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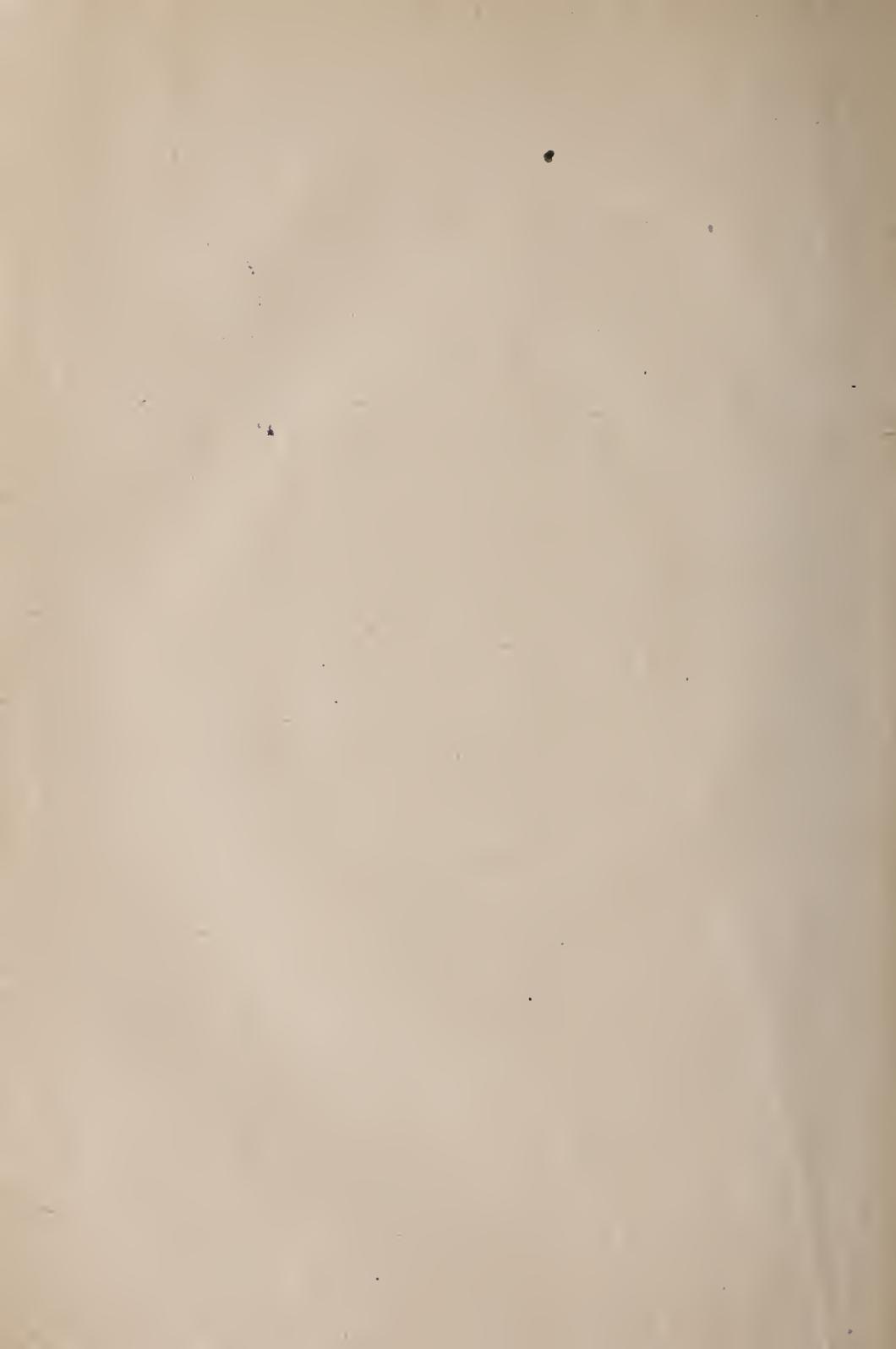
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West African Butterflies ?



Prof. B. B. Warfield
With compliments of his friend
the author.
W. J. Holland.

**Contributions to a Knowledge of the LEPIDOPTERA
of West Africa.**

BY REV. W. J. HOLLAND, M.A., PH.D.

PAPER I.

I propose in a series of papers to present the results of the study of a large body of interesting material received by me during recent years from the Western Coast of Africa, for much of which I am indebted to my friend, the Rev. A. C. Good, whose many excellences, both as a Christian minister and as an enthusiastic observer of nature, are forthshadowed by his patronymie. In the following pages I present descriptions of three species of diurnal Lepidoptera which I believe to be new to science; and I also present descriptions of the females of three species hitherto only known in the male sex. In all cases figures are given, and if I have been inadvertently led into creating synonyms, those of larger knowledge than myself will quickly detect the fact by means of the plates. In that event I shall be happy to have my error pointed out to me.

List of Species.

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|----------------------------------|---------------------------------|
| 1. LACHNOPTERA LAODICE, Cram. ♀. | 4. EURYPHENE GOODII, n. sp. ♂ |
| 2. ERGOLIS ACTISANES, Hew. ♀. | 5. CHARAXES OGOVENSIS, n. sp. ♂ |
| 3. CRENIS AMULIA, Cram. ♀. | 6. CHARAXES TALAGUGÆ, n. sp. ♂ |

Subfamily NYMPHALINÆ, Bates.

Genus **LACHNOPTERA*** Doubleday.

Issoria, Hübner.

The males of this genus, of which but two species are as yet known, are remarkable for the large patch of dark hair-like scales near the costal margin of the posterior wings. With the exception of the

*The generic name given by Doubleday in the "Genera of Diurnal Lepidoptera" is undoubtedly more felicitous than that bestowed by Hübner, being in a measure descriptive, yet the name given by Hübner has the priority, and is set aside by Doubleday without assigning a reason so far as I have observed. Nevertheless, inasmuch as Trimen and Butler both accept the name given by Doubleday I hesitate, at least for the present, to restore that of Hübner.



genus *Terinos*, which is East Indian, there is no other genus included in the *Nymphalinae* proper, which presents a like phenomenon. On the other hand the males of many genera included in the *Satyrinae* are furnished with patches and tufts of long hair-like scales. These appendages are doubtless sexual.

Lachnoptera Laodice. Cram. PL. IX, FIG. 2, Dimorphic ♀.

Papilio Laodice, Cram. (nec Pallas) Pap. Exot. II, t. 157, E. F. ♂ (1779).

Papilio Iole, Fabr. Spec. Ins. II, p. 78, No. 348 (1781).

Issoria Anticlia, Hübn. Verz. Bek. Schmett. p. 31 (1816).

Argynnis Iole, Godt. Enc. Meth. ix, p. 260 (1819).

Lachnoptera Iole, Doubl.-Hew. Gen. D. L. p. 161, t. xxii, fig. 2 ♂ (1848).

Lachnoptera Laodice, Butl. Cat. Fabr. Diurn. Lep. p. 116 (1869).

Lachnoptera Iole, Staudinger, Exot. Schmett. p. 89, Pl. 35, ♂ (1885).

FEMALE.—*Typical form*.* Wings somewhat broader, and less acute at the apex, than in the male. A small caruncula or ridge upon upper surface of posteriors at the end of the cell. This is found in all females, never in males. The basal area of the *upper surface* of both primaries and secondaries is dark fulvous, the outer half of the wings light fulvous, the division between the darker and lighter areas being marked by an irregularly waved and toothed line of dark fuscous, heaviest upon the costal margin of the primaries. The end of the cell of the primaries is also indicated by a line of fuscous. The purplish iridescence discernible in certain lights upon the wings of the male is lacking in the female. A row of six sagittate black spots, one for each intra-neural space extends across the primaries about one-fourth of the distance from the margin. This band of sagittate marks is continued on the secondaries parallel

* Mr. Doubleday at the time of the publication of the "Genera of Diurnal Lepidoptera" did not know the female, though acquainted with the male by numerous examples. Mr. A. G. Butler tells us in his "Catalogue of the Fabrician Diurnal Lepidoptera" that the types of both the male and the female of this species "agreeing in the fulvous ground-color of the wings" are contained in the British Museum as part of the Banksian Collection, and calls attention to a white form of the female from Gaboon "which mimics *Harma Althea*." Mr. Trimen in the "Transactions of the Ent. Soc. of London," vol. xxvii, p. 328, incidentally alludes to "the butterfly which the late Mr. Hewitson referred (I believe rightly) to the female sex of *Iole*, which I noted as 'fuscous; all the outer area of the wings dull white, with the spots and streaks strongly and blackly marked; markings of the under surface agreeing with those of *Iole* ♂.'" These are the only references I find to the female of this interesting species after an exhaustive search of the entire literature of the subject, and I have been, therefore, emboldened to give a full description of the two forms of the female, of which several examples have come into my possession.

to the outer margin, gradually passing toward the anal angle into a continuous zigzag line. This series of sagittate spots and lines are followed on both primaries and secondaries by a submarginal line of black, acutely angulated at the middle of each intra-neural space, and this is succeeded on both wings by a marginal line also of black. Between these two lines the ground color appears as a series of fulvous lunules. Near the apex of the secondaries, in the region covered in the male by the oval patch of dark leaden-hued, hair-like scales, characteristic of the genus, are three heavy, oval, black spots, of which the one in the middle is the largest, and the first is fused at the costal margin with the row of sagittate spots already described. Two similar, but smaller spots, are found, one near the anal angle and the other in the preceding intra-neural space. Fringe dark brown. The *under surface* is much lighter than the upper, and altogether lacking the purplish iridescence of the males. The markings are as above, but very faint, except in the case of the last of the band of sagittate spots on the primaries, which is heavy and black, and the oval spots of the secondaries, which reappear on the under surface as black ocelli, pupilled with white and surrounded by an ochraceous ring. On their inner margin these ocelli are bounded by silvery spots resembling those found in the genus *Argynnis*. One female; expanse $2\frac{1}{2}$ inches.

Ogové River, W. Africa.

DIMORPHIC FEMALE.—The dark fulvous of the basal area of the *upper surface* of the wings of the typical female is replaced in this form by dark fuscous, having an olivaceous tint, and shading into black near the middle of the wings. The light fulvous of the outer half of the wings of the typical female is replaced by white, having a lilacine lustre. The spots and lines are as in the typical form, but broader and running together. The apices of both anterior and posterior wings are also more or less clouded with fuscous, somewhat obscuring the markings. The *under surface* is lilacine gray and white, with the markings as in the typical form, but more distinct. Head, thorax and abdomen concolorous. Four females; exp. $2\frac{1}{2}$ in.

Ogové River, Gaboon, W. Africa.

Genus **ERGOLIS** Boisduval.

Ergolis Actisanes Hew., PL. IX, FIG. 3, ♀.

Ergolis Actisanes, 1 Hewitson, Ent. Mo. Mag. xi, p. 183, ♂ (1874).

FEMALE.—*Upper surface* dark rufous brown at the base of both wings, becoming lighter toward the outer margin, especially of the

primaries. Both wings crossed near the base and at the middle by three bands of dark red margined by black. Of these bands the one near the middle is the widest. Both wings crossed beyond the middle by a band of broad lunules, compressed and fused at the nervules, of a light fawn color, with dark sagittate marks in the centre and surrounded by dark brown outer shades. These markings grow gradually darker from the costa of the anterior wings toward the anal angle of the posteriors. The cell in both anterior and posterior wings crossed near the middle and at the end by geminate black lines, the spaces between which are light rufous. Anterior wings with a marginal line of black; posterior with geminate submarginal lines, the interspace being rufous brown. A white, subapical spot on primaries. Fringe white. *Under surface* as the upper, but the marginal area much lighter, save at apex, and the spots and lines broader and heavier though less sharply defined, and more prevalently rufous than on the upper side. Palpi, thorax and abdomen concolorous. Expanse of wings $2\frac{5}{8}$ inches.

Described from one imperfect ♀ in coll. Holland, from Ogové River, W. Africa.

This is, as Mr. Hewitson remarks, "the largest species of the genus."

Genus **CRENIS**. Boisduval.

Myscelia, Sect. 4. *Crenis*, Doubleday.

Eunica, p. Felder.

Crenis Amulia. Cram. PLATE IX, FIG. 1, ♀.

Papilio Amulia Cram. Pap. Exot. II, t. 180, C (1779).

Papilio Amalia (sic.), Fabr. Ent. Syst. III, i. p. 129, No. 398 (1793).

Nymphalis Amulia Godt. Enc. Meth. IX, p. 388, No. 135 (1823).

Papilio Amalia, Donovan, Nat. Rep. II, t. 40, fig. 2 (1824).

Crenis Amulia, Butl. Proc. Zool. Soc. London, 1868, p. 222, t. 17, figs. 3, 4.

FEMALE.—*Upper surface* of primaries and secondaries brown, giving off in certain lights a brilliant pink-purple reflection, not, however, as intense as in the male. Apex and outer margin of the *primaries* deep brown or black. Three black spots just beyond the cell of primaries unite to form a dark transverse shade, or fascia, extending from the costa half way across the wing toward the inner angle. The space between this shade and the dark shading of the apex is much lighter, but broken by the nervules, which are shaded on either side by black, and by a black subapical spot situated between the fifth subcostal and the discoidal nervule. Posterior wings with the markings of the under surface more or less distinctly visible

on the upper surface, appearing as indistinct dark lines in the basal and discoidal area and as a submarginal band of five oval black spots. Marginal band and margin black. Fringes cinereous. *Under surface* bright orange, shaded with darker orange. *Anterior wings* with three somewhat sagittate, black spots beyond the cell, and a faint brown shade between the first and second median nervules, and a large oval black spot between the fifth subcostal and the discoidal nervule. Above this oval spot two minute light blue spots, pupilled with dark blue. A series of light blue lunules shaded inwardly with black extend from the apex, where they are widest, along the outer margin as far as the second discoidal nervule; margin black; fringe white. *Posterior wings* crossed near the middle of the cell by two irregular bands of very dark purple or blue-black, the innermost bordered on the side of the base, and the outermost bordered on both sides by light ultramarine blue. The middle of the marginal area traversed by a row of seven oval spots of bright ultramarine pupilled with dark blue-black, these spots diminishing in size from the middle towards the costal and anal margins. A submarginal line of black, followed by a line of light blue; outer margin black; inner margin broadly blue, dusted with black scales; fringe white; upper surface of palpi, head, thorax and abdomen of same general color as upper surface of wing; under surface of palpi and abdomen bluish white; antennæ dark fulvous. Expanse of wings $2\frac{1}{2}$ inches.

Described from one female in coll. Holland, from Ogové River, W. Africa.

Cramer, Donovan, and Butler have figured the male of this exquisite species, but the female, which is somewhat less brilliant than the male, has never hitherto been described or figured.

Genus **EURYPHENE**, Boisd.

Euryphene Goodii n. sp. PL. VIII, FIG. 1, ♂.

MALE.—The form of the wings resembles that of *E. Plantilla*, Hew., but with the outer margin more produced at the extremity of the third median nervule. *Upper surface* of both wings bright rufous, with costal and outer margins shaded with dark brown, passing at apex of primaries into black. *Primaries* with a small, annular, black mark at base of cell, in the middle of the cell a figure "8" mark, and at the end of the cell three black lines, the innermost of which is narrow and faint, and the two outermost heavy and irregular fusing

together at extremities and forming an erescent. Beyond these lines is a series of irregular dark shades, produced along the nervules, and bordered externally by light fulvous; these are followed by a series of subapical dark marks and a submarginal row of dark spots, of which the three nearest the apex are the darkest. *Secondaries* with two annular marks in cell, the uppermost the largest, and an elongated, oval mark at end of cell. Internal margin clothed with long brown hairs; anal groove pale straw-color. Head and thorax olive-brown, abdomen rufous. *Underside of primaries* at apex and on cell lilacine white. The remainder of the primaries broadly rufous brown, lighter toward inner angle. The spots and lines in the cell and the submarginal row of dark spots as upon the upper surface. A row of narrow white lunules, bordered on the side of the base with black, begins at the middle of the space between the second discoidal and the first median nervule, and runs to the posterior margin, nearly parallel to the costal margin. The ground color of the *underside of the secondaries* is on the basal area lilacine white, on the outer half of the wing light stone gray with a reddish tint. Anterior margin broadly black, shading near base and outer angle into maroon. This broad band is broken about half way from the base by a nearly white spot having the form of an inverted comma. A broad, but very irregular maroon-black band originating at the point marked by this comma-like spot, and fusing with the broad band on the anterior margin crosses the wing transversely at the middle and terminates just before reaching the posterior margin. The broad, white, discocellular space enclosed between these dark bands is marked by three very dark spots, the two uppermost of which are more or less confluent with the dark band of the anterior margin. Underside of palpi, breast and abdomen, white. Alar expanse $2\frac{3}{8}$ inches.

Described from one imperfect male in coll. Holland, from Ogové River, W. Africa.

I dedicate this fine species to my good friend, Mr. Good, its captor.

Genus **CHARAXES**, Oechsenheimer.

Nymphalis, Latr.

Charaxes Ogovensis n. sp. PL. VIII, FIG. 2, ♂.

MALE.—Anterior wings well rounded on costa, subfalcate at apex, deeply excavated on outer margin opposite cell, rectangular at inner angle. Posterior wings well rounded on outer margin, regularly toothed at extremities of nervules, but *without tails*. The ground

color of the primaries and secondaries is rich rufous, deepest at base. The *primaries* have a black spot in the middle of the cell, and a large black crescent at the end of the cell, two oval and somewhat confluent subapical black spots, one near the origin of the first median, and the other near the origin of the second median nervule. A broad black band irregularly toothed inwardly, and regularly toothed externally extends from the apex to the posterior margin. This is followed by a row of bright red lunules gradually increasing in size from the apex to the posterior margin, and these are followed by a marginal band of dark fuscous. The broad black band of the primaries is continued upon the *secondaries*, and is at first quite narrow upon the costal margin, but rapidly widening and sweeping toward the base and the anal angle, covers almost the entire basal two-thirds of the wing, except an oval spot of light red on the costal margin above the cell. The outer third is bright red embellished by a submarginal band of ocelliform black spots pupilled with dark red. Of these spots the two at the anal angle are very small the four in the middle large and heavy, and confluent at the nervules, and the two nearest the outer angle small and lighter in color. The *underside* of primaries and secondaries is much lighter than the upper side and have a bright purplish sheen over the entire surface. Three small bluish white spots mark the apex of the primaries, a narrow band of dark rufous extends from the apex across both wings vanishing before reaching the anal angle of the secondaries. A small dark brown spot appears near the basal extremity of the cell in the *primaries*, and is followed by a mark of the same color resembling the figure "2". A dark oval blotch margined with very dark brown appears at the end of the cell, and is followed by two dark oval spots between the cell and the apex near the costa. There are three oval spots margined with dark brown between the median nervules near their origin. The *posterior* wings are traversed by two very irregular and broken bands of narrow brown lines, one crossing the middle of the cell, and the other its outer extremity. A submarginal row of minute, bluish white spots takes the place of the row of heavy ocellated spots which appears on the upper side. The color of the upper and under surface of the body harmonizes with the tint of the adjacent wing surfaces.

In certain lights the upper surface of this beautiful insect, which in coloration bears a superficial resemblance to *Charaxes Lucretia*

Cram., reveals a most magnificent purple iridescence like that of *Apatura Iris* Linn. Expanse of wings $2\frac{3}{4}$ inches.

Described from one male in coll. Holland, from Ogové River, W. Africa.

Charaxes Talagugæ n. sp. PL. VIII, FIG. 3, ♂.

MALE.—The outline of the wings is similar to that of *C. Ephyra* Godt., ♂. The *upper surface* of primaries and secondaries is dark velvety black with a greenish reflection. A macular band of white extends beyond the middle across both wings gradually widening from near the apex of the primaries, where the spots composing it are mere narrow streaklets, to the inner margin of the anal groove of the secondaries, where it abruptly terminates. This white band is margined on its exterior in the primaries, and on both sides in the secondaries by a bluish green shade. The ground color of the *under surface* of both wings is a lavender gray. Both wings are traversed as on the upper surface by the white macular band. The other markings are as follows: a small oblong black spot at base of cell in the *primaries*, two small round spots arranged vertically upon middle of cell, followed by a narrow and obtusely angled black line, and a curved line at end of cell. Two narrow vertical lines, one above, the other below the third median nervule near its origin; three narrow, vertical black lines bounding the inner margin of so much of the white macular band as lies between the median nervules, a broad geminate black shade near the inner angle of the primaries. Two narrow black lines cross the cell of the *secondaries*, the outermost being produced upwards to the costal margin. A submarginal band of faint olive-green lunules bordered on both sides by narrow black lines crosses the secondaries, which are also adorned by a marginal series of small black points edged inwardly with pale blue. The upper surface of the palpi, head, thorax and abdomen are black. Four minute white spots ornament the head, and two each of the patagia. The underside of the palpi and the breast are snowy white. The sides of the thorax beneath and the legs of the same gray color as the adjacent parts of the wings, the underside of the abdomen is yellowish white.

Described from one slightly damaged male in coll. Holland, from Ogové River, W. Africa.

PITTSBURGH, PA., NOV. 10, 1886.

