

LIST OF THE LEPIDOPTERA FROM ALDABRA, SEYCHELLES, AND OTHER EAST AFRICAN ISLANDS, COLLECTED BY DR. W. L. ABBOTT.

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THE small collection of lepidoptera made by Dr. Abbott in the islands lying west and north of Madagascar in the Indian Ocean contains but little that is apparently new to science, but possesses interest as illustrating the geographical distribution of genera and species. Thus far almost nothing has been written upon the lepidopterous fauna of the Seychelles, and, in fact, with the exception of the flora, the natural treasures of these islands have been apparently almost overlooked by students. While a constant trade relationship with them has been maintained for more than a century by Europeans, they have been but infrequently visited by naturalists, and those who have made collections there, have apparently done but very little more than to collect the commoner and most conspicuous species. I can discover only half a dozen references to the insects of the Seychelles in the whole compass of entomological literature. In Kirby's "Catalogue of Diurnal Lepidoptera" only one species is credited to these islands, and that with doubt. The following list will serve to show that the fauna possesses affinities at once with that of Africa and of Asia, and that many of the species are almost cosmopolitan in their range. *Hypolimnas misippus* and *Illattia octo* are common both to the Old World and the New. Some of the species range into Europe. This character of the fauna suggests its adventitious nature, and I suspect that it will be found to possess in this respect a strong likeness to other insular faunas. It is made up of certain genera possessing great capabilities for migration, and apparently a strong power to resist change under varying conditions.

Suborder RHOPALOCERA.

Subfamily DANAINÆ, Bates.

Genus DANAIIS, Latreille.

DANAIS CHRYSIPPUS (Linnæus).

Papilio chrysippus, LINNÆUS, Mus. Ulr., p. 263.—CLERCK, Icones, pl. 57, fig. 2.

The collection contains eight specimens of the typical form from Aldabra.

Genus EUPLÖEA, Fabricius.

EUPLÖEA MITRA, Moore.

(Plate VIII, fig. 6.)

Euploea mitra, MOORE, Cat. Lep. E. I. C., I, p. 127.

There are two specimens from Mahé, both females, which agree in the main very well with Moore's description. The habitat of the species is not given by Moore, but Kirby in his *Synonymic Catalogue* refers the insect with doubt to the Seychelles. If my identification is correct, as I believe it to be, all doubt as to the locality disappears.

Subfamily SATYRINÆ, Bates.

Genus MELANITIS, Fabricius.

MELANITIS LEDA, Linnæus, var. FULVESCENS, Guénée.

Papilio leda, LINNÆUS, Syst. Nat., I, 2, p. 773, No. 151.—CLERCK, Icones, pl. 59, fig. 1.

Melanitis fulvescens, GUÉNÉE, Maill. Reun., II, Lep., p. 15.—GRANDIDIER, Madagascar, XVIII, p. 12, pl. II, figs. 5–7.

All the examples are from the Seychelles—four from Mahé and one from Platte Island.

Family NYMPHALINÆ, Bates.

Genus ATELLA, Doubleday.

ATELLA PHALANTA (Drury).

Papilio phalanta, DRURY, Ill. Ex. Ent., I, pl. XXI, figs. 1, 2.

I cannot separate the specimens before me from examples from India, Ceylon, Burmah, and the Malay Peninsula, from which localities there are long suites in my collection. They all agree in lacking the middle row of spots on the median interspaces, which is found in most specimens from the Indian region. Indian specimens have a row of spots intercalated between the row of spots near the origin of the median nervules and the inner submarginal row. But some Indian specimens lack this row of intercalated spots, and thus agree exactly with the specimens collected by Dr. Abbott. The collection contains three specimens from Aldabra, one from Gloriosa, and one from Mahé.

ATELLA SEYCHELLARUM, new species.

(Plate VIII, fig. 11.)

Male.—Allied to *A. aleippe*, Cramer, and *A. madagascariensis*, H. G. Smith.

The primaries are more pointed and relatively narrower and the secondaries more sharply produced at the extremity of the third median nervule, than in the allied species. The distance from the anal angle to the end of the third median nervule is relatively less than in the other species. The ground color of the upper side of both wings is

a dark, rich brown, as in *A. madagascariensis*, and the basal area of the primaries is somewhat narrowly, and of the secondaries very broadly, glossed with greenish fuscous. The characteristic markings of the wings are broader and darker than in any other species of the genus. The black marginal borders of the primaries and secondaries are not interrupted as in *A. phalanta* by the extension of the pale lunulate markings outwardly, these lunulate markings being represented by narrow linear marks. On the secondaries the basal half is separated from the outer half by an irregularly curved black fascia, which with the submarginal fascia of heavy black intraneurial markings forms a girdle about the four limbal black spots, of which two are located one on either side of the second median nervule, and the other two are located one on either side of the second subcostal nervule. On the under side the ground color is pale ochraceous, not washed with purplish as in *A. phalanta*. The spots and markings of the upper surface reappear upon the lower side, but far less distinctly than in *A. phalanta*, and the black lines on the mesial area of the secondaries are reproduced as pale silvery-blue lines, the four black mesial spots appearing as reddish ocelli pupiled with black.

Expanse of wings, 48 mm.

The species is very distinct, and placed in my collection, which includes long suites of the hitherto described species with the exception of *A. egestina*, Quoy, reveals itself as totally separate from any of them. The description of *A. egestina* given by Godart does not tally with this insect.

Type in the National Museum collection.

Genus JUNONIA, Hübner.

JUNONIA CLELIA, Cramer.

Papilio clelia, CRAMER. Pap. Exot., I, pl. 21, figs. E, F.

One male specimen from Aldabra.

Genus HYPOLIMNAS, Hübner.

HYPOLIMNAS MISIPPUS (Linnæus).

Papilio misippus, LINNÆUS, Mus. Ulr., p. 264.

Four males and one female from Aldabra, and one male from Gloriosa.

Family LYCAENIDÆ, Stephens.

Genus LYCÆNA, Fabricius.

LYCÆNA ASOPUS, Hopffer.

Lycæna asopus, HOPFFER, Monatsh. K. Preuss. Akad. Wiss., 1855, p. 642, No. 22;

Peters's Reise Mossamb., Ins., p. 410, pl. xxvi, figs. 13-15.

Lycæna kama, ♀ TRIMEN, Trans. Ent. Soc. Lond., Ser. III, 1, p. 403.

Lycæna asopus, TRIMEN, S. Afr. Butt., II, p. 16.

Five examples from Aldabra in rather poor condition and notably smaller than specimens from the Cape and from the tropical west coast of Africa.

LYCÆNA GAIKA, Trimen.¹

The collection contains five examples from Alphonse Island, six from Mahé, and one from Providence Island.

LYCÆNA TELICANUS, Lang.²

Two examples from Mahé, two from Alphonse Island, and six from Aldabra.

LYCÆNA, sp. (?)

The collection contains one rubbed specimen and the half of another from Aldabra, which I can not well determine with such material. The insects are apparently allied on the markings of the under side to *L. telicanus*, Lang, but differ, and are very much smaller than that species. They may represent a new species, but with such specimens it would be rash to venture more than a mere conjecture.

Genus **HYPOLYCÆNA**, Felder.**HYPOLYCÆNA PHILIPPUS**, Fabricius.³

One male and three females from Aldabra.

Subfamily **PIERINÆ**, Swainson.Genus **TERIAS**, Swainson.**TERIAS ZOE**, Hopffer.⁴

Three specimens of the typical form from Aldabra.

TERIAS DESJARDINSII, Boisduval.⁵

Six specimens from Aldabra.

Genus **CALLOSUNE**, Doubleday.**CALLOSUNE EVANTHIDES**, new species.

(Plate VIII, fig. 9.)

Male.—Allied to *C. evanthe*, Boisduval. The wings on the upper side are white, powdered at the base with grayish scales. The primaries are broadly tipped with orange-red. This orange red space is narrowly bordered with black on the anterior margin, and more widely bordered with black on the outer margin. The black border of the outer margin is produced inwardly for a short distance on each of the nervules, and is inflected inwardly just above the extremity of vein 2, being at this point somewhat widely separated from the outer margin by a white line. A transverse oblique band of black, poorly defined, runs from

¹ For synonymy, see Trimen, S. Afr. Butt., II, p. 50.

² For synonymy, see Trimen, S. Afr. Butt., II, p. 69.

³ For synonymy, see Trimen, S. Afr. Butt., II, p. 118.

⁴ For synonymy, see Trimen, S. Afr. Butt., III, p. 16.

⁵ For synonymy, see Trimen, S. Afr. Butt., III, p. 24.

the extremity of vein 2 toward the end of the cell, and serves to delimit the orange-red apical patch from the white inner area of the wing along the lower half of its inner margin. There is a short, pale orange, transverse bar at the end of the cell. The secondaries have the ends of the nervules lightly tipped with black. On the under side the primaries are white, with the orange red of the apical patch faintly showing through from the upper side. There is a minute black spot at the end of the cell. The costa and the apical area are laved with pale yellow, and profusely irrorated with pale-brown spots and strigæ. The secondaries on the under side are pale yellow, profusely covered throughout with pale brown spots and strigæ like those on the primaries. The body is blackish above and pale yellow below. The antennæ are black.

Female.—Like the male, but the black subapical transverse line delimiting the orange-red apical patch on its inner side is in this sex continued across the wing to the costa, instead of terminating, as in the male, before reaching the end of the cell, and there is a black spot at the end of the cell on both the primaries and the secondaries.

Expanse of wings, 28–38 mm.

There are seven males and one female in the National Museum collection, all from Aldabra. Two of the males are very greatly dwarfed.

Genus *TERACOLUS*, Swainson.

TERACOLUS ALDABRENSIS, new species.

(Plate VIII, figs. 7, 8.)

Male.—The body is grayish above and white below. The wings are white on both sides. The primaries are narrowly edged with gray on the costa, and are also marked on the costa just before the apex with a small black spot. The secondaries on the under side have the costa laved with yellow near the base.

Female.—The female has the wings broader and not so acute at the apex as the male. The apical area on the upper side is broadly black, inclosing six white hastate spots, of which the second from the costal margin is the largest and those below it regularly diminish in size. The sixth in the descending series located between the extremities of veins 2 and 3 is separated from the inner white portions of the wing by an obsolescent grayish shade, which in some specimens is wholly wanting, thus reducing the number of white hastate spots to five. On the under side the secondaries are pale yellow throughout, and the primaries have the costal margin and the apical area of the same color. There is a subapical transverse series of three obscure grayish spots upon the primaries.

Expanse of wings, male and female, 35 mm.

There are five males and four females in the National Museum collection, all labeled as from Aldabra. One of the males is aberrant, displaying a conspicuous black spot at the end of the cell of one of the secondaries on the lower side.

Family HESPERIIDÆ.

Genus GEGENES, Hübner.

GEGENES GEMELLA (Mabille).

Pamphila gemella, MABILLE, C. R. Soc. Ent. Belg., XXVIII, p. clxxxviii.

The collection contains eight specimens: one from Alphonse Island, four from Platte Island, and three from Mahé.

GEGENES POUTIERI (Boisduval).

Hesperia poutieri, BOISDUVAL, Faune Ent. Madgr., p. 65.

The collection contains one most wretched specimen, from Mahé. There is just enough of the creature upon the pin to make the identification certain.

Suborder HETEROCHERA.

Family LITHOSIIDÆ.

Genus UTETHEISA, Hübner.

UTETHEISA PULCHELLA (Linnæus).

Tinea pulchella, LINNÆUS, Syst. Nat., I, p. 534, No. 238 (1758).

There are fourteen specimens in the collection, distributed as follows: Mahé, 2; Gloriosa, 1; Poivre Island (Amirante Group), 3; Aldabra, 4; Platte Island, 4.

Family SPHINGIDÆ.

Genus CEPHENODES, Hübner.

CEPHENODES HYLAS (Linnæus).

Sphinx hylas, LINNÆUS, Mant. Plant., p. 539 (1771).

There is one specimen from Mahé.

Genus PHLEGETHONTIUS, Hübner.

PHLEGETHONTIUS CONVOLVULI (Linnæus).

Sphinx convolvuli, LINNÆUS, Syst. Nat., I, p. 490, No. 6 (1758).

One very poor specimen from Mahé.

Genus ACHERONTIA, Ochsenheimer.

ACHERONTIA ATROPOS (Linnæus).

Sphinx atropos, LINNÆUS, Syst. Nat., I, p. 490, No. 8 (1758).

Two specimens from Mahé.

Group NOCTUÆ.

Family LEUCANIIDÆ.

Genus PRODENIA, Guénée.

PRODENIA LITTORALIS (Boisduval).

Hadena littoralis, BOISDUVAL, Faune Ent. Madgr., p. 91, pl. XIII, fig. 8 (1833).

One rubbed specimen from Mahé which I think, from what remains of the insect, is correctly referable to this widely distributed species.

Family CARADRINIDÆ.

Genus ILATTIA, Walker.

ILATTIA OCTO, Guénée.

Perigea octo, GUÉNÉE, Noct., I, p. 233 (1852).

There is one specimen, from Providence Island, of this wretched little creature, which has been located in no less than nine different genera by systematists, and described under fourteen different names. It is known to North American students as *Chytoryza tecta*, Grote. For full synonymy, the student is referred to the excellent paper by my honored friend, Dr. Butler, of the British Museum.¹

Family PLUSIIDÆ.

Genus PLUSIA, Ochsenheimer.

PLUSIA CHALCYTES, Esper.

Noctua chalcytes, ESPER, Schmett., IV, p. 447, pl. CXLI, fig. 3 (1789).

There are two specimens from Mahé which I refer to this species, and which seem to differ from specimens from the south of Europe in my collection, only by being somewhat paler upon the under side of the wings, and destitute of any trace of the fuscons shade which, in the specimens I refer to, is found at the end of the cell and on the outer margins of the wings.

Family OMMATOPHORIDÆ.

Genus CYLIGRAMMA, Boisduval.

CYLIGRAMMA LATONA (Cramer).

Phalena latona, CRAMER, Pap. Exot., I, 20, pl. XIII, fig. B.

One specimen from Gloriosa Island.

Family OPHIUSIDÆ.

Genus GRAMMÖDES, Guénée.

GRAMMÖDES STOLIDA (Fabricius).

Noctua stolida, FABRICIUS, Ent. Syst., p. 599.

Three examples, all from Platte Island.

Family DYSGONIIDÆ.

Genus SPHINGOMORPHA, Guénée.

SPHINGOMORPHA CHLOREA (Cramer).

Phalena noctua chlorea, CRAMER, Pap. Exot., II, p. 12, pl. CIV, fig. C (1779).

Two specimens from Gloriosa.

¹ Proc. Entom. Soc. London, XXXVIII, p. 690.

Genus *ACHÆA*, Hübner.*ACHÆA SEYCHELLARUM*, new species.

(Plate VIII, fig. 10.)

Male.—Palpi, front, patagia, and upper side of thorax fawn color. The upper side of the abdomen is slightly paler fawn. The under side of the thorax and the abdomen is pale fawn, with the anterior legs outwardly darker brown. The fore wings on the upper side are fawn, marked by an incomplete basal black line succeeded by a heavy zigzag basal transverse line, beyond which in the cell is a small black spot, and at the end of the cell a moderately large ocelliform spot. Beyond the cell, the wing is crossed by a broad black band curving outwardly opposite the end of the cell, and interrupted more or less on the nervules by narrow, pale lines. Beyond this broad band, there are some submarginal cloudings in a double series, succeeded by minute pale marginal spots. The fringes are white. The hind wings on the upper side are pale gray, with the outer half broadly black. The basal area is separated from the black outer area by an obscurely defined transverse whitish line. On the outer margin near the outer angle, at the middle, and just before the anal angle, are conspicuous white spots, of which that on the middle is the largest. On the under side both wings are pale gray. The primaries have the inner margin broadly shining stramineous. There is a conspicuous black spot at the end of the cell, followed by a curved black band running from the costa to vein 2, and succeeded outwardly near its lower end by a broad black shade. The apical area is slightly darker than the rest of the wing. The outer margin is very pale gray. The secondaries have a minute spot at the end of the cell, followed toward the outer margin by three obscure and incomplete curved transverse bands of brown, which are lost in a pale brown clouding, which is most conspicuous near the outer and the anal angles.

Expanse of wings, 55 mm.

Type in the National Museum collection.

ACHÆA SEYCHELLARUM, var. *IMMUNDA*, new variety.

This variety only differs from the type in the total absence, on the upper side, of the primaries, of all the transverse dark markings, and the somewhat paler tint of the under side, and the effacement of most of the less conspicuous markings of the under surface.

It is well known that in this genus there is great diversity in the markings upon the upper side of the wings, and I have no hesitation in referring the two forms before me to the same species. There are three specimens of the typical form before me in the collection, all males, and all labeled as coming from Aldabra. There are four specimens of the variety, three males and one damaged female, from the same locality.

Family REMIGHIDÆ.

Genus REMIGIA, Guénée.

REMIGIA CONVENIENS, Walker.

Remigia conveniens, WALKER, Cat. Lep. Het. Brit. Mus., XIV, p. 1507.

One injured specimen apparently belonging to this species. It is labeled as from Mahé, Seychelles.

Group PYRALES.

Genus HYMENIA, Hübner.

HYMENIA RECURVALIS, Fabricius.

Phalena recurvalis, FABRICIUS, Ent. Syst., III, 2, 237, 407.

Several damaged specimens, one from Aldabra, one from Platte Island, and one from Doros (Amirante Group).

BOTYS, sp. (?)

There are a couple of specimens in rather inferior condition which may be referred possibly to *B. otrenalis*, Walker, but I am not sure of the identification.

BOTYS (?), sp. (?)

There is a dark-colored species of some pyralid genus, probably *Pleconectusa*, represented by a specimen on a pin with a specimen of *H. recurvalis* from Platte Island, and another by itself from the same island, which I can not well determine. They have a wonderfully familiar look, but after grubbing through nearly one thousand species of pyralids in my collection in quest of a name, I give up the task as not worth the time it will take. The species may be new.

Proc. N. M. 95—18