedition.

Not especially common on Manus. Males slightly more prevalent than females. According to Rothschild in his original description of *reductus*, this form is distinguishable in male by lack of any light spot in cell of hind wing. This characteristic, however, also prevalent in males from New Ireland. Prominent deep-orange patch at the inner margin of Manus Island *phestus* always triangular or nearly so. New Ireland *phestus* with same spot squared or rectangular. In female of *reductus* a greater variation in the number of white and cinnamon spots on hind wing.

Papilio ulysses gabrielis Rothschild

Papilio ulysses gabrielis Rothschild, 1898, p. 217.

Described from a series of ♂♂ and one ♀ from St. Gabriel, Admiralty Islands, collected by Captain H. C. Webster, February, 1897. Rothschild (1915, p. 194 received a further 9♂♂ from Manus (Meek Expedition).

Prevalent the year round and quite common. As many as 15 adults can be netted in an hour, the majority imperfect in condition. Females considerably rarer. Extent of blue in both sexes varying noticeably, but always remaining greatly reduced when contrasted with other *ulysses* subspecies.

Pachlioptera polydorus manus (Talbot)

Papilio polydorus manus Talbot, 1932, p. 155.

Papilio polydorus utuanensis Ribbe; Rothschild 1915, p. 193.

Described from 2 ♂♂ and 5 ♀♀ from Manus, Sept.-Oct., 1913 (presumably collected by the Meek expedition). Rothschild (1915, p. 193) recorded 7 ♂♂ and 6 ♀♀ from Manus collected by Meek, under the name *P. polydorus utuanensis*.

Common, tending to be abundant periodically. Male-female ratio nearly identical. Some males melanistic, displaying dark suffusion over more normal, creamy white spots of hind wing, thereby approaching *P. polydorus dampieriensis* Hag.

Ornithoptera priamus admiralitatis (Rothschild)

Papilio priamus admiralitatis Rothschild, 1915, p. 192.

Described from 1 ♂ and 8 ♀♀, Manus (Meek Expedition).

Common and widespread, flying throughout the year. Approximately an equal ratio of sexes in the wild. In male, *admiralitatis* totally lacking dorsal green scaling on veins in disc of forewing. On hind wing, above, green scaling denser than in *O. priamus bornemanni* Pagenst, its nearest ally. *O. p. admiralitatis* males rarely lacking golden yellow patch in costal area. In female, according to Rothschild, *admiralitatis* distinguishable from *bornemanni* by shorter, rounder wings and blackish-grey, brighter ground color. Furthermore, pale patches of hind wing extending almost to cell; some specimens with a white spot in cell. On hind wing dark spots in light patches very much larger than in *bornemanni*.

Acknowledgments

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A NOTE ON "MATING FLIGHT OF BUTTERFLIES WITH
MIMETIC FEMALES AND NON-MIMETIC MALES"

My friend R. H. Carcasson's note under the above heading (1970, *Journ. Lep. Soc.*, 24: 72) caused me to look up my own records; the following may be of interest:

Belenois thysa Hpfr. (Pieridae)—Nyali, 4.vii.70. Male flew.

Acraea encedon L. (Acraeidae)—Kampala, 8.v.49 and 30.vii.49 (two pairs). Female flew.

Euryphene mardania orientis Karsch (Nymphalidae)—Shimba Hills, 31.v.70. Female flew.

Precis clelia Cr. (Nymphalidae)—Kampala, 8.v.49. Female flew.

Hypolimnas misippus L. (Nymphalidae)—Kampala, 8.v.49. Female flew.

Castalius calice Hpfr. (Lycaenidae)—Nyali, 9.vii.70. Female flew.

Both sexes of *A. encedon*, the female of *H. misippus* and the female of *E. mardania* mimic *Danaus chrysippus* L. *P. clelia* and *C. calice* are not mimetic and both sexes of *B. thysa* might be said to mimic *Mylothris*.

My own feeling is that the flying position of mated pairs is more of a family, or possibly subfamily, characteristic, and has no direct relationship with mimicry.

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SOME RECORDS OF *EURISTRYMON ONTARIO* (LYCAENIDAE)

Euristrymon ontario ontario Edwards is rare enough in eastern North America that any captures deserve to be put on record, particularly when the associated environmental circumstances also can be given.

On the basis of what little habitat information I had, the shale barrens of the mid-Appalachians seemed to be an appropriate place for this little-known species. An opportunity to look for it there came in June 1968 when my wife and I drove from Florida to Pittsburgh. We planned our route to cross the Appalachians in Virginia at a point where shale barrens were known to occur, and on 14 June we stopped in the late afternoon to collect in a typical barrens area in Alleghany County, Virginia, near Clifton Forge. Between 4 and 6 PM EDST I took five nearly fresh specimens of *ontario*.

All were on the newly opening flowers of Dogbane (*Apocynum cannabinum*)