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THE BUTTERFLIES OF THE ADMIRALTY ISLANDS

By WARREN HERBERT WAGNER, Jr., and DAVID F. GREYER

AT THE suggestion and with the encouragement of Austin H. Clark, of the United States National Museum, we made a joint collection of about 200 butterflies while we were in the Admiralty Islands, the species represented including a number of new records for the group. The collection was made while we were flying with the Naval Air Transport Service during lay-overs at Momote Airstrip on Los Negros Island late in 1944 and in 1945; on Manus in May, November, and December 1945; and on Lou Island in the middle of November 1945. There are no published records of any species from either Los Negros or Lou Islands, or from the interior of Manus.

The Admiralty Islands are located west of New Ireland and northwest of New Britain in the Bismarck Archipelago at approximately latitude 2° S. and longitude 147° to 148° E. There are numerous small islands in the group clustering closely about the main island of Manus, which is 55 miles long by 16 wide and lies east and west. The highest altitude on Manus is 2,359 feet. All the islands are heavily forested except where they have been burned over or cleared by man for coconut groves and villages. Los Negros is a small coral island just to the east of Manus from which it is separated by a narrow channel.

Until about three decades ago the natives of the Admiralty Islands were so hostile to strangers that few collections had been made there. The *Challenger* expedition obtained a few specimens of a single species

in 1875, and Captain Webster secured a few more in 1897. Captain Webster was not able to land on the main island and collected only for two days on the small island of St. Gabriel or Paak when he was obliged to flee in his small schooner. W. Niepelt received representatives of nine species from the Admiralties about 1913. The only large and representative collection from this region was that made by A. S. Meek on Manus in November and December 1913. This collection was sent to the Tring Museum. From the Webster and Meek collections Lord Rothschild recorded a total of 53 species. Of these, 20 were not found by us, but this deficiency is amply compensated in our series by 16 species not previously known from the islands. There are now known from this region 69 species.

Butterflies do not seem to be common in the Admiralties. Here we found them much less conspicuous than in Guadalcanal, Biak, Sámar, or Guam. This is probably due to the occurrence of most of them in the forest and second-growth woods. In open fields there are so few species that are common that it seems worth while to list them—*Precis vellida bismarkiana*, *Danaus plexippus* (introduced from North America), *Zizula gaika*, *Zizera labradus*, *Catachrysops cnejus*, *Nacaduba ancyra*, *Catopsilia crocale*, *Baoris mathias*, *B. laraca*, *B. bevani*, *Ocybadistes marnas*, and *Cephrenes moseleyi moseleyi*. Many of the forest species are conspicuous enough but fly so high in the trees or fly so swiftly that they are nearly unobtainable. One of these, *Papilio codrus auratus*, was so active and high-flying that we were unable to capture one, although we chased an individual for a half mile in a jeep along a road hoping that it might come within reach. Other species have a secretive flight in the forest undergrowth and are not noticed unless sought for. We were told by others who had caught brightly colored but high-flying forest species like *Papilio priamus admiralitatis* and *P. ulysses gabrielis* that early morning was the best time to collect them. The following species are represented in the collections from the Admiralties by single specimens: *Atella alcippe denosa*, *Syntarucus manusi*, *Nacaduba berenice*, *N. hermus*, and *Bindahara phocides*.

The fact that we obtained 16 species that Rothschild's collectors did not find, and that they secured 20 that we did not get, suggests that there is still much to be learned about the species of butterflies of this group of islands and their occurrence. Butterflies here are apparently quite peculiar, as a survey of endemism will show. As far as we can determine, 8 species and 22 subspecies are known only from the Admiralties—these taken together giving a total of 44 percent endemism. The figure is probably too high, but it is indicative of the

unusually interesting butterfly fauna of the Admiralties, and should encourage further study.

An interesting feature of the butterflies of these islands is that a number of the local subspecies show a tendency toward darkness in the restriction of light markings, the enlargement of dark markings, and the deepening of the ground color. This is illustrated by *Papilio ulysses gabrielis*, *Mycalesis perseus subpersa*, *Euploea callithoë admiralia*, *Hypolimnna pithoëca gretheri*, *Yoma algina manusi*, and other dark subspecies found elsewhere, such as *Taenaris phorcas uranus* and *Melanitis leda dominans*. Fewer of the local subspecies are characterized by an increase in light markings, as for instance *Parthenos sylvia admiralia* and *Thysonotis dispar latifascia*.

From our experience we are led to believe that habits are often as characteristic of butterflies as their color pattern and morphology; so we have included in the following list brief statements on the occurrence and behavior of those species known to us in the field.

Without the assistance of Austin H. Clark this collection could not have been made or these notes prepared. We thank him for his many instructive letters to us while we were in the field and for the supervision later of our studies in Washington. We also acknowledge our indebtedness to the various Naval authorities who permitted us to make collections and to enter jungle areas for the purpose of scientific study. We wish to thank Ernest L. Bell for his kindness in identifying for us our specimens of *Baoris laraca* and *B. bevani*. Brigadier William H. Evans was so very good as to identify for us the specimens of *Cephrenes moseleyi moseleyi* and *C. m. shortlandica*, and N. D. Riley, keeper of entomology, British Museum (Natural History), most courteously sent us a list of the localities from which *C. m. moseleyi* is represented in the collections under his care.

All our specimens are now in the United States National Museum except for some duplicates that we presented to the South Australian Museum at Adelaide, South Australia, and a few others that we gave to the Bernice P. Bishop Museum in Honolulu.

There are in the National Museum nine specimens, representing as many species, which were collected at Lorengau, Manus, By Emil Bogen in 1944 and 1945. For the sake of completeness we have included these records with ours.

ANNOTATED LIST OF SPECIES

Family NYMPHALIDAE

Subfamily SATYRINAE

MELANITIS LEDA (Linnaeus)

Papilio leda LINNAEUS, Systema naturae, ed. 10, vol 1, p. 474, No. 102, 1758 (Asia).

Melanitis leda dominans FRUHSTORFER, Entomol. Zeitschr., Stuttgart, vol. 22, p. 87, 1908 (Bismarck Archipelago).—ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 200, June 1915 (Manus).

Record.—One male of the form *dominans*, falls of the Lorengau River, Manus, November 9, 1945.

Notes.—Emil Bogen captured a large female at Lorengau on December 1, 1944, which is pale in color and approaches the form *salomonis*, through the spots on the underside of the hind wings are not so large.

Lord Rothschild recorded six specimens of the form *dominans* from Manus. The National Museum contains two specimens of *dominans* from Lunga, Guadalcanal, collected by James Paul Burke, who also took the form *salomonis* at the same locality.

We have seen the form *dominans* on Los Negros and also on Lou. In the Admiralty Islands it is frequent in open bamboo thickets and also in second growth areas in wooded stream valleys. During the day it is always to be found in shady places. It flies rapidly through the underbrush close to the ground, but the flight is usually for only a short distance—5 to 10 yards. It is wary and hard to approach, and we found it quite difficult to capture.

MYCALESIS PERSEUS SUBPERSA Rothschild

PLATE 11, FIGURES 7, 8

Mycalesis subpersa ROTHSCCHILD, Nov. Zool., vol. 22, No. 2, p. 200, June 1915 (Manus).

Records.—Five males, Los Negros, March 31, November 27, 1945; eastern tip of Manus, May 11, 1945. Three females, Los Negros, March 19, 20, 1945; eastern tip of Manus, May 11, 1945.

Notes.—This form, described by Lord Rothschild as a species, is only a local variant of the widely distributed *M. perseus*. It is another example of the prevailing tendency toward dark coloration in the butterflies of the Admiralty Islands. The white line on the under-surface of the forewings in this subspecies becomes very obscure in some individuals.

In grassy fields and on the brushy edges of woods this butterfly is common to abundant. In a weedy coconut grove just east of Lorengau, Manus, it is exceedingly numerous. It flies low with a jerky flight for short distances among the grasses.

Subfamily MORPHINAE

TAENARIS PHORCAS URANUS Staudinger

Tenaris anableps uranus STAUDINGER, Exot. Schmett., vol. 1, p. 200, 1888 (New Britain, by error, New Ireland).

Taenaris phorcias uranus ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 201, June 1915 (Manus).

Records.—Five males, Los Negros, November 16, 1944, March 8, November 30, 1945. Four females, March 20, April 1, November 17, 21, 1945.

Emil Bogen captured a specimen at Lorengau, Manus, on October 1, 1945.

Notes.—Rothschild had eight specimens of this butterfly from Manus. Compared with the other subspecies of *T. phorcias* this one is very dark, and specimens from the Admiralty Islands average darker than those from the Bismarck Archipelago.

A conspicuous butterfly in the Admiralties, this species is most frequent in dry hilly woods. In flight the wings move rather slowly, but the insect is agile and is an adept at dodging through brush close to the ground. When flushed it usually flies for only a short distance and is easily caught.

Subfamily NYMPHALINAE

PRECIS VELLIDA BISMARKIANA (B. Hagen)

Junonia vellida var. *bismarkiana* B. HAGEN, Jahresb. Nassauischen Ver. für Naturk., Jahrg. 49, p. 86, 1897 (Neupommern).

Records.—Five males, Los Negros, March 30, April 1, November 13, 16, 30, 1945. Five females, Los Negros, March 20, 30, April 1, November 16, 1945.

Notes.—This species has not previously been recorded from the Admiralty Islands. It is surprising that Rothschild received no specimens from this region.

This butterfly is common in dry open fields. Here it resembles its relatives in other parts of the world in its swift flight for rather short distances over the grass tops.

PRECIS HEDONIA ADMIRALITATIS Rothschild

Precis hedonia admiralitatis ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 203, June 1915 (Manus).

Records.—Six males, Los Negros, March 31, April 1, November 16, 17, 1945. Two females, Los Negros, November 10, 15, 1945.

Notes.—This is a common species in the Admiralties. Its flight is rather low and rapid. In habits it resembles an *Hypolimnas* more than it does the ordinary field types of *Precis*. It is seen most frequently in brushy open woods and coconut groves.

HYPOLIMNAS EUPLOEOIDES Rothschild

PLATE 12, FIGURES 15, 16

Hypolimnas euploeoides ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 205, June 1915 (Manus).

RECORDS.—Two females, Los Negros, March 20, 1945; eastern tip of Manus, May 11, 1945.

Notes.—Our female from Los Negros has the dark brown of the hind wings shading into rusty in a broad marginal area. This remarkable mimic of a species of the genus *Euploea* is known only from the Admiralties. Lord Rothschild had a pair from Manus.

HYPOLIMNAS PITHOECA GREThERI A. H. Clark

PLATE 11, FIGURES 1, 2

Hypolimnas pithoea gretheri A. H. CLARK, Proc. Biol. Soc. Washington, vol. 59, p. 119, Oct. 25, 1946 (Lou).

Records.—Two males, Lou Island, November 16, 1945.

Notes.—This species has not heretofore been recorded from the Admiralty Islands. It occurs in woods and brushy country and somewhat resembles *H. euploeoides* in its habits.

HYPOLIMNAS ANTILOPE WAGNERI A. H. Clark

PLATE 11, FIGURES 3, 4.

Hypolimnas antilope wagneri A. H. CLARK, Proc. Biol. Soc. Washington, vol. 59, p. 119, Oct. 25, 1946 (Los Negros; also Manus).

Records.—Three males, Los Negros, November 16, 1944, November 11, 1945; Drangot River, Manus, November 14, 1945.

Notes.—This species has not previously been reported from the Admiralties. We found it most frequent in dry woods along a dirt road at Momote Airfield, Los Negros. The males perch on roadside trees about 10 feet from the ground and when frightened quickly fly away.

HYPOLIMNAS ALIMENA EREMITANA Strand

Hypolimnas alimena eremitana STRAND, Lepidoptera Niepeltiana, pt. 1, p. 35, 1914; pt. 2, pl. 8, fig. 14, 1916 (Admiralty Islands).

Hypolimnas alimena manusi ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 205, June 1915 (Manus).

Record.—One male, Los Negros, November 15, 1945.

Notes.—*Hypolimnas alimena eremitana* was described by Dr. Embrik Strand in 1914 from a single male from the Admiralty Islands. It was redescribed by Lord Rothschild under the name of *Hypolimnas alimena manusi* in 1915 on the basis of four males from Manus. Strand in 1916 figured his type specimen, which appears to be a female, not a male, and a representative of Rothschild's *H. a. manusi*.

Although we saw this species several times we were able to secure only one on Los Negros. It is rare in brushy second-growth woods and along woodland roads. This butterfly is active and difficult to capture. It is fond of sitting on sun-lit leaves and darting out after other butterflies.

HYPOLIMNAS BOLINA (Linnaeus)

Papilio bolina LINNAEUS, Mus. Ludov. Ulric., p. 295, 1764 (in Indiis).

Hypolimnas bolina ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 206, June 1915 (Manus).

Records.—One male, Lou Island, November 13, 1945. Two females, November 16, 1944, March 20, 1945.

A male was captured by Emil Bogen at Lorengau, Manus, on December 1, 1944.

Notes.—Rothschild recorded 10 specimens of this common Pacific island butterfly from Manus. Our female collected in November 1944, is of the form *iphigenia*, but with the white band on the forewings narrower than usual and the orange patch larger. The one taken in March 1945 is of the form *aphrodite* with the band on the forewings metallic violet-blue and the large patch on the hind wings metallic blue-green. Admiralty Islands specimens are not so large as those from the Solomons or so small as those from the Polynesian islands. They are closer in size to those from the Solomons.

This extremely variable species is frequent in brushy second growth areas, especially in the vicinity of Lorengau, Manus. Here because of its larger size it is more noticeable when on the wing than it is on the Polynesian islands.

HYPOLIMNAS MISIPPUS (Linnaeus)

Papilio misippus LINNAEUS, Mus. Ludov. Ulric., p. 264, 1764 (in Indiis).

Hypolimnas misippus ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 205, June 1915 (Manus).

Notes.—Rothschild recorded three females of the form *diocippus* from Manus. In our experience with this species on Biak Island we found it to be more a butterfly of the open fields than the other species of *Hypolimnas*.

ERIBOEA PYRRHUS ADMIRALITATIS (Rothschild)

Eulepis pyrrhus admiralitatis ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 208, June 1915 (Manus).

Notes.—This subspecies was described by Lord Rothschild on the basis of six specimens from Manus. We did not see it.

PARTHENOS SYLVIA ADMIRALIA Rothschild

PLATE 12, FIGURES 13, 14

Parthenos sylvia admiralia ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 207, June 1915 (Manus).

Records.—One male, Los Negros, May 14, 1945. One female, Drangot River, Manus, November 14, 1945.

Emil Bogen took one specimen at Lorengau, Manus, on October 1, 1945.

Notes.—This subspecies differs from *P. s. couppii* in having much more extensive and pure white bands of patches on the forewings, and the whole under side is Nile blue.

This rather large pale gray butterfly is generally frequent on the islands we visited, and we saw it on the slopes of Mount Tjajiac in south central Manus. It was most common in brushy country along the Drangot River. Its flight is fast, and the insect usually flies along the borders of woods from 10 to 20 feet above ground. When in the air it appears that the wings during the short glides are depressed below the horizontal.

YOMA ALGINA MANUSI Rothschild

PLATE 12, FIGURES 19, 20

Yoma algina manusi ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 204, June 1915 (Manus).

Records.—One male, Los Negros, March 20, 1945. Two females, March 20, November 1945.

Notes.—Described by Rothschild from a single female from Manus, this form differs from related subspecies in its gigantic ocelli. A brief description of the male follows:

Forewing 38 mm. On the upper surface no apical spots. Yellow band nearly straight, 9 mm. wide at costa, narrowing to 7 mm. at upper end of cell, then gradually broadening to 10 mm. at lower border. Hindwing above, the band straight, 5 mm. wide at costa, soon becoming 7 mm., tapering only very slightly distally. Central portion of the interspace of both wings beyond the yellow band darker than the ground color, the dark areas with rounded distal ends. Beneath, the bands white and narrower than on the upper surface. Ground color olive gray, the portion proximal to the bands entirely unmarked. Be-

yond the bands a very large oval black spot in each interspace ringed with yellow and with a blue pupil, the pupil smaller in the two lowest of the forewing, largest on the first, second, and fourth from the apex of the forewing and on the two central ones on the hindwing.

This brilliant black and orange nymphalid frequents woodland roads, along which the males are sometimes quite common. It is an active insect with a swift flight and is usually hard to capture. The males are fond of resting on bushes along roads.

CYNTHIA ARSINOE LEMINA Ribbe

Cynthia arsinoe var. *lemina* RIBBE, Iris, vol. 11, p. 113, Aug. 10, 1898 (Neu-Mecklenburg).

Records.—Three males, Lou Island, November 16, 1945.

Notes.—No material for comparison is available in the National Museum, but judged from the description these specimens appear to be referable to this subspecies. Lord Rothschild did not receive this butterfly from the Admiralties, but he had representatives of other subspecies from Dampier and Vulcan Islands.

The vigor and activity of this species remind one of a South American *Prepona* or a large North American *Polygonia*. We found it common on the island of Lou where it is to be observed along the rocky coastal woods. On the occasions when individuals alight in sunny spots on the ground along paths an extremely slow approach must be made if the insect is not to be frightened. Ordinarily it flies high, well out of reach. The females are conspicuous because of their contrasting grayish and orange-brown coloration, but they seem to be quite uncommon and we were unable to secure one. We saw one female on Los Negros.

VAGRANS SINHA ADMIRALIA (Rothschild)

Issoria sinha admiralia ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 202, June 1915 (Manus).

Note.—Rothschild's five specimens of this endemic subspecies came from Manus. We did not find it.

AELLA ALCIPPE DENOSA Fruhstorfer

Atella alcippe denosa FRUHSTORFER, in Seitz, Die Grossschmetterlinge der Erde, vol. 9, p. 473, Mar. 18, 1912 (Neu Pommern; Neu Lauenburg).

Record.—One male, falls of the Lorengau River, Manus, November 11, 1945.

Notes.—This subspecies has been tentatively identified from the description, there being no specimens available for comparison. The species has not previously been recorded from the Admiralty Islands.

This little orange-brown nymphalid is quite common in the forest along the upper Lorengau River, but it is very difficult to capture. It perches on the leaves of high branches of trees and is wary. When approached closely it flies away with a rapid flight about 15 feet from the ground. It seems to be confined to the shady woods along the river and we did not find it elsewhere.

CETHOSIA OBSCURA GABRIELIS Rothschild

Cethosia gabrielis ROTHSCHILD, Nov. Zool., vol. 5, No. 2, p. 218, May 1898 (St. Gabriel).

Note.—This subspecies is known only from the coral island of St. Gabriel or Paak, which lies about 10 nautical miles east of Manus.

CETHOSIA OBSCURA MANUSI Rothschild

PLATE 12, FIGURES 11, 12

Cethosia obscura manusi ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 202, June 1915 (Manus).

Records.—Four males, Los Negros, November 21, 1945; Lorengau River, Manus, November 18, 1945. Two females, western Los Negros, November 16, 1944; Los Negros, November 28, 1945.

A specimen from Lorengau, Manus, was sent to the National Museum by Emil Bogen.

Notes.—On the basis of nine specimens from Manus Lord Rothschild described this subspecies as differing from the preceding in having smaller white spots on the forewings above, and below in having the black bands in the cell of the forewings much broader and the white subterminal spots smaller.

We have noticed that on the upper surface wherever the veins are exposed by the removal of the scales their color is red.

In wooded areas, especially in flat country along streams, this is a frequent species. The flight is of medium speed and follows a straight course, usually about 5 to 10 feet above the ground. The dominant blue-black color combined with the red markings beneath make this a rather conspicuous butterfly.

MIYANA MOLUCCANA FUMIGATA (Honrath)

Aeraca fumigata HONBATH, Berliner Entomol. Zeitschr., vol. 30, Heft 1, p. 130, pl. 5, fig. 3, June 1886 (Neu-Pommern [=New Britain]).

Records.—Five females, Lou Island, November 16, 1945.

Notes.—This species has not been previously reported from the Admiralties.

We found this butterfly only along the coast of Lou Island where it is quite common along the wooded cliffs above the shore. It has a

slow flapping flight and is not very conspicuous. When flying it has a gray glossy appearance. The insects are easily captured, but they often fly among the lower branches of tall trees making them difficult to reach with the net.

Subfamily DANAINAE

DANAUS JUVENTA RIBBEI (Fruhstorfer)

Danaida juvena ribbei FRUHSTORFER, Iris, vol. 19, p. 163, 1906 (New Ireland).—ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 196, June 1915 (Manus).

Records.—Seven males, Los Negros, November 16, 1944, March 19, May 14, November 9, 1945; Manus, near Lorengau, November 9, 1945. Four females, Los Negros, November 16, 1944, May 14, November 15, 25, 1945.

Notes.—This is a common butterfly in weedy thickets and second growth woods. The flight is rather slow and weak as compared with that of the North American monarch.

DANAUS MYTILENE DECIPIENTIS (Strand)

Danaida mytilene decipientis STRAND, Lepidoptera Niepeltiana, pt. 1, p. 25, 1914 (Admiralty Islands).—ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 196, June 1915 (Manus).

Records.—Six males, Los Negros, November 16, 1944, March 18, 19, November 9, 21, 1945. Six females, Los Negros, November 17, 1944, March 19, November 15, 17, 19, 27, 1945.

Notes.—Strand described this subspecies on the basis of one male from the Admiralty Islands. Rothschild had 8 specimens from Manus.

This butterfly is very common on Los Negros island, particularly about Momote Airfield, along roads, and in coconut groves. The flight is weak, at a level of about five feet from the ground.

DANAUS PLEXIPPUS PLEXIPPUS (Linnaeus)

Papilio plexippus LINNAEUS, Systema naturae, ed. 10, vol. 1, p. 471, No. 80, 1758 (North America).

Records.—Two males, Lorengau, Manus, December 1, 1945.

Notes.—Although heretofore not reported from the Admiralties, this widely spread introduced species is well known in the Bismarck Archipelago and in the Solomon Islands. It was found by Ribbe in New Pomerania, New Lauenburg, New Mecklenburg, Nusa, New Hanover, Shortland Island, Bougainville, Choiseul, Isabel, and New Georgia.

In the Admiralties it is frequent in fields near Mokerang Airstrip on Los Negros, and quite common in fields at Lorengau. The mon-

arch feeds in numbers on *Zinnia* in gardens at Lorengau. The larva very likely feeds on *Asclepias curassavica*, the orange milkweed, which is common, growing in open dryish fields and in coconut groves. The flight is swift and seems, peculiarly, to be faster than it is in the United States.

EUPLOEA NOBILIS Strand

Euploea nobilis STRAND, Lepidoptera Niepeltiana, pt. 1, p. 27, pl. 8, figs. 6, 7, 1914 (Admiralty Islands).—ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 197, June 1915 (Manus).

Euploea nobilis ab. *simplicior* STRAND, Lepidoptera Niepeltiana, pt. 1, p. 27, pl. 8, fig. 10, 1914 (Admiralty Islands).—ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 197, June 1915 (Manus).

Records.—Two males, Los Negros, November 21, 27, 1945.

Notes.—Our two specimens are of the variety *simplicior* Strand. Niepelt had four specimens from the Admiralties and Rothschild had eight from Manus, two of these being of the variety *simplicior*.

This is a frequent insect in shady damp woods and flies slowly about 10 feet above the ground.

EUPLOEA SUBNOBILIS Strand

Euploea subnobilis STRAND, Lepidoptera Niepeltiana, pt. 1, p. 27, pl. 8, fig. 9, 1914 (Admiralty Islands).—ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 197, June 1915 (Manus).

Note.—This species is very similar to *E. nobilis*. It is apparently rare as Niepelt had but one and Rothschild only two specimens. We did not find it.

A male was collected by Emil Bogen at Lorengau, Manus, on April 1, 1945.

EUPLOEA INSULICOLA Strand

Euploea insulicola STRAND, Lepidoptera Niepeltiana, pt. 1, p. 28, pl. 8, figs. 4, 5, 1914 (Admiralty Islands).—ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 197, June 1915 (Manus).

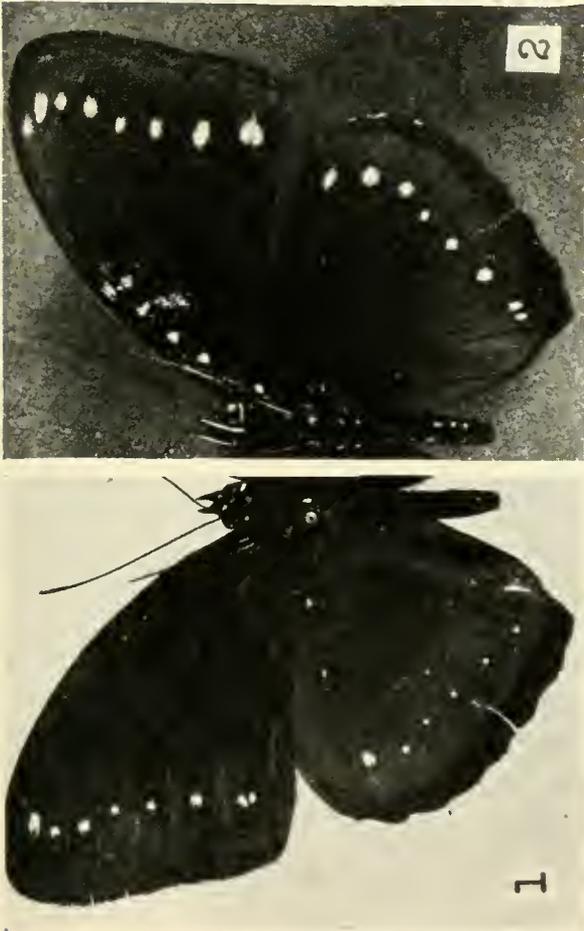
Note.—This species was received both by Niepelt and by Rothschild, but we failed to find it.

EUPLOEA NEMERTES AFFINITA Strand

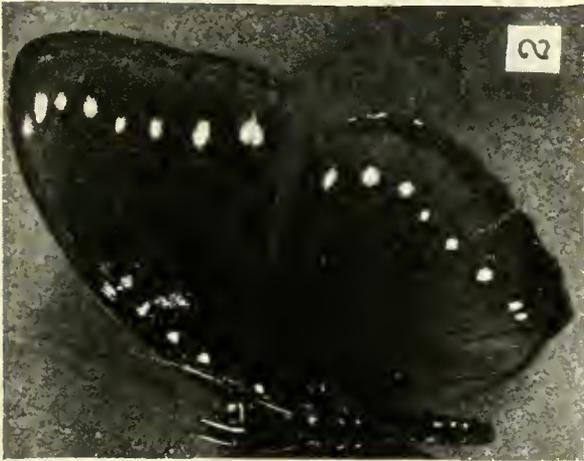
Euploea nemertes affinita STRAND, Lepidoptera Niepeltiana, pt. 1, p. 28, pl. 8, fig. 11, 1914 (Admiralty Islands).—ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 197, June 1915 (Manus).

Records.—Four males, Los Negros, March 15, November 15, 21, 1945. Three females, Los Negros, March 15, 20, 1945; Manus, December 1, 1945.

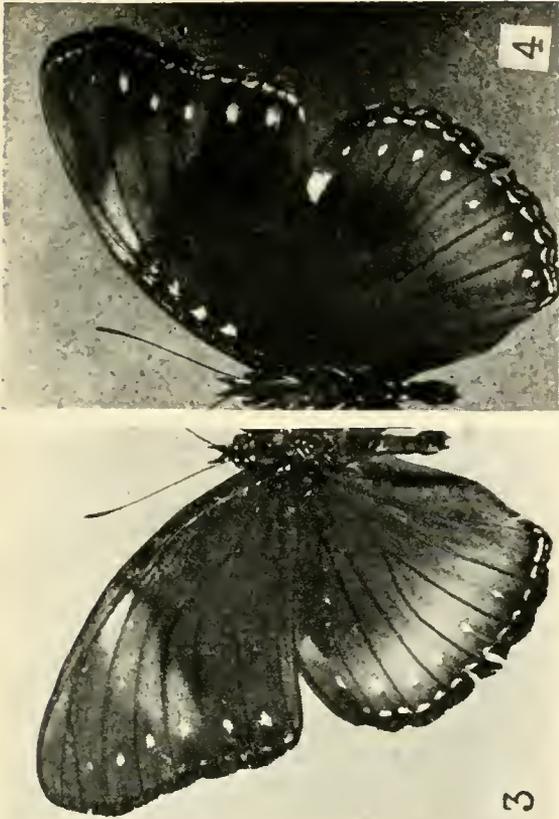
Notes.—There is considerable variation in the size of the submarginal spots. In some of the specimens they are small, only the anterior three of the hind wing being present on the upper surface.



1



2



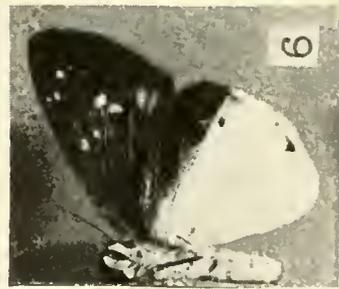
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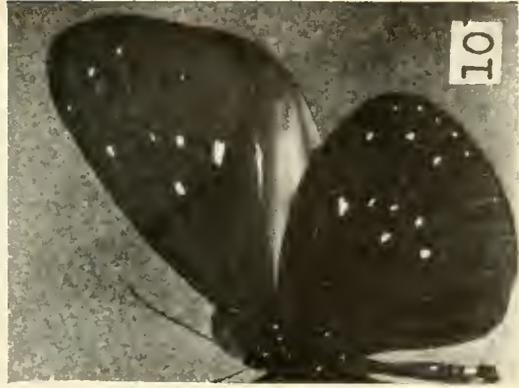
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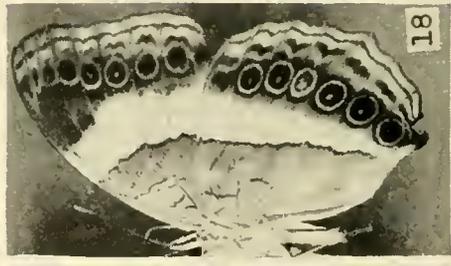
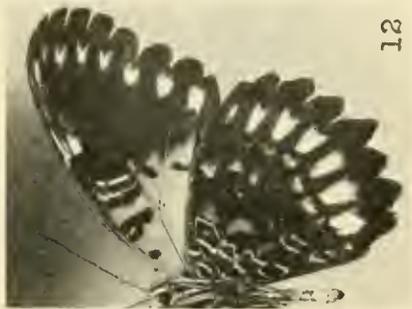
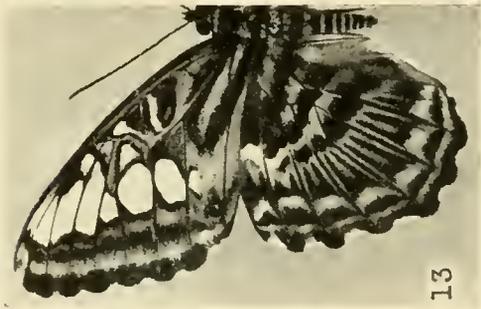
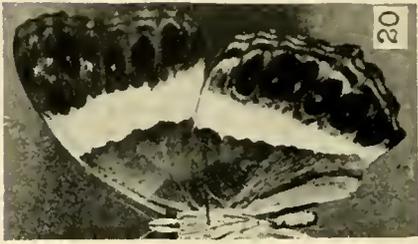
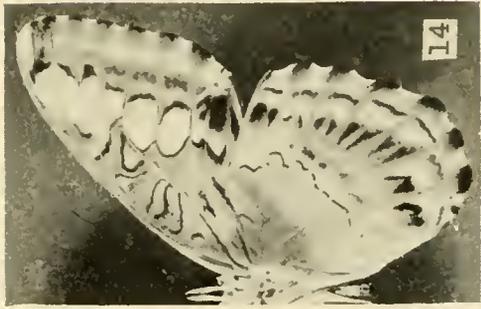


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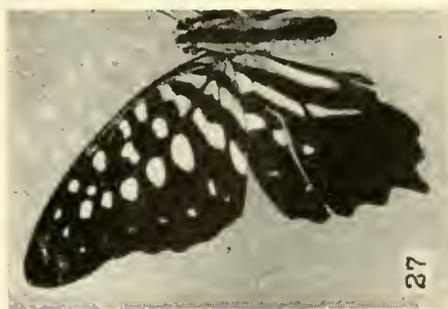
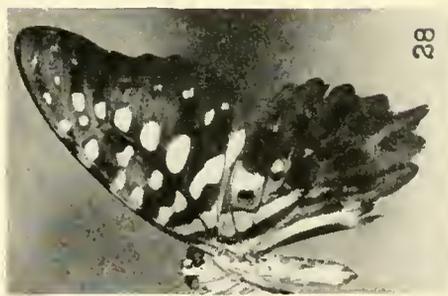
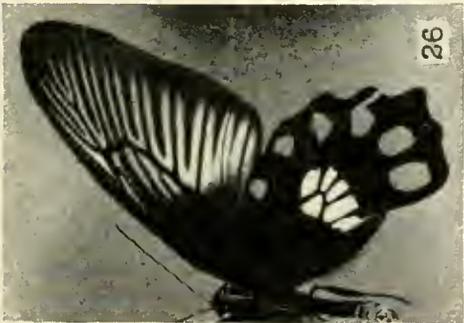
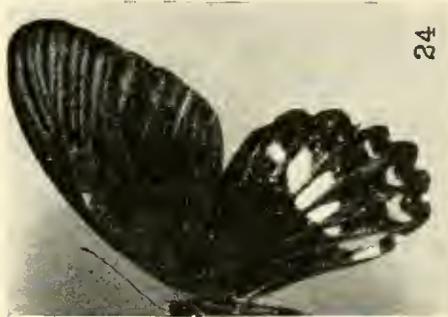


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1, 2, *Hypolimnna pithoeca gretheri*, male, Lou, Nov. 16, 1945; 3, 4, *Hypolimnna antilope wagneri*, male, Los Negros, Nov. 16, 1945; 5, 6, *Tagiades inconspicua*, Los Negros, Nov. 17, 1944; 7, 8, *Mycalopsis perseus subpersa*, Los Negros, Mar. 31, 1945; 9, 10, *Euploea lewinii doretta*, male, Drangot River, Manus, Nov. 14, 1945. Natural size. [Odd numbers upper sides; even numbers under sides.]



11, 12, *Cethosia obscura manusi*, Los Negros, Nov. 21, 1945; 13, 14, *Parthenos sylvia admiralia*, Los Negros, Mar. 14, 1945; 15, 16, *Hypolimnas euploeoides*, Manus, May 11, 1945; 17, 18, *Yoma algina paronia*, male, Guadalcanal, Solomon Islands, D. F. Grether, Mar. 14, 1945; 19, 20, *Y. a. manusi*, male, Los Negros, Mar. 20, 1945. About two-thirds natural size. [Odd numbers upper sides; even numbers under sides.]



21, 22, *Papilio weymeri*, male, Los Negros, May 14, 1945; 23, 24, *P. phiestus reductus*, male, Lorengau River, Manus, Nov. 20, 1945; 25, 26, *P. polydorus manus*, male, Lou, Nov. 16, 1945; 27, 28, *P. agamemnon admiralis*, male, eastern tip of Manus, Nov. 11, 1945. About two-thirds natural size. [Odd numbers upper sides; even numbers under sides.]

In the female from Manus the forewing is only 34 mm. long; in the two others it is 44 and 45 mm. in length.

Like the other *Euploeas*, this is a woodland butterfly. It is frequent in rather open woods, particularly near Momote Field on Los Negros island. It flies slowly between 5 and 10 feet from the ground and is easily captured.

EUPLOEA NEMERTOIDES Rothschild

Euploea nemertoides ROTHSCHILD, Nov, Zool., vol. 22, No. 2, p. 197, June 1915 (Manus).

Notes.—Rothschild had ten specimens of this species from Manus. Judging from the description it is extremely close to the preceding form, with which it occurs.

EUPLOEA CALLITHOE ADMIRALIA Strand

Euploea callithoe admiralia STRAND, Lepidoptera Niepeltiana, pt. 1, p. 26, pl. 8, fig. 1, 1914 (Admiralty Islands).—ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 198, June 1915 (Manus).

Records.—Two males, Los Negros, November 21, 27, 1945.

Notes.—Both Niepelt and Rothschild received specimens of this splendid butterfly. It is darker than the other subspecies of *E. callithoe* and is another example of the tendency toward darkness so marked in the butterflies of the Admiralty Islands.

When alive this largest of the local *Euploeas* is very brilliant, showing blue reflections in the sunlight. It is unusual in flying high among the forest trees, unlike the others of its genus here. In the morning and evening, however, it may be found at a lower height among small trees, and our specimens were taken at this time.

EUPLOEA LEWINII DORETTA Pagenstecker

PLATE 11, FIGURES 9, 10

Euploea (Lontara) doretta PAGENSTECKER, Jahrb. Nassauischen Ver. für Naturk., 1894, p. 72, No. 14 (Mioko, Neu-Lauenburg).

Euploea doretta PAGENSTECKER, Die Lepidopterenfauna des Bismark Archipels, pt. 1, p. 51, pl. 1, fig. 1, 1899.

Record.—One male, Drangot River, Manus, November 14, 1945.

Notes.—This is the first record of this species for the Admiralties. Our specimen was compared with some of Ribbe's original specimens from Mioko and New Pomerania and no differences were found. Pagenstecker's figure is said to represent a male but is evidently a female. Pagenstecker said that "according to C. Ribbe it is quite rare on New Lauenburg" whence it was described.

EUPLOEA TREITSCHKEI URSULA (Butler)

Saphara ursula BUTLER, Ann. Mag. Nat. Hist., ser. 5, vol. 11, p. 407, 1883 (d'Entrecasteaux Island, Admiralty Islands).

Euploea treitschkei ursula ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 189, June 1915 (Manus).

Records.—Five males, Los Negros, November 16, 1944, March 18, November 11, 15, 1945. Five females, March 31, April 1, November 15, 16, 17, 1945.

The National Museum contains a specimen collected by Emil Bogen at Lorengau, Manus, on February 15, 1945.

Notes.—This subspecies was originally described from d'Entrecasteaux Island, Admiralty group. Rothschild received eight specimens from Manus.

We found this the commonest *Euploea* at Los Negros. It is especially frequent along the brushy edges of woods and is fond of flowers, particularly of those of the orange milkweed (*Asclepias curassavica*). It is easy to capture, its flight being slow and rather low.

EUPLOEA PUMILA BISMARKIANA (Fruhstorfer)

Calliploca engrammelli bismarkiana FRUHSTORFER, Berliner Entomol. Zeitschr., vol. 45, p. 7, 1900 (New Britain).

Euploea pumila bismarkiana ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 198, June 1915 (Manus).

Note.—Rothschild had nine males of this form from Manus. We did not find it.

Family LYCAENIDAE

EUPSYCHELLUS DIONYSIUS (Boisduval)

Lycaena dionysius BOISDUVAL, Voy. *Astrolabe*, Lepidoptera, p. 82, No. 11, 1832 (New Guinea).

Euppsychellus dionysius ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 389, December 1915 (Manus).

Records.—Two males, Los Negros, March 18, 1945; Lou Island, November 16, 1945. Five females, Los Negros, November 11, 1945; Lou Island, November 16, 1945.

Notes.—Rothschild recorded a single specimen from Manus.

This little black and white lycaenid is not rare, and is sometimes locally common in woods. Its white color makes it noticeable in its low jerky flight through the shaded undergrowth. On Lou Island it was especially common in a rocky wooded ravine. It is easily captured.

ZIZULA GAIKA (Trimén)

Lycaena gaika TRIMÉN, Trans. Ent. Soc. London, ser. 3, vol. 1, p. 403, 1862 (South Africa).

Zizera gaika ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 389, December 1915 (Manus).

Records.—Four males, mangrove swamp, Los Negros, November 11, 1945. One female, same locality and date.

Notes.—This tiny butterfly is frequent on the brushy edges of fields, and we also found it locally abundant on the brushy side of a road through a mangrove swamp in western Los Negros. It is a very active little creature.

ZIZERA LABRADUS (Godart)

Polyommatus labradus GODART, Encyclop. méthodique, vol. 9, p. 680, No. 197, 1823 (Australia).

Zizera labradus ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 389, December 1915 (Manus).

Records.—One male, Los Negros, November 16, 1944. Two females, Los Negros, November 17, 1944, eastern tip of Manus, May 11, 1945.

Notes.—Lord Rothschild said that this species "varies enormously in size." Our specimens are all large, the male with the forewings 13 mm. in length, the females with the forewings 14 mm. They seem to be more blue than those in the National Museum, but this may be due to their freshness.

This species is frequent in brushy field at Momote Airstrip, Los Negros.

SYNTARUCUS MANUSI Rothschild

Syntarucus manusi ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 390, December 1915 (Manus).

Note.—This species was described from a single male from Manus. We did not find it.

JAMIDES BOCHUS SOEMIAS Druce

Jamides soemias DRUCE, Proc. Zool. Soc. London, 1891, p. 387, pl. 32, figs. 4, 5, June 2, 1891 (Solomon Islands: Alu, Fauro, Florida, and Malaita).

Jamides saemias ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 391, December 1915 (Manus).

Records.—One male, Los Negros, November 28, 1945. One female, eastern Manus, November 12, 1945.

Notes.—This species is frequent along the edges of woods. The brilliant blue of the male makes it a conspicuous insect when on the wing. Those we saw or collected were all in waist-high brush on the outskirts of the forest. The flight is faster than that of most lycaenids.

JAMIDES UNIFORMIS Rothschild

Jamides uniformis ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 391, December 1915 (Manus).

Note.—This species was described from one male and one female from Manus. We did not meet with it.

CATACHRYSOPS CNEJUS (Fabricius)

Hesperia cnejus FABRICIUS, Ent. Syst. Suppl., p. 430, No. 100-101, 1798.

Records.—Four males, Los Negros, November 10, 1945. Two females, Los Negros, November 15, 1945.

Notes.—This species has not previously been recorded from the Admiralties. Lord Rothschild had specimens from Dampier and Vulcan Islands. It is an extremely variable butterfly. One of our males is slightly larger than the others with a more conspicuous black border on the upper surface and no anal spot. The anal spot beneath is without black.

This butterfly is rather common in fields.

NACADUBA BERENICE (Herrich-Schaeffer)

Lycacna berenice HERRICH-SCHAEFFER, Stett. Entomol. Zeitschr., 1869, p. 74, No. 331 (Rockhampton).

Nacaduba berenice ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 392, December 1915 (Manus).

Note.—Rothschild recorded one male from Manus.

NACADUBA MEIRANGANUS (Röber)

Plebejus meiranganus ROBER, Iris, vol. 1, p. 65, pl. 5, figs. 23, 25, 1886 (Aru).

Nacaduba meiranganus ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 392, December 1915 (Manus).

Note.—Rothschild had several specimens from Manus.

NACADUBA KORENE Druce

Nacaduba korene DRUCE, Proc. Zool. Soc. London, 1891, p. 361, pl. 31, fig. 8 (Guadalcanar).—ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 392, December 1915 (Manus).

Note.—Two females were recorded from Manus by Rothschild.

NACADUBA NORA (Felder)

Lycæna nora FELDER, Sitzb. Akad. Wiss. Wien, math.-naturw. Cl., vol. 40, p. 458, No. 37, 1860 (Amboina).

Nacaduba nora ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 392, December 1915 (Manus).

Note.—Several specimens were recorded from Manus by Rothschild.

NACADUBA NORA (Felder)

Lycæna hermus FELDER, Sitzb. Akad. Wiss. Wien, math.-naturw. Cl., vol. 40, p. 457, No. 33, 1860 (Amboina).

Nacaduba hermus ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 393, December 1915 (Manus).

Note.—One male was recorded from Manus by Rothschild.

NACADUBA ANCYRA (Felder)

Lycaena ancyra FELDER, Sitzb. Akad. Wiss. Wien, math.-naturw. Cl., 1860, p. 458, No. 35 (Amboina).

Records.—Four males, Los Negros, November 18, 1944, March 30, 1945. One female, November 21, 1945.

Notes.—There is no previous record of this species from the Admiralties, but Rothschild had specimens from Vulcan and Dampier Islands. It is odd that the only *Nacaduba* that we found was not one of the five recorded by Rothschild.

This is a common butterfly of open fields at Momote Airstrip, Los Negros. The flight is low and resembles that of the other little meadow blues.

THYSONOTIS HYMETUS MANUSI Rothschild

Thysonotis hymetus manusi ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 394, December 1915 (Manus).

Note.—This subspecies was described from six specimens of both sexes from Manus.

THYSONOTIS HAMILCAR Grose Smith

Thysonotis hamilcar GROSE SMITH, Ann. Mag. Nat. Hist., ser. 6, vol. 16, p. 25, 1894 (New Britain).—ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 394, December 1915 (Manus).

Note.—Rothschild received nine specimens representing both sexes from Manus.

THYSONOTIS DISPAR LATIFASCIA Rothschild

Thysonotis dispar latifascia ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 394, December 1915 (Manus).

Thysonotis subsuleima STRAND, Lepidoptera Niepeltiana, pt. 2, p. 18 pl. 14 fig. 31, December 1916 (Admiralty Islands).

Records.—Four males, Los Negros, April 1, November 15, 21, 1945; eastern tip of Manus, November 9, 1945. Five females, Los Negros, November 16, 1944, April 1, March 20, 1945; Lorengau River, Manus, November 18, 1945.

Notes.—Strand's *Thysonotis subsuleima* from the Admiralty Islands was based upon a female of the form described under the name of *Thysonotis dispar latifascia* by Rothschild in the previous year.

The flight of this beautiful little butterfly is slow, but when frightened it makes off into the underbrush, dodging through the bushes with great agility.

AMBLYPODIA THAMYRAS LATIMARGINATA (Strand)

Arhopala micale latimarginata STRAND, Archiv für Naturg., vol. 78A, p. 78, 1913 (New Guinea).

Arhopala helius ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 397, December 1915 (Manus).

Records.—One male, eastern Manus, November 19, 1945. Four females, Los Negros, November 11, 1945; eastern Manus, November 17, 1945.

Notes.—This subspecies was recorded from Manus by Rothschild under the name of *Arhopala helius*. Our specimens agree with others in the National Museum collection labeled "German New Guinea."

In shady forests, often along rocky streams, this flashy hairstreak is locally frequent. When a woodland spot is found where it occurs each visit will yield several specimens. It is usually seen resting, with wings closed, on large leaves of shrubs and large herbs. It is not very wary and may rather easily be approached and caught. The flight is direct, and the brilliant blue color of the upper surface flashes brightly.

BINDAHARA PHOCIDES (Fabricius)

Papilio phocides FABRICIUS, Entomol. Syst., vol. 3, pt. 1, p. 282, No. 85, 1793 (Africa).

Record.—One female, Los Negros, March 18, 1945.

Notes.—This is the first record for the Admiralties.

Our only specimen of this widely ranging hairstreak was found in a clearing in dry open woods near Momote Airstrip.

Family PIERIDAE

EUREMA HECABE OETA (Fruhstorfer)

Terias hecabe octa FRUHSTORFER, in Seitz, Die Grossschmetterlinge der Erde, vol. 9, p. 168, 1910 (New Guinea).—ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 196, June 1915 (Manus).

Record.—One male, Los Negros, March 31, 1945.

Notes.—This common and widely distributed little sulphur butterfly is frequent everywhere in brushy second-growth areas. It has a low zigzag flight.

HUPHINA PERIMALE DOHERTYANA (Grose Smith)

Belenois dohertyana GROSE SMITH, Nov. Zool., vol. 1, pt. 1, p. 337, 1894 (Fergusson Island).

Huphina pitys mithra FRUHSTORFER, Berliner Entomol. Zeitung, vol. 48, p. 102, 1903 (Fergusson Island).

Records.—Two females, Los Negros, November 15, December 1, 1945.

Notes.—This is a new record for the Admiralty Islands.

This butterfly occurs very locally in woods along the coast of Los Negros island. Its habits are very similar to those of the species of *Appias* in other tropical places. The flight is very active, following an irregular course swiftly through the trees from ten to thirty feet from the ground. When the butterfly comes to a road it dives down from the trees and zigzags along the forest edge for 20 or more yards before it again flies up to the tops of the trees. It is fond of flowers.

CATOPSILIA CROCALE (Cramer)

Papilio crocale CRAMER, *Papillons exotiques*, vol. 1, p. 87, pl. 55, figs. C, D, 1775 (East Indies).

Records.—Three males, eastern Manus, May 11, 1945; Lorengau, Manus, December 1, 1945. Three females, Momote Field, Los Negros, November 29, 1945; Lorengau, Manus, December 1, 1945.

Notes.—There is no previous record of this butterfly from the Admiralties.

This butterfly is common along the roads at Mokerang Airfield on Los Negros, and especially at Lorengau, Manus. It is fond of the cultivated flowers, mainly zinnias, that are grown in gardens in Lorengau, and in these gardens it is sometimes abundant. It is a swift and powerful flier. When a storm approaches the butterflies hurriedly find a good-sized bush in which they hide for security.

Family PAPHIONIDAE

PAPILIO PRIAMUS ADMIRALITATIS Rothschild

Papilio priamus admiralitatis ROTHSCHILD, *Nov. Zool.*, vol. 22, No. 2, p. 192, June 1915 (Manus).

Records.—One male, Lou Island, November 16, 1945. Three females, Los Negros, November 16, 1944; Lorengau River, Manus, November 9, 1945.

Notes.—The metallic green of the male when viewed obliquely shows blue reflections.

The birdwing is most frequent in dry and rather open woods. It is not common, and is usually seen during the day flying among the forest trees at a height of 30 to 50 feet above ground. The females have a slower and more cumbersome flight than the males and may be caught more easily. The males usually remain high in the trees, while the females often may be found within ten feet of the ground. Early morning when the dew is still on the ground is the best time to get specimens because then they tend to fly lower and less actively than later in the day.

PAPILIO POLYDORUS MANUS Talbot

PLATE 13, FIGURES 25, 26

Papilio polydorus utuanensis ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 193, June 1915 (Manus).

Papilio polydorus manus TALBOT, Bull. Hill Mus., vol. 4, No. 3, p. 155, January 26, 1932 (Manus).

Records.—Two males, Los Negros, November 11, 1945; Lou Island, November 16, 1945. Two females, Los Negros, November 16, 1944, March 20, 1945.

Notes.—This is a common swallowtail in woods and brushy places in the Admiralties. Its flight is not fast and is usually within 5 feet of the ground, making it the easiest of the local swallowtails to capture.

PAPILIO PHESTUS REDUCTUS Rothschild

PLATE 13, FIGURES 23, 24

Papilio phestus reductus ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 193, June 1915 (Manus).

Records.—Two males, Los Negros, November 15, 1945; Lorengau River, Manus, November 20, 1945.

Notes.—This little black and white swallowtail flies in forested regions, especially along rocky stream valleys, and is most common along the upper branches of the Lorengau River. The flight is low and irregular, and swift, so that the butterfly is very hard to catch.

PAPILIO WEYMERI Niepelt

PLATE 13, FIGURES 21, 22

Papilio weymeri NIEPELT, Lepidoptera Niepeltiana, pt. 1, p. 53, pl. 11, fig. 1, 1914 (Admiralty Islands; description and figure of a female).—ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 194, June 1915 (Manus; brief description of a male).

Records.—Four males, Los Negros, March 20, May 14, November 11, 1945. One female, March 18, 1945.

A female in the National Museum was captured by Emil Bogen.

Notes.—Lord Rothschild's description of the male of this fine swallowtail was brief, so we amplify it here:

Underside: Spots on the forewing as above, but the three lowest somewhat smaller. Hind wing crossed by a curved band of spots continuing those of the forewing, somewhat smaller, slightly darker, deeply notched exteriorly, each with a narrow straight band of diffuse blue scales just beyond the outer end, strongest in the lowest three. Anal spot larger, occupying the entire interspace, broader than long, orange, the inner border sprinkled with light bluish scales.

In the woods this conspicuous swallowtail flies swiftly at an average level of about 10 feet from the ground, but when it reaches clearings, and along roads, it may fly higher. It is very fond of the flowers of tall forest species of the ginger family. It is frequent in all wooded areas.

PAPILIO ULYSSES GABRIELIS Rothschild

Papilio ulysses gabrielis ROTHSCHILD, Nov. Zool., vol. 5, No. 2, p. 217, May 1898 (St. Gabriel) ; vol. 22, No. 2, p. 194, June 1915 (Manus).

Records.—Three males, Los Negros, November 16, 1944, March 19, May 14, 1945. One female, eastern Manus, November 16, 1945.

Notes.—This is a notable very dark local race of a common and wide ranging swallowtail, originally described from the island of St. Gabriel or Paak. The blue areas of the wings are restricted in extent and the blue scales are mixed with black scales. The hind wing is longer than in the other subspecies, with wider tails.

The blue swallowtail is probably the most conspicuous butterfly in the Admiralty Islands. It flies high among the trees and may be seen along the edge of the forest coursing actively up and down over the tall vegetation. In certain places, especially along dirt roads and small streams, the males cover a definite "beat," flying back and forth over the same area. Although it is one of the commonest butterflies in the Admiralty Islands it is not easy to catch, because of its high flight. The only female we captured was taken on ginger flowers.

PAPILIO CODRUS AURATUS Rothschild

Papilio codrus auratus ROTHSCHILD, Nov. Zool., vol. 5, No. 2, p. 218, May 1898 (St. Gabriel) ; vol. 22, No. 2, p. 194, June 1915 (Manus).

Notes.—This subspecies was described from St. Gabriel and later was received by Rothschild from Manus. This is one species we never could capture. We saw it several times during November 1945, at Los Negros. The flight is high and powerful, with a peculiar bouncing motion.

PAPILIO MACFARLANEI ADMIRALIS Rothschild

Papilio macfarlanei admiralis ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 195, June 1915 (Manus).

Record.—One female, Momote Field, Los Negros, November 21, 1945.

Notes.—This is an active high-flying swallowtail which occurs in forested areas. It seems to be much less common than *P. agamemnon*, which it resembles in life.

PAPILIO AGAMEMNON ADMIRALIS Rothschild

PLATE 13, FIGURES 27, 28

Papilio agamemnon admiralis ROTHSCHILD, Nov. Zool., vol. 22, No. 2, p. 195, June 1915 (Manus).

Records.—Three males, eastern tip of Manus, November 11, 1945; Manus, November 19, 20, 1945.

Emil Bogen captured a male at Lorengau, Manus, on January 1, 1945.

Notes.—This green-spotted swallowtail is frequent in forest areas, normally flying high among the trees. The flight is very swift and follows an irregular course along the tree tops, dropping quickly down along woodland roads to follow the tops of shrubs, but soon returning again to a great height.

Family HESPERIIDAE

TAGIADES INCONSPICUA Rothschild

PLATE 11, FIGURES 5, 6

Tagiades inconspicua ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 398, December 1915 (Manus).

Records.—Los Negros, November 17, 1944; Lou Island, November 16, 1945.

Notes.—Rothschild described this species on the basis of two males from Manus. The female has yet to be discovered. On the male taken on Los Negros, in addition to the characters given in Lord Rothschild's description, there are four large but obscure dark spots, one on each side of vein 4, the outer just above the outer end of the white border, the next on the other side of vein 4 near the border, the two others in the interspace above. On the fore wing there are two large obscure dark spots between veins 1 and 2 and 2 and 3, just beyond the middle of the wing.

This black-and-white skipper is occasional in brushy woods along the coast. It is fond of perching on sunny leaves about 12 feet up in forest clearings, darting out after blue swallowtails if they pass by. The flight of this skipper is very fast, but the white patch on the hind wings makes it easy to follow with the eye.

HASORA HURAMA (Butler)

Ismene hurama BUTLER, Trans. Ent. Soc. London, 1870, p. 498 (North Australia).
Hasora hurama ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 399, December 1915 (Manus).

Record.—One male, Los Negros, November 16, 1945.

Notes.—We found this skipper most common in coastal swamps at the edge of a salt marsh: It is local and generally rare except in a

few favored places. It has an exploratory flight path in and around patches of brush on the edges of mangrove swamps. It is difficult to approach and when frightened makes off with a direct swift flight, so that it is hard to capture.

BAORIS HASAROIDES (Elwes and Edwards)

Parnara hasaroides ELWES and EDWARDS, Trans. Zool. Soc. London, vol. 14, p. 284, pl. 21, fig. 11, 1897 (Batchian; Halmabeira).—ROTHSCHILD, Nov. Zool., vol. 22, No. 3, p. 399, December 1915 (Manus).

Note.—Rothschild had four males of this species from Manus. We did not find it.

BAORIS LARACA (Swinhoe)

Caltois laraca SWINHOE, Ann. Mag. Nat. Hist., ser. 7, vol. 20, p. 434, 1907 (Woodlark Island).

Record.—One specimen, Los Negros, November 10, 1945. This specimen was kindly identified for us by Ernest L. Bell.

BAORIS BEVANI (Moore)

Hesperia bevani MOORE, Proc. Zool. Soc. London, 1878, p. 688, June 1878 (Salween; Moulmain; also Calcutta).

Records.—Three specimens, Lorengau River, Manus, December 1, 1945. We have to thank Ernest L. Bell for the identification of these specimens.

BAORIS PARVIMACULA (Rothschild)

Parnara parvimacula ROTHSCCHILD, Nov. Zool., vol. 22, No. 3, p. 399, December 1915 (Manus).

Note.—This species was originally described from Manus by Lord Rothschild. We did not find it.

OCYBADISTES MARNAS (Felder)

Pamphila marnas FELDER, Sitzb. Akad. Wiss. Wien, math.-naturw. Cl., vol. 40, p. 462, No. 53, 1860 (Amboina).

Ocybadistes marnas ROTHSCCHILD, Nov. Zool., vol. 22, No. 2, p. 401, December 1915 (Manus).

Records.—Three males, Los Negros, November 17, 18, 1944, November 11, 1945. One female, March 30, 1945.

Note.—Lord Rothschild had but one damaged specimen from Manus.

We found this tiny yellow skipper frequent in grasslands, and especially in brushy coconut groves. The flight is rapid, but it flies only for short distances, alighting usually on a blade of grass and opening its wings.

CEPHRENES MOSELEYI MOSELEYI (Butler)

Pamphila moseleyi BUTLER, Ann. Mag. Nat. Hist., ser. 5, vol. 8, p. 198, No. 50, 1884 (Ké Dulan).

Records.—One male, Los Negros, November 17, 1944. Two females, Los Negros, November 22, 1944, November 26, 1945.

Notes.—The female taken on Los Negros on November 26, 1945, was caught at night around lights.

We are deeply indebted to Brigadier William H. Evans for his courtesy in identifying this species for us. N. D. Riley informs us that the British Museum contains specimens from Tenimber, the Moluccas, Kei Islands, Aru Islands, New Guinea, Fergusson Island, Dampier Island, New Britain, and St. Mathias Island.

Brigadier Evans was so kind as to identify for us a specimen of *Cephrenes moseleyi shortlandica* (Swinhoe) from the British Solomon Islands.

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